

KANSAS FARMER

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TOPEKA, KANSAS, THURSDAY, NOVEMBER 14, 1901.

ESTABLISHED IN 1863
\$1.00 A YEAR

Breeders' Directory.

DUROC-JERSEY SWINE.

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

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

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

MAPLE AVENUE HERD **J. U. HOWE,**
DUROC-JERSEYS. Wichita, Kans.
Farm 2 miles west of city on Maple Avenue.

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, Kansas.

DUROC-JERSEY SWINE—REGISTERED
Write for prices on what you want; 100 to select from.....

NEWTON BROTHERS, Whiting, Kans.

STANDARD HERD OF Registered Duroc-Jerseys

PETER BLOCHER, Richland, Shawnee Co., Kans.
Herd headed by Big Joe 7863, and others. S. C. B. Leghorns.

100 Duroc-Jersey Pigs.

For Sale—100 March and April pigs from the Rock dale Herd of Registered Duroc-Jersey Swine. The get of 8 herd boars. Prices right. Address

J. F. CHANDLER, Frankfort, Kansas.

POLAND-CHINA SWINE.

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

MOUND VALLEY HERD OF POLAND-CHINAS

Has some very fine spring pigs of either sex for sale at famine prices. Give us an order and we will surprise you as to prices and individuals. Most popular blood represented. Everything guaranteed as represented.
W. P. WIMMER & SON, Mound Valley, Kans

POLAND-CHINAS.

90 good spring pigs; bred but they are choicest. Write for one. Don't delay.
DIETRICH & SPAULDING, Richmond, Kansas.

RIVERSIDE HERD OF POLAND-CHINA HOGS.

80 head spring farrow, both sexes, fancy bred, prices reasonable. Also Commodore Dewey 46187, the prize-winner of southern Kans. Write for prices on this noted show hog. M. O'Brien, (Riverside), Liberty, Kas

T. A. Hubbard,

ROME, KANS., Breeder of POLAND-CHINAS and LARGE ENGLISH BERKSHIRES.

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

VERDIGRIS VALLEY HERD OF POLAND-CHINAS.

For Sale: 12 head of the best early boars that I ever produced; large, heavy-boned, and smooth. Ten head of May, June, and July boars that are fancy; also one last fall's boar that is a show pig.

E. E. WAIT, Altoona, Kansas.
Successor to WAIT & EAST.

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.

POLAND-CHINA 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. F. MAGUIRE,** HAVEN, BENO COUNTY, KANSAS.

Kramer's Poland-Chinas.

FOR SALE: Forty March boars and gilts, sired by Little Mack 14992 (the sire of Knox All Wilkes). Will now sell this grand herd boar, a tried and satisfactory sire. Address

D. A. KRAMER, Washington, Kas

..FANCY.. POLAND-CHINAS

FOR SALE: 125 fall and spring boars and gilts, sired by Dandy U. S. 17448, and Model Boy Jr. 2400. The sire of each of my herd boars cost \$1,000. Choice pigs offered at reasonable prices. Write at once to

M. ROLAND HUGHES, Independence, Mo.

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.)

SHADY LANE STOCK FARM.

HARRY E. LUNT, Proprietor, Burden, Cowley Co., Kans

Registered Poland-Chinas

25 Boars and 25 Gilts of late winter farrow, sired by Searchlight 25518, and Look No Further. Dams of the Black U. S., Wilkes, Corwin, and Tecumseh strains. Prices low to early buyers.

Remember the three days' Combination Sale at Winfield, Kans: February 11, 1902, Poland-Chinas by Snyder Bros. and H. E. Lunt; February 12, 1902, Short-horns by J. F. Stodder, and February 13, 1902, Draft horses by J. C. Robison and Snyder Bros.

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 2441, Black Joe 28908, World Beater, and King Hadley. FOR SALE—An extra choice lot of richly-bred, well-marked pigs by these noted sires and out of thirty-five extra-large, richly-bred sows. Inspection or correspondence invited.

BERKSHIRE SWINE.

Ridgeview Farm Herd of LARGE ENGLISH BERKSHIRES

Have for sale—spring pigs of quality, at reasonable figures. Write us before buying.
MANWARING BROS., Lawrence, Kans

BERKSHIRES A Specialty

GEO. S. PRINE, Oskaloosa, Iowa.

For sale, 180 head of the best blood known, including Prine's famous Noras and other popular strains. Foundation stock supplied to breeders.

LIVE STOCK ARTIST.

H. L. RITCHIE, 504 N. Y. Life Bldg., Kansas City, Mo.
Sketching, and photographing live stock a specialty. Write for particulars.

When writing to advertisers, mention **Kansas Farmer.**

CHESTER-WHITE SWINE.

D. L. BUTTON, North Topeka, Kas
BREEDER OF
IMPROVED CHESTER WHITES
Stock For Sale.
Farm is two miles northwest of Reform School.

TWENTIETH CENTURY HERD OF UP-TO-DATE, PRIZE-WINNING CHESTER WHITES

We have 70 pigs, mostly sired by Balance All 11827, the champion boar of 1900 at leading State Fairs and the International Live Stock Exposition. Address **DORSEY BROS.,** Perry, Ill.

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 County, Kansas.

E. S. COWEE, Burlingame, Kans., R. R. 2, Breeder of **PURE-BRED HEREFORD CATTLE, and DUROC-JERSEY SWINE.**

Kids' Duke 96897 at head of herd. Young bulls and heifers for sale.

Registered Herefords

Of either sex, at private sale. I also have 140 $\frac{1}{2}$ to $\frac{3}{4}$ high-grades at private sale.

ALBERT DILLON, Hope, Kansas

Alfalfa Meadow Stock Farm,

Shady Bend, Kansas.
Herefords, Poland-Chinas, Light Brahmas. Stock of all kinds for sale. Special: 48 Poland-China pigs. 200 bushels of pure, fresh Alfalfa Seed.

O. B. WHITAKER, Proprietor.

MAPLE LEAF HERD OF THOROUGHbred Shorthorn Cattle, and Poland-China Swine.

Farm is 2 miles south of Rock Island depot. **JAMES A. WATKINS,** Whiting, Kans.

BREED THE HORNS OFF BY USING A RED POLLED BULL.

CHAS. FOSTER & SON, Foster, Butler Co., Kans.
Breeders of RED POLLED CATTLE.
Herd headed by POWERFUL 4582. Pure-bred and grades for sale. Also prize-winning Light Brahmas.

Registered Herefords.

THOS. EVANS, BREEDER,
Hartford, Lyon County, Kansas.
Special Offerings: FOR SALE—One imported 4-year-old bull, 10 yearling bulls, 9 bull calves, 16 yearling heifers, and 12 heifer calves.

MT. PLEASANT HERD OF SHORTHORNS.

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

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

..SUNFLOWER HERD..

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

Herd Bulls, Sir Knight 124403, and The Baron 121327.
Herd Boars, Black U. S. 2d 25582 5, and Missouri's Best On Earth 19836 5.

REPRESENTATIVE STOCK FOR SALE.
Address **ANDREW FRINGLE,** Wabaussee County, **ESKRIDGE, KANSAS.**

CATTLE.

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

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

Rock Hill Shorthorns and ..Saddle Horses..

Bulls in service, Sempstress Valentine 157069, and Mayor 129229. A fine string of young bulls and a few heifers for sale.

J. F. TRUE & SON, Proprietors.

Post-office, PERRY, KANS. Railroad station, Newman, Kans., on Union Pacific R. R., 12 miles east of Topeka

Hillside Stock and Poultry Farm

EXTRA FINE, LARGE, PURE-BRED **M. B. Turkeys, Embden and Toulouse Geese, Pekin Ducks, White Guineas, and 6 kinds of fancy chickens for sale.**

Also Yorkshire Pigs, Cotswold Sheep, and Angora Goats
Send stamp for circular. **A. A. RIEFF,** Box C.—289. **Mankato, Minnesota.**

...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. J. Anderson, Manager, there; or

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

CLOVER CLIFF FARM. REGISTERED GALLOWAY CATTLE

Also German Coach, Saddle, and trotting-bred horses. World's Fair prize Oldenburg Coach stallion Habbu, and the saddle stallion Rosewood, a 16-hand 1,100-pound son of Montrose in service. Visitors always welcome.

Address **BLACKSHERE BROTHERS,** Elmdale, Chase County, Kansas.

EAST LYNN HEREFORDS AND BERKSHIRES.

Herefords headed by Java of East Lynn 100229. Java is half brother to Dolly 5th, champion Hereford cow of America.

Berkshires headed by Premier 4th 55577. A few choice gilts and boars for sale. All breeding stock recorded. Inspection invited six days in the week.
WILL H. RHODES, Tampa, Marion Co., Kans.

THE GEO. H. ADAMS HEREFORDS

AT LINWOOD, KANS.

YEARLING Bulls and Heifers for sale, sired by Orpheus 71100, and Ashton Boy 52053, and out of choice imported, and home-bred cows. Address all correspondence to **GEORGE F. MORGAN,** General Manager, Linwood, Kansas.

125 RAVENSWOOD - SHORTHORNS

G. E. LEONARD, Bellair, Mo.

Males and females for sale. Inspection especially invited. Lavender Viscount 124755, the champion bull of the National Show at Kansas City, heads the herd.

ED. PATTERSON, Manager.
Railroad and Telephone station, Bunceton, Mo.

Do You Make Kansas City? ..If So, Stop at the..

...MIDLAND... HOTEL.

KANSAS CITY, MISSOURI.
Stockmen's Headquarters.
Street Cars direct from Depot or Stock Yards.

CATTLE.

D. P. NORTON'S Breeder of Pure Bred SHORTHORNS SHORTHORN CATTLE



O. F. NELSON, Hiawatha, Kansas, Breeder of REGISTERED Hereford Cattle.

E. H. WHITE, Estherville, Iowa, IMPORTER AND BREEDER OF GALLOWAY CATTLE.



Herd Foundation Stock A Specialty. A few choice Females and 14 Bulls for sale.

Silver Creek Shorthorns.

The Scotch bull, Gwendolme's Prince 180913, in service. Also the imported Scotch Mistle ball, Aylesbury Duke.

H. R. LITTLE, HOPE, DICKINSON CO., KANS., Breeds Only the Best, Pure-Bred

SHORTHORN CATTLE.

Herd numbers 135, headed by ROYAL CROWN, 125698, a pure Cruickshank, assisted by Sharen Lavender 143002.

FOR SALE JUST NOW--16 BULLS of serviceable age, and 12 Bull Calves. Farm is 1 1/4 miles from town.

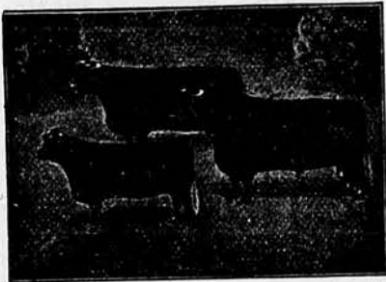
OLOVER BLOSSOM SHORTHORNS

Herd Headed by the Cruickshank Bulls Imp. Nonpareil Victor 132573

...Grand Victor 115752...

FEMALES are Scotch, both imported and home-bred, pure Bates, and balance 3 to 6 Scotch tops.

GEO. BOTHWELL, Nettleton, Caldwell Co., Mo. On Burlington Railroad.



GLENDALE SHORTHORNS, OTTAWA, KANSAS.

Leading Scotch, and Scotch-topped American families compose the herd, headed by the Cruickshank bull Scotland's Charm 127264, by Imp. Lavender Lad, dam by Imp. Baron Cruickshank.

PALO DURO STOCK FARM

Imported and American Bred SCOTCH SHORTHORN CATTLE, AND ...REGISTERED PERCHERON HORSES.

HANNA & CO., Howard, Kansas.

IMP. COLLYNIE 135022, IMP. MARINER 135024, AND IMP. LORD COWSLIP.

HERD is rich in the best Cruickshank blood and contains 10 females imported direct from Golyntie and Uppermill.

Registered Percherons (Brilliant) in Service. DIRECT 18889 (by Bendago by Brilliant, dam Fenelo by Fenelon by Brilliant.)



Sotham's Southern Sale HEREFORD CATTLE.

The National Hereford Exchange, under the management of T. F. B. Sotham, will hold its initial sale in the splendid steam heated pavilion of the

NATIONAL STOCK YARDS, EAST ST. LOUIS, ILL.,

(Across from Eads Bridge, from St. Louis, Mo.)

WEDNESDAY and THURSDAY, Nov. 20 and 21, 1901, Commencing at 1 O'Clock.

115-Registered Herefords for All Classes of Buyers-115

Splendid Specimens for the Experts.

Cheaper Ones for the Beginner.

Profitable Herefords for Everybody.

All will be sold strictly on their merits, without any attempt to palm off silver dollars for golden double eagles. Honorable treatment guaranteed all patrons.

The following are the consignors: H. D. SMITH, Compton, Quebec, Can.; MARTIN LIEBIG, Forrest, Ill.; A. B. BRUER & SON, Pontiac, Ill.; DETTE BROS., Viessman, Mo.;

The WEAVERGRACE consignment includes bulls by CORRECTOR and IMPROVER, also the only CORRECTOR female we will offer during the season of 1901-2.

T. F. B. SOTHAM, Chillicothe, Mo.

Long distance telephone in office.

This Advertisement will not appear again.

SHEEP.

CHEVIOT SHEEP, AND POLLED DURHAM CATTLE. Some fine rams for sale. The Cheviots are rustlers smooth, clean face, allowing clear vision to approaching danger.

ANOKA FARM RAMBOUILLET AND COTSWOLD SHEEP.

GEO. HARDING & SON Importers and Breeders, WAUKESHA, WIS. 25 Imported, and 75 American Rams and 150 Ewes for sale.



Centropolis Hotel.

The best \$2.00 (and \$2.50 with bath) Hotel in America. W. J. KUPPER, Proprietor. OLARK D. FROST, Manager. KANSAS CITY, MO.

TRIAL TREATMENT FREE. We will forfeit \$50 for any case of Internal, External or Itching Piles the Germ Pile Cure fails to cure.

GREAT BERKSHIRE SALE

At the Great Live Stock Headquarters, Dexter Park, Union Stock Yards, Chicago, Ill., WEDNESDAY, DECEMBER 4, 1901,

50-Head of High-Class Berkshires-50 Will be sold at the time and place named above. During the International Live Stock Show

100--POLAND-CHINA PIGS FOR SALE--100

Our old herd boar, Missouri! Black Chief, was the sire of most of our prize-winners at the Missouri State Fair. Our herd boar, Missouri's Black Perfection by Missouri Black Chief, and out of a Chief Perfection 2d sow, won sweepstakes.

J. R. YOUNG, Richards, Mo.

Mains' Herd of Poland-Chinas.

Pigs by Anderson's Perfect, Harris' Black U. S. (the champion sweepstakes boar at the Iowa State Fair of 1900). Kemp's Perfection (the highest priced pig by Chief Perfection 2d sold last year), for sale from the very best of sows. Stock of all ages for sale.

James Mains, Oskaloosa, Kas.

**ARMOUR-
FUNKHOUSER
PUBLIC SALE
OF
..Hereford..
Cattle.**

KANSAS CITY STOCK YARDS SALE PAVILION
TUESDAY, DECEMBER 10, AND
WEDNESDAY, DECEMBER 11, '01

The Armour cattle for this sale were chosen by the late Kirk B. Armour, under the conviction that they would form his greatest offering. The selection comprises a great many of his own breeding and some forty head imported from the best English herds.

The Funkhouser selections have been made upon an understanding with the late Kirk B. Armour, that the whole offering would be the best ever made by them. We intend to vindicate this statement with the very highest class of Cows and Bulls that both herds afford. Catalogues ready November 10.

CHARLES W. ARMOUR, JAMES A. FUNKHOUSER,
For Estate of Plattsburg, Mo.
KIRK B. ARMOUR, Kansas City, Mo.

HORSES AND MULES.

**PERCHERON HORSES, and
ABERDEEN-ANGUS CATTLE.**
GARRETT HURST, Breeder, ZYBA, SUMNER
COUNTY, KANSAS. Young stock for sale of either sex.
All registered.

HENRY AVERY & SON,
BREEDERS OF

Pure Percherons.
The largest herd of Percheron horses in the west and
the best bred herd in America. A choice collection of
young stallions and mares always on hand. Prices con-
stant with quality. Address, or come and see at
Wakfield, Clay County, Kansas.

**Pleasant Hill
Jack Farm.**

PHILIP WALKER, Breeder,
MOLINE, ELK CO., KANS

25 Mammoth, Warrior, and Spanish
Jacks Now For Sale.

Quality and Breeding Unexcelled.
Inspection and Correspondence Invited.

Prospect Farm.



H. W. McAFEE, Topeka, Kansas,

Breeder of
**OLYDESDALE HORSES, AND
SHORTHORN CATTLE.**

For Sale—25 Olydesdales, including 8 registered
stallions of serviceable age, and 13 mares.
Inspection and correspondence invited.

LIVE STOCK AUCTIONEERS.

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

R. E. EDMONSON, late of Lexington, Ky., and
R. Tatterall's (of Chicago, limited), now located
at 208 Sheldley Building, Kansas City, Mo., offers his
services as Live Stock Auctioneer. All the Herd and
Stud Books. Wire before fixing dates.



R. L. Harriman,
Live Stock Auctioneer,
Bunceton, Mo.

SALES made everywhere.
Thoroughly posted and up-to-
date on breeding quality and
values. Have a large ac-
quaintance among and am
selling for the best breeders
in the country. Terms low. Write for dates.



**LIVE-
STOCK AUCTIONEER**

Col. J. N. HARSHBERGER

Lawrence, Kans.
Special attention given
to selling all kinds of ped-
igreed stock; also large
sales of graded stock.
Terms reasonable. Corre-
spondence solicited. Men-
tion Kansas Farmer.

James W. Sparks,
Live Stock Auctioneer
Marshall, Mo.



Sales Made Anywhere
Have been and am now
booked for the best sales of
high-class stock held in
America. Thoroughly posted
on pedigrees and individual
merit. Large acquaintance
among the leading stock-
breeders of America. Terms
reasonable. Write me before
claiming your date.

**When in Chicago,
Stop**

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

Windsor-Clifton Hotel

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

SAMUEL GREGSTEN, Proprietor



Percheron Stallions.

70 First Class Young Percheron Stallions

Now in our Shenandoah stables. Our last importation arrived Octo-
ber 1, 1901—mostly black, 3-year-olds, 30 imported stallions. An ele-
gant string of 25 big two's and three's of my own breeding. Thirty
years in the business. Come and see the horses.
M. L. AYRES, Shenandoah, Iowa

**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 Here-
ford Bulls, 2 years old, and a few Full-blood Percheron
Mares.

German Coach, Percheron, and Belgium Horses.

OLTMANNS BROS., Importers and Breeders, WATSEKA, ILLINOIS.
Three Importations in 1901. 100 Stallions For Sale.

No other firm enjoys such buying facilities: the senior member being a resident of Germany is person-
ally acquainted with the best breeders in France, Germany, and Belgium. We can save you money.
Come and see us. We shall exhibit at the International Live Stock Exposition, Chicago, Dec. 1-7, 1901.

S. A. SPRIGGS, Westphalia, Kansas,

BREEDER AND DEALER IN

Registered Mammoth, and Imported
Spanish Jacks and Jennets;
Also Registered Stallions.



All stock guaranteed just as represented. Correspondence solicited.

SNYDER BROS., Winfield, Kans.,

Breeders of

POLAND-CHINA SWINE; SHIRE, CLYDE, AND PERCHERON HORSES,
AND POLLED DURHAM CATTLE.

For Sale at Special Prices—17 BOARS, and 25 GILTS, farrowed mainly in November and December.
They are extra well bred and very thrifty.
8 Polled Durham Bulls, of serviceable age. 17 Stallions over 3 years. 2 Mammoth Jacks.

Remember the three days' Combination Sale at Winfield, Kans: February 11, 1902, Poland-Chinas
by Snyder Bros. and H. E. Lunt; February 12, 1902, Shorthorns by J. F. Stodder, and February 13,
1902, Draft horses by J. C. Robison and Snyder Bros.



**America's Leading
Horse Importers**

At the Pan-American Exposition won a great victory
for the Percheron breed and for themselves.
In competition with 30 prize-winners of all known draft
breeds one of their Percherons won the
GRAND SWEEPSTAKES.
In the stallion classes and in competition with the
largest show ring of French Coachers and Percher-
ons ever exhibited at one time on this continent
their stallions won EVERY FIRST PRIZE
given by the Pan-American Exposition.

McLaughlin Brothers,
COLUMBUS, OHIO.

LAWRENCE, KANS. EMMETSBURG, IOWA.

PERCHERONS.

J. W. & J. C. ROBISON,
Importers and Breeders,
TOWANDA, BUTLER CO., KANS.

LARGEST HERD IN THE STATE.
IMPORTED, AND AMERICAN BRED STALLIONS AND
MARES For Sale at all times.

Prices reasonable. Inspection invited. Seventeen young
stallions for sale.

Remember the three days' Combination Sale at Winfield, Kans: February 11, 1902, Poland-Chinas
by Snyder Bros. and H. E. Lunt; February 12, 1902, Shorthorns by J. F. Stodder, and February 13,
1902, Draft horses by J. C. Robison and Snyder Bros.



...IDLEWILD HERD OF...

Shorthorn Cattle.

Owned by W. P. HARNED, Vermont, Mo.

200 HEAD. NO BETTER BREEDING
FEW BETTER CATTLE

Cruickshank's Booth Lancaster, and Double Marys rep-
resented, with preponderance of Cruickshanks.
IMP. GOLDEN THISTLE, by Roan Gauntlet, dam by
Champion of England.

THE IMPORTED COW is the dam of Godoy, my chief stock
bull, he by Imp. Spartan Hero, he by Barmpton. Godoy is
closer to the greatest Sittyton sires than any living bull except
his full twin brother. For Ready Sale—25 Bulls, 12 to 18 months
old, and 40 Yearling Heifers to sell at dromth prices. Railroad
Station, Tipton; main line Missouri Pacific; Vermont, Mo., on
branch Missouri Pacific.



WHEN WRITING ADVERTISERS MENTION KANSAS FARMER.

Agricultural Matters.

How the Crops Looked at the Close of October.

REPORTS TO THE U. S. WEATHER BUREAU.

New England.—Boston: Weather excellent for all farm operations; temperature generally above normal and precipitation somewhat deficient; fall plowing and seeding accomplished under very favorable conditions; seed germinated well; grass lands in exceptionally good condition; all crops harvested with little if any damage from frost.

New York.—Ithaca: Month very favorable for farm operations, all crops being saved without material damage by frost; heavy snow in parts of northern portion on 18th; wheat and rye seeded later than usual, and dry weather prevented quick germination, but the early-planted winter grain very promising, considerable rotting of potatoes reported.

New Jersey.—New Brunswick: Ideal weather conditions during entire month; farming operations well advanced; fall seeding completed and early sown up and stand even; all late maturing crops gathered prior to the 26th, when first killing frost occurred; husking corn progressing, yield in grain and fodder above average; old and new meadows in fine condition and pastures excellent; temperature and sunshine above and precipitation below normal.

Pennsylvania.—Philadelphia: Weather conditions excellent for farm work; large acreage of grain seeded late, some not yet completed; early sown wheat and rye made good progress, but rain is generally needed for more rapid growth and germination, corn husking well advanced, both yield and quality good; buckwheat a full average and of good quality; potatoes a light crop and rotting badly, complaint general.

Maryland and Delaware.—Baltimore: October weather very favorable for grain seeding and corn harvest; wheat nearly all in and early sown good stand, but late needs rain for proper germination; corn splendid crop in quantity and quality, ears nicely cured, but fodder brittle; corn husking advancing slowly; grain and grasses would be benefited by good rain.

Virginia.—Richmond: Winter wheat and oat seeding progressing and generally near completion; some early seeded fields up and looking well; weather too dry for growth of late seeding, acreage small in some localities on account of scarcity of labor; corn drying out well; rain needed for fall plowing and growth of fall seeding.

North Carolina.—Raleigh: Month generally most favorable for saving crops; at end of month cotton picking was almost completed, all reports indicating short crop; much land prepared and small grain sown plentifully; yield of corn not up to expectations; gardens improved; peanuts and sweet potatoes fair crops.

South Carolina.—Columbia: Month favorable for ripening and gathering crops, but too dry for plowing wheatlands and seeding oats; cotton developed rapidly and picking nearly finished over eastern half, but is late and opening slowly over the western part of the State; largest forage crop in many years saved in excellent condition; corn all gathered, crop very poor; rice harvest finished; minor crops about average condition.

Georgia.—Atlanta: Temperature about normal; no severe frosts; rainfall largely deficient; too dry for fall plowing and seeding; late crops matured well and harvesting accomplished under favorable conditions; bulk of cotton crop secured in southern and middle counties, picking continues in northern counties; corn crop fair to good.

Florida.—Jacksonville: Cotton opened rapidly; harvesting pushed; bulk of corn housed; weather generally favorable for plowing, but too dry for vegetables, except in south portion and on low lands, where Irish potatoes and tomatoes are doing well; cane and citrus fruits maturing nicely; some oats seeded; pineapples advancing; strawberries backward.

Alabama.—Montgomery: Generally dry and favorable for maturing crops, though some slightly damaging frosts occurred; cotton practically all picked, yield slightly improved, but considerably below average; corn nearly all housed, yield light; minor crops generally satisfactory; hay crop excellent;

fall seeding backward, though considerable wheat and oats sown; early sown making fair stands, but both needing rain.

Mississippi.—Vicksburg: Fine month for gathering crops; damage by rainfall and frosts slight; cotton picking advanced rapidly, over three-fourths of crop picked, yield light north, fair south, with average crop in few counties; corn nearly all housed, yield light, but sufficient for home consumption in many localities; fall crops generally yielding well.

Louisiana.—New Orleans: Month of excellent weather for agricultural interests; cotton opened well, staple clean, picking made good progress, except in scattered localities where labor is scarce, bulk of crop picked, although in some places less than half is gathered, yield better in some localities than anticipated, good in some parishes, but very light in others; sugar cane good crop, grinding general; rice satisfactory yield, harvesting and threshing completed, except in west portion, where crop is heavy and threshing will continue through November.

Texas.—Galveston: Temperature above normal; rainfall deficient, except along extreme east coast, where excessive drouth prevails over west half of State, and need of rain now general; frosts on 14th caused little damage; cotton picking progressed rapidly and is practically completed except on bottom lands, a light top crop will be made if no killing frost occurs in near future; cane cutting and rice harvesting progressing favorably, latter crop excellent; grain sowing delayed because of dry soil.

Arkansas.—Little Rock: Weather generally favorable for picking cotton, but cool nights have been rather unfavorable to crop; corn all gathered and housed, except some very late planted, which is drying slowly and is too tough to pull; conditions generally unfavorable for seeding and germination of all grain, but considerable plowing and seeding done in some localities.

Tennessee.—Nashville: Exceptionally favorable weather throughout the month, and farm work much further advanced than usual; tobacco housed in fine condition; cotton opened well and picking kept up with opening; gathering corn in full progress; seeding winter grains progressed favorably and seed well put in, early plantings up and growing well; immense forage crop housed; light frosts, but no material damage.

Kentucky.—Louisville: Dry, moderate warm weather prevailed, very favorable for securing late crops; tobacco cured nicely; fall grazing good; lack of rainfall interfered with wheat sowing in some localities, that sown doing fairly well, but needs rain; farm work well advanced.

Missouri.—Columbia: Warm, dry month; in western sections wheat looks well, but in eastern has suffered from drouth and much not yet up, slight damage by fly seeding generally completed; but little corn gathered; in western counties much corn worm-eaten; cotton picking half completed; pasturing generally short; stock scarce.

Illinois.—Springfield: October was favorable for maturing and harvesting corn; some corn still soft, injury by frost slight; weather rather dry for germination of fall grain, but crop generally good in south and east, conditions less favorable north and west; pastures generally good south and east, but north and west condition is less favorable.

Indiana.—Indianapolis: Weather rather dry, but, as a whole, the month was unusually favorable for farming interests; corn husking is well advanced; wheat nearly all sown and most of it up and looking well; timothy sown last spring mostly killed by drouth; apples nearly all picked, yield and quality fair; fall pastures good.

West Virginia.—Parkersburg: Clear, dry weather; corn cutting about finished and some being husked; apples all gathered with yield below average, except in panhandle section; pasture short, but stock generally looking well; water getting scarce and rain badly needed; wheat about all sown, generally an excellent set, but practically no growth.

Ohio.—Columbus: Slight excess in temperature; killing frost 18th, no material damage; precipitation deficient; corn too dry for advantageous husking; pastures dried up; stock water short in southwest; much wheat was sown late and is growing slowly, that which is up is making slow growth; fly is working on early sown wheat in some counties in middle and south.

Michigan.—Lansing: The weather in October was generally very favorable for field operations; sufficient rain has

fallen to nicely germinate winter wheat and rye; corn husking and potato digging well advanced; corn and sugar beets are splendid crops, but the potatoes only fair; most wheat seeded late, and no complaint of Hessian fly yet reported.

Minnesota.—Minneapolis: Splendid weather since 15th; threshing and plowing well advanced; potatoes all dug; the small areas of winter rye and wheat doing well; clover yielding large seed crop; corn husking and shredding progressing; no frost in south half to injure hardy vegetation.

Iowa.—Des Moines: Month warmer than usual with ample moisture except in portions of southeast district; conditions generally favorable for growing corn and other farm work; fall grain has made vigorous growth except in limited dry area; pastures improved and good progress made in plowing.

South Dakota.—Huron: Rains prior to 12th further damaged considerable hay, flax, grain in shock, especially wheat, also some corn slightly, and delayed threshing and corn picking, otherwise weather generally favorable; field work and plowing unusually advanced; threshing nearing completion; corn picking now general; winter rye fine stand and in excellent condition.

Nebraska.—Lincoln: Very favorable month for plowing and seeding, also for germination and growth of fall sown grain; unusually large acreage of winter wheat sown and entire crop in fine condition; corn husking has progressed slowly with yield rather better than expected, but grain of poor quality.

Kansas.—Topeka: Fine weather for maturing and gathering forage, but some damage by frost; large acreage of wheat sown, mostly up and in unusually good condition, some being pastured, needs rain in few central and northern counties; apples good crop; pastures generally good.

Oklahoma and Indian Territories.—Oklahoma City: Weather favorable for seeding wheat and picking cotton; wheat about all sown and making a good appearance, but needs rain to place in condition to stand the winter, some early sown being pastured; cotton is about three-fourths secured with yield ranging from one-fourth to one-half bale per acre; stock in fair condition, but water scarce; some pasturing being done; ranges fairly good; too dry to cultivate ground.

Colorado.—Denver: Weather conditions ideal for late crops, harvesting and threshing, but rather too dry for plowing and seeding, and decidedly unfavorable for germination; usual acreage of wheat and rye sown and but few report condition good; one-fourth sugar beet crops gathered with yield and quality normal and marked increase in acreage on eastern slope.

Washington.—Seattle: Month phenomenally warm and dry; rainfall only half normal and occurred mostly during last decade; weather very fine for threshing and yield of wheat and oats beyond expectations; September sown wheat made good growth, but too dry for seeding until last decade; potato crop only fair; apple crop poor; pastures greatly improved by rain during last decade, and soil in good condition.

Oregon.—Portland: Month unusually dry and warm; no injurious frost; very favorable for farm work; fall sown grain germinated nicely and excellent stand reported from all sections; corn matured satisfactorily, crop short, except on river bottom land; apples fair; potatoes light crop.

California.—San Francisco: Conditions generally favorable; rain has, however, seriously damaged beans and slightly damaged other crops; orchards, early grain, and pasture greatly benefited; raisin making nearly completed; soil in excellent condition; plowing and seeding progressing; large acreage wheat contemplated in great valleys; oranges maturing rapidly, heavy crop expected, shipments progressing.

Has the United States a Rival Grain Producer in South America?

B. W. SNOW, IN ORANGE JUDD FARMER.

Permanent Spanish occupation of the lower valley of the Rio de la Plata dates from 1580, or forty years prior to the landing of the Pilgrims at Plymouth Rock. After two hundred and ninety years of continuous occupation of the marvelously fertile soil of this great river valley, or as late as 1870, the natives did not raise their own bread supply, importing more or less flour each year from the United States or Chile. The fierce and almost continuous fights for political power, which marked the first fifty years following the successful revolt against Spanish rule in 1824, were neither conducive to the practice of settled agriculture nor calculated to encourage the immigration of an agricul-

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tural population, especially as during the same time the peaceful development of the United States served to attract the surplus population of Europe.

The infusion of fresh European blood being small, marriage relations between the settlers and the original Indians of the country resulted in the infusion of an important percentage of Indian blood into what may be called the native population, as distinguished from the small class of pure Spanish blood, and later immigrants and their descendants. This cross brought about a people who are not by natural disposition tillers of the soil, preferring rather pastoral pursuits and the nomadic life of cattle and sheep herders. So long as this native class constituted the great bulk of the rural population the agricultural possibilities of the land were unknown.

BEGINNING OF ARGENTINE AGRICULTURE.

About the beginning of the last quarter of the past century the great land owners of the country began to realize that the value of their holdings would be immensely increased by the advent of an agricultural population, and a brilliant campaign was begun in Europe to turn the tide of immigration toward Argentina. The effort met with considerable success, and beginning with 1868, when 29,000 settlers were attracted, the agricultural development of the country may be said to have begun. In seven years the small number of agricultural settlers who arrived were able to do what the natives had failed to accomplish in nearly three hundred years—feed the country and open up an export trade in breadstuffs. In 1875 the country produced a surplus of wheat and the export trade began. The past, present, and future of Argentine agricultural developments rests solely with the immigration population. The native will not walk between the plow handles, and as an active factor in possible agricultural development he may be wholly ignored, if indeed he must not be counted as an adverse factor.

CHANGES BROUGHT BY IMMIGRATION.

The immigration, which between 1868 and 1875 changed the country from one importing to one exporting grains, began with 29,000 in the first year and averaged about 30,000 each year until 1883. In that year the government began an official propaganda to attract settlers, helping to pay passage, supporting the indigent until they found employment and granting great holdings of public lands to parties promising to colonize them. The result was sudden increase

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in arrivals, the net gain from immigration reaching 94,137 in 1885, 107,212 in 1886, 133,790 in 1887 and 220,260 in 1888. With the latter year the period of fictitious prosperity which was based upon the reckless expenditure of European capital borrowed upon an over discounted future, for chimerical public improvements, came to an end, and with it the tide of immigration ceased. In 1889 the net increase from this source dropped to 30,375 while in the next year the number leaving the country exceeded the arrivals by 29,835, a record which perhaps has no parallel in the history of any new country with an established tide of immigration. The net immigration in ten year periods since 1860 has been as follows:

1860-69	150,000
1870-79	294,629
1880-89	845,869
1890-99	376,513

CHARACTER OF IMMIGRATION.

The immigrants who have settled in Argentina do not represent so good a class as those reaching the United States. Taking the full period covered by immigration records, 62 per cent have come from Italy, 18 per cent from Spain, 8 per cent from France, 2 per cent from Austria, and the balance mainly from various European countries. A considerable portion of the arrivals are congested in Buenos Ayres, where they constitute the bulk of the unskilled labor of the city. Those engaging in agriculture have been mainly Italians, usually from Piedmont, and representing decidedly the better class of the arrivals of that nationality. A few Swiss are farming, mainly in Santa Fe, where they have been quite successful, and there are scattered colonies of Basques, Jews, Russians, and occasionally German and French families, but everywhere in the rural districts the Italians so predominate as to practically control the agricultural development of each community. The best of these immigrants are without agricultural experience on any important scale, and a very large proportion is drawn from Italian cities and consequently has no knowledge of rural affairs. Without practical knowledge or experience, and coming to a country where the local conditions governing agriculture have not been worked out by a native population, it is natural that agricultural progress should be very slow, and that newcomers are not prompt in grasping the proper methods of crop cultivation.

GEOGRAPHY AND CAPACITY.

The native population of Argentina having never attempted to develop, or for that matter to study the agricultural resources of the country, the outside world naturally entertains but hazy ideas of what conditions really are. School geographies of a generation ago left the impression that the country was a vast, semi-arid, treeless plain fit only for half-wild cattle and sheep. The rapid development of agricultural importance in the 80's gave the impression of unbounded agricultural possibilities. The truth lies between the two extremes. The republic extends 2,300 miles north and south, and some 500 east and west, and has considerably more than one-third the area of the United States exclusive of Alaska. The agricultural possibilities of the country are limited by rainfall rather than soil conditions. Meteorological data are not abundant for any extended period, though the present meteorological service, under the direction of American experts, is doing good work. Roughly speaking, enough records are available to warrant a natural division of the country into 3 districts. The Littoral or north coast district includes the provinces of Buenos Ayres, Santa Fe, Entre Rios, Formosa, Corrientes, Misiones, and the Chaco. This district includes the greater part of the country in which arable agriculture can be practiced. In the northern part of this district the extremes of temperature between summer and winter range from a maximum of about 98° to a minimum of 40°. In the southern part of the district the similar range is from 94° to about 32°. The rainfall is heaviest at the coast, decreasing steadily as you go west; it is also heaviest in the north, decreasing southward. As regards rain, the season is usually divided into wet and dry, the former covering the months October to March, but as a matter of fact this division is not very accurate so far as the Littoral is concerned, rains being received at all seasons. For example, in Buenos Ayres the proportion of rainy days in the wet season compares to similar days in the dry season as 56 to 44. The annual rainfall in the eastern part of Entre Rios, where the greatest precipitation is received, averages nearly 50 inches, decreasing to less than half of this figure in the extreme southern part of the district.

The second natural division is the Mediterranean or central district, including the central part of the country from the Bolivian border to the southern part of the continent, and also including the coast district south of Bahia Blanca. Here the range of temperature is greater and the annual rainfall much less. The season is also more properly wet and dry, the rainy days in the province of Salta in the wet season comparing with the dry as 96 to 4, and in upper Cordoba as 86 to 14. In the extreme south, however, the scanty rainfall is evenly distributed throughout the year. This section is not suitable for agricultural purposes except by the practice of irrigation.

The third division is the Andine or mountain, comprising the eastern slopes of the Andes, and is of no present or probable importance from an agricultural point of view.

The Mediterranean or central division receives insufficient rainfall for the prosecution of settled agriculture, but there are many large districts where irrigation will be practicable. For the present, however, this territory may be considered as available only for grazing purposes. The agricultural area lies entirely in the Littoral district, and comprises, roughly speaking, perhaps 325,000 square miles of widely differing degrees of availability, the different productive value in the main depending upon the rainfall. This territory extends something like 775 miles north and south, and 425 miles inland from the coast, the western limit being as yet uncertain because of lack of meteorological records for a sufficiently long period. The limit of cultivation has been constantly moved westward, areas originally thought impossible producing good grain crops after a year or two of cultivation.

The soil of the greater part of the Littoral is a rich, moderately deep, alluvial deposit, with an underlying subsoil of mixed sand and clay and a final layer of hard clay, impervious to water. The clay base holds the rainfall and thus furnishes a moisture supply which plant roots secure, even in periods of considerable drouth. In the western and southern part of the Littoral the top soil partakes more of the character of a sandy loam, with less of strength and fertility than the alluvial lands. Taken as a whole the depth of soil will run from one and one-half feet as a fair average up to almost incredible depths in some sections of Entre Rios and Buenos Ayres, but the soil is apparently neither so deep nor so strong as in our Mississippi valley.

PROGRESS OF DEVELOPMENT.

Practically the beginning of agricultural exploitation was along the line of the Central Argentine railroad, that corporation opening for settlement the lands granted it as an inducement for its construction and extension. The first settlement was in the northern part of Buenos Ayres and southern part of Santa Fe. The first occupation was along the banks of the Parana river, the original impression being that the available district did not extend more than 100 miles west of that stream. The town of Rosario was the central point from which agricultural occupation radiated, and year by year the tide of settlement moved north and west from this center as immigrants came in and as agricultural experience demonstrated that the limit of successful occupation could be extended greatly beyond the boundaries originally set. The movement is now west and south and each year witnesses the breaking up of land far outside of what was considered the possible limit. In the Santa Fe district, this general term, including the province of that name, the northern part of Buenos Ayres and southern Cordoba, where agricultural development first began, the westward movement of cultivation has been much more rapid than the increase of population, and as a result lands first cultivated have been abandoned after a few years of occupation, the tenants going west and south in search of new land. Districts which fifteen, ten, or even five years since were the center of wheat production are now of little importance, lands cultivated for a few years having reverted back to cattle and pasture. At the present time the important wheat districts of this northern section are in western Santa Fe and southern Cordoba, west of what but a few years ago was considered the limit of successful wheat growing.

In the past few years, and especially at the present time, there has been rapid development of the southern part of the Littoral, in western and southern Buenos Ayres. Here again, immigration has been insufficient to furnish the needed population and settlers from the northern district have been drawn to

the South. The soil has less depth, but in many respects it seems better suited for grain growing, and apparently it is only a question of a few years until the center of Argentine wheat production will shift to the southern district, with Bahia Blanca as the shipping port.

This shifting of the available agricultural population from one district to another, leaving an impoverished soil in the wake, is one of the serious problems of Argentine development. It is due both to insufficiency of population and gross ignorance of proper agricultural methods, and it will continue probably until slovenly practice shall have skimmed the cream of original fertility over the whole available area.

CROP DISTRIBUTION.

The original wheat fields were in the Santa Fe district and the center of production is still there. The tendency now, however, is southward, and the area cultivated is scatteringly extended north and south for 700 miles. This includes such a variety of soil, climate and crop conditions as to insure increased uniformity of production. When the area was localized in Santa Fe and Entre Rios, as was the case a few years since, a local drouth, locust visitation, or other disaster affected the whole crop of the country, and the Argentine contribution to the world's supply was unreliable in the extreme, giving the country the mercurial reputation of either securing a heavy yield or nothing. This is now changed and so different are the areas now producing wheat that shortage or failure in one district is offset by good returns elsewhere, making it possible to count with some degree of certainty upon a comparatively steady volume for exportation. Illustrating this is the fact that while the past crop (1900-1) was practically a failure in many districts of Santa Fe and Entre Rios, there were good yields in portions of Cordoba, and extraordinary yields of unusual quality in southern Buenos Ayres.

The district suited to corn production is more fixed and comprises northern Buenos Ayres and southern Santa Fe. Here corn is practically the only crop grown and in all probability its production will remain central in this district. Farther north it is too warm and in the southern district summer and fall drouths are too frequent.

Flax, the only other important product, is grown in the same district with wheat in the northern belt, and to a smaller and relatively unimportant extent in the South. The attention given the crop is increasing and the rate of yield in a good season is larger than in the United States. If grown on the same land, however, two successive years, the rate of yield falls off greatly, and the extent of its cultivation will be uncertain until a scientific rotation of cropping shall be practiced.

The statistical service of the country has been inefficient in the past, but enough can be gleaned from official records to make the following showing of crop distribution by provinces:

CROP DISTRIBUTION BY PROVINCES.

	1895		1900	
	Wheat, acres.	Flax, acres.	Wheat, acres.	Flax, acres.
Santa Fe.....	2,546,318	658,615	3,662,649	860,247
Buenos Ayres.....	907,591	159,947	2,264,990	268,449
Cordoba.....	725,439	88,616	1,547,702	226,227
Entre Rios.....	721,507	48,578	694,799	145,236
Other.....	124,705	882	177,840
Total.....	5,023,560	956,638	8,347,980	1,500,159

Corn, the only other important crop, is largely localized in northern Buenos Ayres, with an area changing but little and standing not far from 3,500,000 acres.

For Beef as Well as Bread. Wheat Pasture, Wheat Hay, and Wheat Straw.

EDITOR KANSAS FARMER:—The farmers in Kansas now pasture more stock on wheat than ever before, and it seems that wheat can be pastured with less harm in the West than in the East. It is a noticeable fact that old ideas are entirely reversed. Many now prefer tramped, compact soil to that pulverized as in a garden. Instead of quarreling about breachy stock we now invite trespass. Now many farmers get revenue by allowing herds to graze their wheat and they will get other revenue from the sale of wheat next summer.

Many conditions have led to a very large acreage of wheat. On account of the shortage of forage nearly all forage was cut and on account of the drouth nearly all the fields were comparatively free from weeds, thus leaving the fields ready for wheat. Wheat had been successful and wheat pasture might be needed so it is that Kansas has as many acres in wheat as it may have acres in corn next year.

The farmers have learned, and are learning, the value of wheat for pasture, and also how to get the most value from

AN OPEN LETTER

Address to Women by the Treasurer of the W. C. T. U. of Kansas City, Mrs. E. C. Smith.

"MY DEAR SISTERS:—I believe in advocating and upholding everything that will lift up and help women, and but little use appears all knowledge and learning if you have not the health to enjoy it.



MRS. E. C. SMITH.

"Having found by personal experience that Lydia E. Pinkham's Vegetable Compound is a medicine of rare virtue, and having seen dozens of cures where my suffering sisters have been dragged back to life and usefulness from an untimely grave simply by the use of a few bottles of that Compound, I must proclaim its virtues, or I should not be doing my duty to suffering mothers and dragged-out housekeepers.

"Dear Sister, is your health poor, do you feel worn out and used up, especially do you have any of the troubles which beset our sex, take my advice; let the doctors alone, try Lydia E. Pinkham's Vegetable Compound; it is better than any and all doctors, for it cures and they do not."—Mrs. E. C. SMITH, 1212 Oak St., Treasurer W. C. T. U., Kansas City, Mo.—\$5000 forfeit if above testimonial is not genuine.

Mrs. Pinkham advises sick women free. Address, Lynn, Mass.

wheat straw. It is true that all grasses, which produce seed, make better hay if cut before the seeds mature than if cut afterward. The dried stems then contain nutriment otherwise used up in the production of seeds. Wheat, rye, oats, barley, corn, and cane are all grasses. They produce good hay or good grain. Good hay may be secured from any of them by cutting the stems before the seeds mature, or good grain can be obtained by letting the seeds mature, but both hay and grain can not be secured.

There is a lack of good hay producing grasses in the Southern States, hence they are large consumers of Northern hay. There is also a lack of good hay producing grasses in California and in the Middle West. In California "grain hay" is largely used. A late San Francisco paper quotes these market prices for the various kinds of hay: Alfalfa \$8 to \$10.50 per ton, clover \$5.50 to \$7, straw 25 to 45 cents per bale, wheat hay \$8 to \$11.50 per ton, oat hay \$6.50 to \$9.50, wheat and oat hay \$7.50 to \$10.50, barley and oat hay \$6 to \$8.50. In California grain has long been utilized for hay; it is cut for hay instead of for grain only. There seems no reason why grain should not pay as well in Kansas as in California.

It is said by some chemists, that corn stalks, rightly cured, contain as much nutriment as the ear. Usually wheat straw has little worth but our farmers will learn to utilize the wheat plant more than they do. When grown for grain the straw will be baled or rebound as it is threshed, at one operation and is in demand for packing goods, for bedding in stables in the city, for rough feed, and for paper material. Now it is largely wasted, is badly stacked, is trampled under foot, is often a lurid bonfire at night, yet it is all wanted somewhere. Cotton growers used to grow cotton for the fiber only, now they have learned to utilize the plant. Our farmers will learn to utilize wheat for pasture, for grain hay, for grain. Not only the grain but the straw, not only for bread but for beef also. R.

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When writing advertisers please mention KANSAS FARMER.

Weevil in Corn.

(1) What is the cheapest and surest way of stopping weevil from working in old corn? (2) Will the weevil work on new corn that is placed in a crib where weevil has worked on old corn? (3) About what per cent in value does it lose for hog feed where it is bought by weight?
J. G. MITCHELL.
Buxton, Kans.

This inquiry is answered in the following press bulletin from the entomological department of the experiment station:

"The common species of grain insects seem to be more than usually abundant this fall, as shown by numerous letters of inquiry received at the Kansas Experiment Station. The two forms most in evidence are the common grain moth and the black weevil, the latter generally more abundant. In either case the most ready method of their destruction is the employment of carbon bisulphide, 1 pound at least of the liquid to 100 bushels of grain, or 1,000 feet of space.

"It seems likely from the varying degrees of success reported with this formula that certain essential conditions are not always strictly observed. In ordinary cribs and bins the most important provision is to make the room as nearly as possible gas-tight, in order that the gas may remain in all parts of the space in full strength and for the required time. It must enter by diffusion all cracks and crevices, even those between the grains of corn in the ear, and must penetrate the burrow of the individual weevil or its grub in the wheat berry. This thorough diffusion will only occur after some time, even in a saturated atmosphere. Twenty-four hours is short enough for certainty, even where the gas can be kept full strength in the bin.

"Except with highly organized insects, death does not occur immediately, and partial suffocation may only render the insect insensible, leaving it to recover fully upon the airing out of the bin; or the gradual escape of the gas through cracks in the floor or sides of the bin, allowing the entrance of fresh air, may cause failure through the subsequent revival of the insect. The adult grain moth readily succumbs to the gas, while the larva will stand more and yet revive. The black weevil is most difficult to kill, specimens remaining over night in an experimental killing bottle sometimes recovering when removed therefrom the next day. Hence, to destroy all these it will be necessary to continue the action of the gas in full strength for at least twenty-four hours, and to do this the bin must be made tight, the fluid carbon bisulphide be used in liberal quantities, and in case of doubt, the experiment repeated.

"Wheat may be largely kept free from weevil by proper handling, frequent shifting and fanning, such constituting the chief reliance in the elevators. Corn in cribs can scarcely be freed from weevil while remaining there, owing to the practical impossibility of making the crib sufficiently tight. Tarpaulins and stack-covers are useful in assisting to retain the gas within limits, but are by no means tight enough to prevent the escape of the gas by diffusion before the black weevil can be destroyed.

"It is suggested by a correspondent that gasoline is equally effective with carbon bisulphide, and owing to its cheapness it can be used in certainly destructive quantities at little expense. It may be necessary to warn those who employ either of these liquids that the gas is highly inflammable and explosive when ignited; hence no fire or light should be allowed about the bin while the fumigation is in progress."

The Condition of Trade.

BRADSTREET'S REPORT FOR LAST WEEK.

"The trade situation presents many points of strength and few of weakness. Cold weather throughout the country has stimulated retail trade in heavy clothing, shoes, groceries, and rubber goods, and this has already been reflected in an improved reorder demand from Western and Southern jobbers. Collections, too, are more satisfactory. Country merchants are reported in good financial shape, and one result of this is found in the rather better supply and easier tone of money. Holding of cotton is reported from the South, this being aided by the strength of the business community generally. Higher prices have been made for cereals. Bradstreet's figures of the world's visible supply favor the bears but little; foreign cables are better, and export demand has been improved, both for wheat and corn, the strength or these being shared in by flour, the production of which at Minneapolis and other centers is very heavy, and by oats. The price

situation is one of steadiness, though some hesitation was shown during October.

"While nearly all industries are active, special strength and activity has been displayed in iron and steel. Production as yet seems to be running behind consumption. The shortage of cars is an additional obstructive feature just at present, and the effect on the country trade has been so marked as to cause the shutdown of 20 blast furnaces in the Pittsburg district. Pig iron is in good demand, East and West. Railway material is very active at Chicago, and 50,000 tons of steel rails have been ordered by Western roads this week. Iron bars and nails display weakness and are lower. Plate specifications are also reported being held back. At Pittsburg there is a heavy demand for Bessemer iron and sales of 10,000 tons of this material and of 20,000 tons of foundry iron are reported, with good premiums for prompt delivery. Forge iron is 50 cents up. Structural material is also active, sales at Pittsburg for the week aggregating 12,000 tons.

"Some irregularity is noted in the market for cotton goods, owing to the weakness of raw material, the result of growth of larger estimates. The Fall River wage situation has been clarified by a reduction in wages made by the manufacturer, who some weeks ago advanced them. Print cloths are firm for prompt delivery at 3 1/2 cents, but some sales have been made for January delivery at 3 cents. Woolen goods machinery is actively employed. The markets have been rather firmer, with upward tendency. Supplies are smaller, and the position is one of considerable strength.

"The leather trade is rather quieter than of late. Shoe factories at the East are now finishing up their winter orders preparatory to turning machinery on spring goods. No signs of weakness is to be noted, however, in prices. Prices are still the key of the situation, and they are firm and unchanged. Shoe shipments continue largely in excess of a year ago.

"The coal trade was in good condition previous to the cold weather. It has lost none of its strength since, and the only source of complaint is the small stocks in dealers' hands and the trouble growing out of the scarcity of cars. Raw sugar is lower, in sympathy with the continued bearish feeling here and abroad, and refined is 10 points lower all around. Coffee is slightly higher on smaller crop estimates."

Colorado Farmers and Irrigation's Blessings.

COLORADO WEEKLY TIMES.

The farmers of Colorado are certainly riding well in advance of the procession in twentieth century automobiles along the golden paved highway of prosperity. Their melon crops were unequaled at the very time when their old rivals to the east of them were wrestling with drouth. Their potato fields will produce gold in abundance, for the tubers are nearly as precious as the royal mineral itself. Their fruit has yielded many dollars of profit. Their honey has been of such fine quality that it commands a high premium. And now all who turned to apple orchards a few years ago are almost bewildered by the marvelous demands for one fruit.

The prosperity of the farmers is due in part to their own industry and in part to the blessings of irrigation that has assured bounteous supplies of the all-important water, regardless of whether the skies are clear or beclouded. Without irrigation, orchards and farms would have been in much the same condition of Kansas and Missouri, Iowa and Nebraska, Illinois and Indiana. Indeed, they would probably have been even worse off, for the rains that did fall would not have moistened 1 per cent of the lands of the State. But they did not need rains, because the snows of the previous winter, melting slowly, gave them all the water they needed, and made them happy when their brothers elsewhere were grieving.

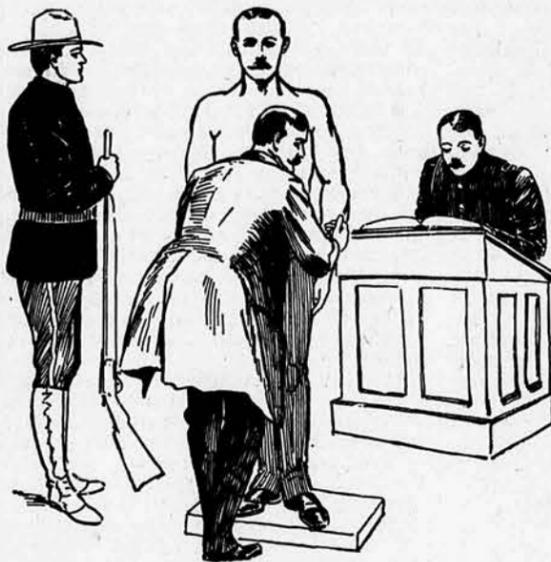
The blessings of irrigation have been shown so convincingly to the whole nation the present year that there should be little difficulty at this coming session of Congress in securing the initiation of a vast national reservoir system throughout the mountain region—the so-called arid section—to conserve the snow and flood waters of the winter and early spring. If the national government can afford to spend an average of \$25,000,000 a year on navigable streams that are seldom navigated, it can certainly afford to spend a few millions each year in storing up the water that assures melons and potatoes, apples and peaches, celery and cabbage, to the peo-

THE U. S. STANDARD.

No Man is Stronger Than His Stomach.

The man who seeks to enlist in the U. S. Army must be physically sound. There is a minimum standard of height and men under that standard, no matter how healthy, will not be accepted. But aside from height the requirement is a sound physical condition, and this condition depends in chief upon the health of the stomach and its allied organs of digestion and nutrition. Many a man has been rejected by the medical examiner who appeared externally to possess all the physical requirements of a good soldier. But the examiner looks below the surface. He knows when the stomach is weak, and he knows also that no man is stronger than his stomach.

Most people look upon indigestion as a discomfort rather than a disease. But



in reality indigestion or dyspepsia is the disease of all diseases. It makes other diseases possible. It involves the blood and the heart, lungs, liver, kidneys—every organ of the body.

WEAK STOMACH WEAK MAN.

That a "weak" stomach causes general physical weakness may easily be understood. Food is the staff of life. The source of all physical strength is food. But before the body can receive strength from what is eaten the food must be digested and assimilated. To convert the food eaten into nutrition is the office of the stomach and the other organs of digestion and nutrition. When the stomach is "weak" the food received into it is only partly digested and assimilated; the body loses its proper supply of nutrition and grows proportionately weak. The capacity of the stomach in its normal health and use equals the nutritive demands of the body. State that normal capacity as equal to 100. When the stomach is "weak" its capacity is reduced proportionately. It may be that 10 or 20 per cent of the nutritive values of the food eaten are lost or wasted. That 10 or 20 per cent of lost nutrition must then represent a 10 or 20 per cent loss of physical strength.

WHERE STRENGTH COMES FROM.

Physical strength comes from food and from food alone. If a man has enough to eat and eats enough, there's no reason why he should not have a perfectly nourished and healthy body. If he is not well nourished, if he is losing weight, then the stomach is weak or diseased, whether he knows it or not. If he knows he has stomach "trouble," then he may be sure that the trouble will not stop with the stomach, but will reach out to other organs of the body dependent on the stomach for nutrition.

Dr. Pierce's Golden Medical Discovery has restored lost health and strength to thousands of suffering men and women, because it cures diseases of the stomach and other organs of digestion and nutrition, and enables the building up of the body in the only way known

to nature, by the assimilation of the nutrition extracted from food. "Golden Medical Discovery" makes the "weak" stomach strong, and so makes the weak man strong by perfect nutrition.

"I had been suffering from indigestion so badly that I could not work more than half the time," writes Mr. Victor L. Hayden, of Blackstone, Notoway Co., Va. "But now I can work every day and eat anything I want. Why? Because I took Dr. R. V. Pierce's Golden Medical Discovery. It has put new life and energy in me, restored my health and made a man of me once more. I used to weigh 170 but had gotten down to 144, now am back to 150 and will soon be back at my old weight if nothing happens. Your medicine has done it all. I can not thank you enough for your advice and think if it had not been for your medicine I would not have been here many years."

A CORNFIELD LESSON.

The average person seems entirely unaware of the dependence of the several organs of the body upon the stomach for their health and strength. But if a "weak" stomach makes a weak man that weakness must be distributed among all the parts and organs which, taken as a whole, make up the physical man. The relation of the stomach to the physical organs is like the relation of the corn to the soil in which it grows. If the soil abounds in the nutrition which makes corn, then the stalk is tall, the leaves broad, the ears heavy. If the soil is poor or weak then the corn is weak and it is weak all over, in stalk, leaf and ear. Every part of the corn shares in the lack of nutritive elements in the soil. It's so with the stomach. When it is "weak" and there is loss of nutrition, every organ shares that loss—heart,

liver, lungs, kidneys, etc. Dr. Pierce's Golden Medical Discovery cures diseases of organs remote from the stomach when these diseases have their origin in disease of the stomach and its allied organs of digestion and nutrition. In numerous cases men and women who have taken "Golden Medical Discovery" to cure disease of the stomach have been astonished to find themselves cured of diseases of heart, lungs, liver, kidneys, or other organs.

"Words fail to express what I suffered for three years with cold chills, palpitation of heart, shortness of breath and low spirits," writes Mrs. A. C. Jones, of Walterboro, Colleton Co., S. C. "I could not sleep, and really thought I would soon die. Had a peculiar roaring through my head all the time. Was so emaciated and weak I could not feed myself. My aunt induced me to try Doctor Pierce's Golden Medical Discovery, which I did, only to please her, and six bottles cured me. To-day am sound and well. During the three years I was sick I had five different physicians."

Dr. Pierce's Pleasant Pellets assist the action of the "Discovery."

Don't be fooled into trading a substance for a shadow. Any substitute offered as "just as good" as "Golden Medical Discovery" is a shadow of that medicine. There are cures behind every claim made for the "Discovery," which no "just as good" medicine can show.

A GUIDE TO HEALTH.

Dr. Pierce's Common Sense Medical Adviser is a safe guide to sound health. It treats of health and disease in a common sense manner and in plain English. It explains how health may be established and how it is preserved. This great work, containing more than a thousand large pages and over 700 illustrations is sent free on receipt of stamps to pay expense of mailing only. Send thirty-one one-cent stamps for the cloth-bound volume, or only twenty-one stamps for the book in paper covers. Address Dr. R. V. Pierce, Buffalo, N. Y.

ple of the country when drouth cuts off the usual products of the so-called agricultural States.

Colorado and the other States of the miscalled arid region can supply the nation with fruit and vegetables in times of stress, if given adequate irrigation. But no private enterprise can furnish this. Let the nation furnish the storage reservoirs and the great West will do the rest, year in and year out.

"Is your daughter learning to play by note?" "Certainly not," answered Mrs. Cumrox, a little indignantly. "We pay cash for every lesson. The idea!"—Washington Star.

Gladys: "What's become of Mabel?" Belle: "She's joined the great majority." "You don't mean to say she's dead?" "Oh, no! Married a man named Smith."—Tid-Bits.

The Stock Interest.

THOROUGHbred STOCK SALES.

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

- November 21, 1901—Ernst Bros., Shorthorns, Tecumseh, Neb.
- November 20-22, 1901—National Hereford Exchange, East St. Louis, Ill. (Sotham management.)
- December 10 and 11, 1901—Armour-Funkhouser, Herefords, Kansas City.
- December 13, 1901—H. C. Duncan, Shorthorns, Kansas City.
- January 28 and 29, 1902—Winn & Mastin, Kansas City, Poland-Chinas.
- January 28 to 31, 1902—Sotham's Annual Criterion Sale at Kansas City.
- February 11, 12, and 13, 1902—J. F. Stodder, J. W. & J. C. Robison, and Snyder Bros., Winfield, Kans., Combination Sale.
- February 25-27, 1902—C. A. Stannard and others, at Kansas City, Mo., 200 Herefords.
- February 28 and March 1, 1902—Dispersion of Wavertree herd of Galloways, South Omaha, Neb.
- March 20 and 21, 1902—Edward Paul, Dispersion Sale of Galloways at South Omaha.
- March 25-27, 1902—National Hereford Exchange, Chicago, Ill. (Sotham Management.)
- April 16, 1902—W. O. Park, Atchison, Kans., Aberdeen-Angus.
- April 22-24, 1902—National Hereford Exchange, Kansas City, Mo. (Sotham Management.)
- April 25 and 26, 1902—H. O. Tudor, Holton, Kans., Shorthorns.
- May 27-29, 1902—National Hereford Exchange, Omaha, Neb. (Sotham management.)
- June 24-26, 1902—National Hereford Exchange, Chicago, Ill. (Sotham management.)

How and When to Water the Horse.

Horses should always be watered before receiving their corn. If they are watered just after feeding, the water washes the undigested food out of the stomach, and thereby may cause more or less serious digestive troubles. Water drunk by a horse does not stay in the stomach like food, but passes rapidly through it, going directly to that part of the large intestine called the cæcum.

GIVE THEM PLENTY.

Horses should never be stinted in their water supply, but should be given as much as they want to drink. It is a common practice of many grooms (and in some stables) to keep horses short of water, partly on the supposition that too much water is detrimental to good condition, and partly for no reason at all, but simply from a foolish fad grooms have. This is, of course, entirely wrong, and should be severely discouraged, as it is a cruel practice. A horse in health is not likely to drink more water than is necessary for his requirements. The amount of water drunk by horses varies a good deal in individual horses; some drink much more than others, and it would be absurd to limit the quantity of water given to a greedy drinker because his stable companion is more moderate in his requirements and consumes less; yet this is often done by ignorant grooms. Opinions differ as to whether it is preferable to let the horse have a permanent supply of water in the stable, so that he can drink when he wants to; or whether it is better to give him water three or four times a day. In my opinion there is not much to choose between either practice.

Horses out at grass do not as a rule drink more than twice a day, and wild horses (in South America, for instance) do not quench their thirst except at fairly long intervals. We must bear in mind, however, that horses out at grass live on succulent food containing a large quantity of water, and that they do not lose much moisture through perspiration, while stabled horses are fed on dry food and lose a more or less large quantity of water—according to the kind of work done by the animal—through perspiration. A horse in the stable, therefore, requires a considerably larger amount of water than does a horse out at grass or in a state of nature, and it also requires to be watered more often.

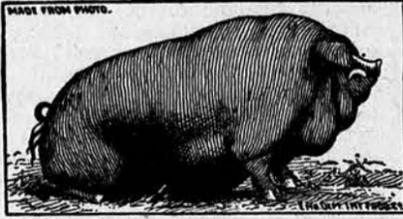
The cæcum of a horse is very capacious, much more so than the stomach, which is notoriously small in the horse, and can hold a large quantity of fluid. On this account, it may be quite sufficient to water the horses four times a day, though frequently they are watered but three times daily, which is too little.

It has been found that a horse drinks less water in a given time if he has continual access to water in the stable, than when watered at long intervals; and nothing can be said against this practice, except that the water is apt to become stale and foul by absorbing the ammonia generated from the urine, unless constantly changed; but grooms are far too lazy to do this, and unless looked after content themselves with filling up the half-empty receptacle, which is never thoroughly cleaned out. The best plan perhaps would be to water horses before each feed, and to offer them water twice a day besides, during the intervals of feeding.

A horse should always be allowed to quench his thirst after coming in from work, even if he is hot. A very general opinion exists that it is injurious to wa-

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3 FEEDS FOR ONE CENT

ter horses when they come in from work in a heated state, and they are therefore, in many instances, not watered until they have somewhat cooled down; this opinion is fallacious, as it does not hurt horses to drink cold water directly they return from work. It is, however, hurtful to let a horse drink after he is partly cooled down, and this practice is very liable to cause a chill to the system. It may often be noticed that horses which have come in hot, and are not watered directly but some time afterwards, commence to shiver after drinking a pailful of water, whereas if a horse is allowed to drink before the blood has cooled down, he will not do so. The explanation of this is, no doubt, as follows: Cold water, on entering the body, absorbs a certain amount of heat from the system, in order to bring its temperature up to the internal temperature of the animal drinking it. In the case of a horse in a hot state, the loss of heat is not felt, as there is sufficient heat to spare; whereas in a horse which has already partly cooled down, and whose system has begun to flag, the sudden further loss of heat, occasioned by the cold water entering the body and absorbing heat, causes the system to become chilled.

In the case of a horse which has not been heated through work, the loss of internal heat caused by drinking cold water is obviously not nearly as great, and even if a large quantity is drunk no chill to the system takes place, unless the water is very cold. Furthermore, in this case the water is not nearly as quickly absorbed into the blood system as when a horse has lost much moisture through perspiration during work, and is in need of a large quantity of liquid to establish the normal state of the blood. The heat withdrawn from the body in the latter case is, therefore, both less and more gradual. A horse should not be given a large quantity of water just before doing fast work, as this would be at best very detrimental to his going and staying powers, and cause him to sweat profusely, while it may, and very often does, induce scouring. When a horse is required for fast work or to go out hunting, he should be watered at least two hours before leaving the stable, and allowed to drink as much as he wants to. If this is done, a drink should be again offered him just before starting, when he may drink a mouthful or two, which can not hurt him at all, while generally he will not even require this. During a long journey or a long day, a horse should be allowed to quench his thirst whenever there is an opportunity. As already remarked above, cold water will not hurt a horse, even if he is in a very heated condition.

I may point out, in conclusion, that horses eating hay or corn secrete a large quantity of fluid from the salivary glands, and that a proper secretion of saliva is absolutely necessary to digestion of food; while the glands of the stomach, the pancreas, the liver, and the intestines also secrete digestive fluids during the process of digestion. In a thirsty horse, therefore, which is in want of water, digestion can not go on properly, owing to a sufficient quantity of liquid for the various digestive juices not being available.—H. F., in London Live Stock Journal.

As Seen at the Kansas City Stock Yards Last Saturday.

EDITOR KANSAS FARMER:—Receipts of cattle for the week amount to 46,000, an increase of 3,000 over last week. The proportion of corn-fed steers was fairly large and prices ruled a little stronger, with top of \$6.60 for one fancy bunch. The market on native cows and heifers is strong to 10 cents higher and about steady on Western cows. Stock cows and heifers are strong to 25 cents higher than last week. The demand for good heavy feeders is good, and they

are selling at \$4 to \$4.25. The yards are glutted with common 700 to 900 pound feeders, and the market is almost demoralized on these kinds. This is a much better time to buy than to sell this grade of cattle, and we can not expect the market to advance as long as they continue to come too freely. There is also a very good demand for Westerns weighing over 900 pounds, but the lighter weights are hard to handle even at very low prices. We do not expect the receipts of fat cattle to be heavier than the demand.

Receipts of hogs this week amount to 65,513, an increase of 9,189 as compared with last week. The market has ruled more even this week and has shown more life. While receipts have been heavier, there has been a good demand for all grades, and the supply has been well cleaned up from day to day. There has been very little change in prices this week from last, bulk of sales being about the same, \$5.60@5.90. The top has been higher, \$6.10 being paid Monday for a fancy load of heavy hogs. To-day's receipts estimated at 12,000. The market ruled 5 cents to 10 cents lower than yesterday's best time, bulk of sales \$5.60@5.90, top \$5.95. Pigs and light mixed hogs are selling at \$4.75@5.65, according to weight and quality.

EVANS-SNIDER-BUEL CO.

Stockmen's Views.

According to information received at the headquarters of the National Live Stock Association Congress will have the Western public land situation brought to its attention this winter in a new and startling manner. A number of prominent cattlemen of the West who have been quietly investigating report that they are prepared to show that during the past five years there has been an enormous decrease in the number of cattle in this country, a decrease which seriously threatens the beef food supply and that unless speedy action be taken by Congress in the course of a very few years beef will be selling at such fabulous prices that only the wealthy can afford to indulge in the luxury of a beefsteak.

This rapid decline in the number of beef cattle is said to be due solely to the contraction of the Western public grazing lands and the increase in the consumptive demand. The rapid settlement of the West has caused the ranges left to become crowded, and this crowded condition has prevented the reseedling of grasses and consequently millions of acres of once good pasture have been turned into absolute desert. Most of the large herds have been dispersed and slaughtered, and the bulk of the cattle supply is now being furnished by the small stockmen, but the evolution from the large herds on the open range to the small herds in pastures is slow, and where a few years ago the markets were supplied with cattle 4, 5, and 6 years of age, even yearlings are being slaughtered to make up the supply of beef.

The stockmen claim that the unfavorable methods of administering the public lands of the West are back of the threatened shortage and at the coming national convention in Chicago next month an effort will be made to throw the whole matter into Congress, ask that a commission be appointed with expert assistance to investigate and devise plans for relieving the situation.

The stockmen in the National Association have been striving for several years to devise some plan for amending the land laws that would remedy existing evils, but have been unable to agree. One faction is in favor of leasing the lands by the government. Another wants the lands ceded to the States, another wants the laws left as they are and irrigation works constructed to redeem the lands by irrigation. As a compromise for all it is now proposed to

have Congress take charge of the whole matter through a commission, and after investigation take such action as will tend to stop the waste and destruction now going on and encourage the establishment of small stock farms. The plan will also recommend government aid in building storage reservoirs on the ranges near headquarters of streams.

The big packers admit that there has been a serious decrease in the visible supply of cattle during the past five years, and they are looking forward to higher prices in the near future but they say the people will be forced to eat mutton instead of beef, though even mutton will probably become scarce later on, as the same conditions that are diminishing the beef supply will also affect the sheep supply.

How They Will Treat the Newspaper Men.

EDITOR KANSAS FARMER:—During the fifth annual convention of our association, which will be held in Studebaker's Theater, Chicago, Ill., commencing December 3, press headquarters will be maintained at the Great Northern Hotel.

Mr. Frank E. Moore, of Chicago, is chairman of the press committee. He has purchased a new chuck wagon, is putting in several new vats for cattle and sheep-dipping experiments, and, with other members of his committee, will do everything possible for your entertainment.

You are cordially invited to hit the trail for camp, immediately on your arriving on the range, and make yourself known to the chief wrangler in charge.

Yours very truly,

NATIONAL LIVE STOCK ASSOCIATION,
By C. F. MARTIN, Secretary.
Denver, Colo., Nov. 6, 1901.

Reading Farmers.

There are many, very many, well-read farmers who keep abreast of the new ideas and improvements which are constantly being worked out in the onward march of progress. Many of them are not content with a mere sight acquaintance with the new names and properties of those forces, both animate and inanimate, which chemistry, biology, and entomology are making known to the new world of agriculture. These up-to-date readers become thinkers, and follow up sight knowledge with study and thought until they become something more than mere manual working machines. By steadily following up subjects of peculiar interest to each, in the farm press, books, and periodicals, combined with discussion and experiment, reading farmers grow into practical scientists in deeds if not in name. But the great unread class, fortunately growing yearly less, loses much that goes to make up the best in life for the husbandman.—The Agricultural Epitomist.

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The Bread and Meat Question.

Official estimates of outturn, or condition of the fields at harvest time of the more important wheat growing regions and commercial estimates of the outturn of the less important, are now available that permit fairly satisfactory conclusions as to the sufficiency of the "bread eating world's" supply for the 1901-2 harvest year.

Such authorities as the Hungarian minister of agriculture, Beerbohm's and the Bulletin des Halles have put forth estimates which, for the regions inhabited by the "bread eating" populations of European lineage, range from 2,356,000,000 to 2,458,000,000 bushels, the mean being 2,387,000,000, while the highest estimate I should feel warranted in making would be 2,300,000,000 bushels, the difference arising mostly from the fact the estimators named, at least the two papers, adopt estimates of those engaged in selling paper wheat upon the exchanges rather than rely upon the indications of condition appearing in the reports of our department of agriculture respecting the fields of the United States.

THE BREAD-EATERS' COUNTRIES.

To the wheat grown in the regions inhabited by the "bread-eaters" proper—Europe, the United States, Canada, Argentina, Chile, Uruguay, South Africa, and Australasia—must be added such imports as the "bread-eaters" are able to secure from India, Algeria, Tunis, and Asiatic Turkey, which have averaged 20,000,000 bushels per annum during the last five years. Of the meager exports from such countries, however, about one-third has gone to feed other "non-bread-eating" populations of Asia and North Africa. That is, the "bread-eaters" are dependent for more than 99 per cent of their bread supply upon the regions they occupy, while the large but wholly indeterminate wheat areas and product of Asiatic Turkey, Persia, and large parts of North Africa, practically contribute nothing to that supply, and their inclusion in any estimate, further than to show the volume or portion of their exports reaching the "bread-eaters" of European lineage, but complicates a problem sufficiently complex in its best.

WHEAT FEEDING GREATER.

If it is a fact that the wheat harvest of that part of the world which furnishes the supply of the "bread-eaters" has given, as estimated by the authorities named, an outturn of some 2,387,000,000 bushels, then, with such exports as may be made from India, Tunis, Algeria and Asiatic Turkey (Egypt, contrary to the belief of our estimators, having become a permanent importer), the "bread eating world" will have an ample supply if unit requirements do not exceed those of the last decade. With a present "bread eating" population of 530,000,000 the requirements will be some 2,050,000,000 bushels for food, and 370,000,000 to seed the 185,000,000 acres likely to be sown for the harvest of 1902. It is altogether probable that the available remainders from the last three harvests aggregate 100,000,000 bushels, and that the supply, will not be largely deficient even if my tentative estimate is nearer the mark than either of those mentioned, providing the feeding of wheat to farm animals is no more prevalent than most writers for the commercial and trade papers estimate. From all that comes to me I believe the feeding will be vastly greater than in 1894, when the same people estimated that 75,000,000 to 100,000,000 bushels were fed in the United States. At that time both corn and wheat brought lower prices—fully 33 per cent lower than now—but the supply of corn was relatively much greater not only in the United States as a whole, but especially in the greater swine growing States.

That enormous quantities of wheat are being fed to swine in Kansas, and great quantities to horses and cattle goes without saying, the estimate of 12,000,000 bushels as the probable extent of the season's feeding attributed to F. D. Coburn, probably incorrectly, being an astonishingly low one, and likely to be doubled before new corn is available in the autumn of 1902. Either great quantities of wheat must be fed or the "packers' combine," of which some live stock brokers are complaining, will be unable to keep hogs below the \$7 mark long; and I would suggest that if "board of trade" people desire to profit by the sale of the wheat that fails to come their way they should annex the stock yards and claim commissions on all the swine coming to Kansas City that have eaten the bread-making grain. By doing this they will find that the wheat comes to Kansas City in quantities that indicate the abundance of the harvest of 1901. The farmers believed, unal-

the "packers' combine" incontinently reduced the price of hogs, that 65 cents a bushel for wheat in the form of pork was far better than the 53 cents which the "grain dealers' pool" was willing to pay for a bushel of wheat in the farm markets.

WILL REDUCE QUANTITY MARKETED AS GRAIN.

That the feeding of wheat will reduce the quantity marketed in the form of grain in a remarkable manner, there can be no question, and this is notably true of Kansas, as few farmers, especially in the wheat belt, have any other grain for either their teams, swine or cattle—and this feeding ought and probably will materially affect the price of wheat in the latter part of the crop year.

THE CORN CROP.

The commercial and trade press, each alike, insist that the official showing of condition on October 1 promises anywhere from 1,300,000,000 to 1,500,000,000 bushels of maize. It would indicate a crop of about 1,300,000,000 bushels if a condition of 52.1 bore the same ratio to the yield that a condition of 81.8 for the past ten years bore to acre yields averaging 24.7 bushels—but the trouble with all these estimates is that they are based upon the untenable assumption that the condition applies to a planted area of some 83,000,000 acres, whereas it is well known to those who put forth these estimates that the condition of 52.1 has reference solely to the acreage that may be found worth harvesting, and that in this case, is probably not much more than 80 per cent of the area planted. Kansas, Nebraska, Missouri, Oklahoma, and Texas have probably lost more than 10,000,000 acres of the area planted in such States, and it is altogether probable that the other States have abandoned more than 3,000,000 acres, reducing the area to or below 70,000,000 acres, on which a condition of 52.1 indicates a crop of about 1,100,000,000 bushels, or the smallest crop since 1874, although in the meantime the population has increased 83 per cent and Europe's demands for American maize have much more than doubled.

WHEAT AND CORN COMPARED.

Prices at Kansas City for Illinois and Iowa corn show that its cost to the farmer in the wheat belt of Kansas will exceed 65 cents a bushel, while he is now able to sell his wheat—60 pounds to the bushel as against a bushel of maize weighing 56 pounds—for some 55 cents.

In other words, he must give 4,000 pounds of wheat for 3,000 pounds of corn with which to feed his animals, and give in addition a bonus of some \$2.50 in the shape of cartage of wheat to the station and corn from station to farm in order to make this profitable exchange—and it is because of these singular relations that he refuses to send much of his wheat to Kansas City except upon legs.

During the last five years we have, exclusive of quantities exported, consumed no less than 9,200,000,000 bushels of maize and 3,300,000,000 bushels of oats, or an average of 2,500,000,000 bushels yearly of the two grains, being in the annual ratio of 34 bushels, exclusive of required seed, per population unit, while population has so increased during the five years that home consumption, exclusive of seed, now demands 2,700,000,000 bushels of the two grains.

Admitting that the corn crop of 1901 aggregates 1,200,000,000 bushels and the oats crop 650,000,000, we have, aside from more than 100,000,000 bushels required for seed, less than 1,800,000,000 bushels to meet the requirements of 79,000,000 people, or a unit supply of less than 23 bushels, the deficit equaling 33 per cent of the usual supply.

With a much smaller relative deficit from the harvest of 1881 the price of maize rose to 81 cents in Chicago, while in many of the producing districts corn sold for more than \$1 a bushel. Since 1881 Europe has more than doubled its demand for American maize, and while B. W. Snow tells us maize can be grown at trifling cost in Argentina, yet Argentina's exports during the last five years have averaged less than 30,000,000 bushels per annum, while the whole of eastern Europe can spare barely 50,000,000 bushels per annum, and the remainder of the exporting world less than 4,000,000. In other words the United States, after consuming some 1,900,000,000 bushels at home, exporting immense quantities in such secondary forms as meat, lard, and butter, is still able to send abroad in primary form more than twice as many bushels of maize as all the rest of the world.

AND HOGS WILL BE HOGS.

The enterprising packers who now desire very cheap hogs, and are taking

means to lessen the supply, will doubtless find before new maize comes to market, from the harvest of 1902, in the shape of swine, that hogs are hogs; that such as they succeed in securing at any price have been largely fed on wheat; that with crude cottonseed at 30 cents a gallon, and the yellow brands at 42 cents a gallon, that even cheap lard of the spurious sort and fictitious butter are not cheap products, and that they must pay stiff prices for the few hogs they can command for the manufacture of such real products as they are able to offer their discriminating customers, and also find that the farmer must be at least fairly compensated for the greater cost of his products, and thus be enabled to share, even in a slight degree, in that prosperity which should reward all who sell goods that are not sophisticated.

It will be about two years before the packer can even hope to cut hogs fed on moderately low priced corn, and he ought to give the farmer a fair price for his swine in order to encourage him to feed more wheat, else the packer is likely to be without hogs and forced to so elevate the price of meats, real lard, and oleomargarine that the community will begin to believe him a soulless extortioner.—C. Wood Davis, in K. C. Journal.

Aberdeen-Angus Herd of Anderson & Findlay.

The Allendale herd has been exceptionally prosperous the past year, and the transactions in it large. The owners write: "The general condition in both herd and field have been good, if we except the drouth period, which visited us just at the time to effect a failure of the corn crop. Other crops were about an average. About a year ago we issued a catalogue of our cattle, and since then there have been dropped in our herd 111 calves, all but one of them by our recently imported bulls, which are proving themselves most excellent sires in every respect. During the same period we have sold about 100 head. Recent sales not previously reported, are: To Jas. McDonnell, Wisconsin, bull, Primfeld 40459—McDonnell raises steers to top the Chicago market, and wrote us, 'Send the best bull you have by an imported bull, your price is all right if you will send a dog free along with the bull.' To Wm. Botz, bull, Maniken 43389; to Chas. Goodnight, Texas, bulls Stilliano 37405, Verbena-man 37406, Iol 37423, and Verb 37429; to M. C. Ohl, Iowa, cows Hawthorn of A. 5th 42908, Queen Mary of A. 4th 37420, Coquette 17th of A. 37430, and Tansy 7th 40451, and the bull calf of Iolero; to G. H. McKee, Kansas, bulls Darlo 37659, and Mactonal 43375; to M. C. McKee, Kansas, bull, Emerald Major 43386; to Kansas State Agricultural College, cows Darling 5th 22763, and her heifer calf Darling of Manhattan, Rosal 4th 32764, and her heifer calf Rosal of Manhattan; to F. W. Morgan, Wisconsin, cows Rosal 3d 18443, Irene 6th 21657, Petuna 7th 21659, Jennet 7th of L. F. 22470, Beatrice 4th of L. F. 22768, Ariadne 8th of A. 23278, Coquette 2d of A. 24568, Jaquetta 11th 27382, Tansy 4th 28049, Primrose of A. 11th 33189, Ariadne 12th of A. 2... Euphemia 7th 34480, Queen Mary of A. 3d 36865, Primrose of A. 13th 37343, Coquette 12th of A. 37344, Irene 13th 37346, Walnut of A. 3d 37347, Ariadne 13th of A. 37348, Milk-maiden 6th 37351, Jaquetta 18th 37354, Darling 10th 37356, Stillia 12th 37368, Stillia 13th 37379, Lillian 10th 37387, Irene 21st 37397, Lady Fancy 1st 37414, Coquette 16th of A. 37421, Ariadne 15th of A. 37424, Primrose of A. 14th 37426, Irene 22d 37433, Rosabella 14th 38136, Lady Ideal 21st 40442, Silvia 11th 40444, and Euphemia 9th 46614.

Hon. F. D. Coburn, secretary of the State Board of Agriculture, selected the females for the Kansas college, and it is unnecessary to say that they are good ones and will reflect credit on the breed at that splendid institution. One is a Rose of Advie by Black Aristocrat that sired so many high priced ones, the other by the Erica bull Ermoor, and their calves are by the recently imported Pride bull Pacific which in three year old plain breeding form weighs about 2,100 pounds. It was most gratifying to us to see such an eminent authority as Secretary Coburn saying this in a Kansas paper about our herd: 'The truth of the matter is the Allendale herd is better known and more appreciated in Scotland than it is in Allen County. I keep a pretty close track of these things, and I have no hesitation in saying that it is the finest herd of Polled Angus cattle in this country and probably in the world. Just think of it, over 300 head of cattle, every one of them registered. It is something that the State and county may well be proud of, to say nothing of the country.' Mr. Morgan's purchase of the 34 head is for the purpose of founding a herd in Wisconsin, that he wishes to make in point of quality second to none in this country. His selections were very carefully made, and we predict great things for this new herd.

"We have at present in the printer's hand a catalogue of our breeding herd, and a list of 88 bulls for sale from it, both of which we aim to send to every breeder of Aberdeen-Angus cattle. If any one desiring a copy does not receive it by the end of November, it will be gladly mailed to him upon application to Thos. J. Anderson, Manager, Iola, Rural Route No. 2, Allen County, Kansas; or Anderson & Findlay, Lake Forest, Ill."

Awards at the Pan-American Horse Show.

MORGAN.

Stallion, 3 years or over.—First, E. C. Ryder, Weybridge, Vt.; second, Joseph Battell, Middlebury, Vt.; third, L. D. Ely, Rochester, N. Y.; fourth, L. D. Ely; fifth, E. D. Hinds, Pittsford, Vt.
Stallion, 2 years and under 3.—First and second, L. D. Ely; third, A. M. Smith, Bread Loaf, Vt.
Stallion, 1 year and under 2.—First, L. D. Ely; second, E. D. Hinds.
Mare, 3 years or over.—First and second,

ARTHUR LANGGUTH

PRESIDENT OF THE MICHIGAN PRESBYTERIAN PUBLISHING CO.

An Interesting Incident in the Life of a Successful Man as Told in a Personal Interview.

Mr. Arthur Langguth is president of the Michigan Presbyterian Publishing Company and is known as a conscientious and reliable man as far as the official organ of that church, the Michigan Presbyterian, circulates. The home office of the concern is No. 15 John R. Street, Detroit, and in that town he is known as the successful manager of a large business and a leading citizen. In a recent interview he said:

"Several years ago, in some manner I strained my back. Instead of getting better it became worse and the pain increased so much that I could not lie down on my back and when sitting I was obliged to lean forward. It was not only very painful but caused me great inconvenience and in spite of all the remedies I took it did not become any better. I did not want to leave my business but at last I reluctantly decided to go to Colorado for the change and rest.

"But as I was making my preparations for the trip, the wife of a minister who is a friend of our family advised me to take Dr. Williams' Pink Pills for Pale People and so strongly did she recommend them that I put off the journey and tried the pills.

"Well, it was wonderful. I improved from the very start. I had become extremely emaciated from the pain and loss of appetite, but by the time I had taken a box my appetite began to return, the pains began to leave me and I picked up in health. In a short time I was completely well again."

Dr. Williams' Pink Pills for Pale People will not only affect a cure in cases similar to that above but, acting directly upon the blood and nerves, are an unerring specific for such diseases as partial paralysis, St. Vitus' dance, sciatica, neuralgia, nervous headache, after-effects of the grip, palpitation of the heart, pale and salow complexions and all forms of weakness either in male or female. Dr. Williams' Pink Pills for Pale People are sold by all dealers, or will be sent postpaid on receipt of price, fifty cents a box or six boxes for two dollars and fifty cents, by addressing Dr. Williams Medicine Company, Schenectady, N. Y.

Joseph Battell; third and fourth, L. D. Ely.
Filly, 2 years and under 3.—First, L. D. Ely.
Filly, 1 year and under 2.—First, Joseph Battell; second and fourth, E. D. Hinds. Blood mare to be shown with foal at foot by a registered sire.—First, Joseph Battell; second, L. D. Ely; third, Joseph Battell.

FRENCH TROTTERS.

Stallion, 3 years or over.—First, McLaughlin Bros., Columbus, Ohio; second, E. M. Barton, Hinsdale, Ill.; third, McLaughlin Bros.
Stallion, 2 years and under 3.—First, E. M. Barton.
Mare, 3 years or over.—First, E. M. Barton.
Filly, 1 year and under 2.—First, E. M. Barton.
Blood mare to be shown with foal at foot by a registered sire.—First, E. M. Barton.

CLYDESDALES.

Stallion, 3 years or over.—First, Graham Bros., Claremont, Can.; second, H. G. Boag, Churchill, Ont.; third and fourth, Robert Ness, Howick, Que.; fifth, H. G. Boag.
Stallion, 2 years and under 3.—First, Graham Bros.; second, Thomas Skinner, Mitchell, Ont.; third, Robert Ness.
Stallion, 1 year and under 2.—First, Graham Bros.; second, Whethan & Flack, St. Marys, Ont.; third, Graham Bros.; fourth, Whethan & Flack.
Mare, 3 years or over.—First, Graham Bros.; second, Hodgkinson & Tindale, Beaverton, Ont.; third and fourth, A. G. Gormley, Unionville, Ont.
Filly, 2 years and under 3.—First, Hodgkinson & Tindale; second, Robert Ness.
Filly, 1 year and under 2.—First, Hodgkinson & Tindale; second, Robert Ness.
Blood mare to be shown with foal at foot by a registered sire.—First, Hodgkinson & Tindale.

FRENCH COACH.

Stallion, 3 years or over.—First, second, and third, McLaughlin Bros.
Stallion, 2 years and under 3.—First, E. M. Barton.
Stallion, 1 year and under 2.—First and second, E. M. Barton.
Mare, 3 years or over.—First and second, E. M. Barton.
Filly, 2 years and under 3.—First, E. M. Barton.
Filly, 1 year and under 2.—First, E. M. Barton.
Blood mare to be shown with foal at foot by a registered sire.—First, E. M. Barton.

SHETLAND PONIES.

Stallion, 3 years or over.—First and second, Charles E. Bunn, Peoria, Ill.; third

and fourth, Mrs. E. F. Hawley, Pittsford, N. Y.; fifth, Charles E. Bunn.
 Stallion, 2 years and under 3.—First, Mrs. E. F. Hawley; second and third, Charles E. Bunn.
 Stallion, 1 year and under 2.—First and second, Charles E. Bunn; third and fourth, Mrs. E. F. Hawley.
 Mare, 3 years or over.—First, Charles E. Bunn; second, Mrs. E. F. Hawley; third, and fourth, Charles E. Bunn; fifth, Mrs. E. F. Hawley.
 Filly, 2 years and under 3.—First, Chas. E. Bunn; second, Mrs. E. F. Hawley.
 Filly, 1 year and under 2.—First, Chas. E. Bunn; second, Mrs. E. F. Hawley; third, Chas. E. Bunn; fourth, Mrs. E. F. Hawley.
 Blood mare to be shown with foal at foot by a registered sire.—First, second, and third, Chas. E. Bunn; fourth and fifth, Mrs. E. F. Hawley.

BELGIAN.

Stallion, 3 years or over.—First and second, J. Crouch & Son, Lafayette, Ind.
 Stallion, 2 years and under 3.—First, J. Crouch & Son.

FRENCH DRAFT.

Stallion, 3 years or over.—First, second, and third, McLaughlin Bros.
 Stallion, 2 years and under 3.—First and second, McLaughlin Bros.

PERCHERON.

Stallion, 3 years or over.—First, McLaughlin Bros.; second, Bell Bros., Wooster, Ohio.; third, McLaughlin Bros.; fourth, J. Crouch & Son.; fifth, Bell Bros.
 Stallion, 2 years and under 3.—First, McLaughlin Bros.; second, Bell Bros.; third, J. Crouch & Son.; fourth and fifth, McLaughlin Bros.
 Stallion, 1 year and under 2.—First, J. Crouch & Son.

ENGLISH SHIRE.

Stallion, 3 years or over.—First, second, and third, Bawden & McDonald, Exeter, Ont.; fourth, Bell Bros.
 Blood mare to be shown with foal at foot by registered sire.—First, Bawden & McDonald.

CLEVELAND BAY.

Stallion, 3 years or over.—First, Albert Hewson, Grahamsville, Ont.

HACKNEYS.

Stallion, 3 years or over.—First, Fred Stevens, Attica, N. Y.; second, Robert Beith, Bowmanville, Ont.; third, F. C. Stevens; fourth, Robert Beith; fifth, Glassey & Co., Trure, N. S.

Stallion, 2 years or over.—First, second, and third, Fred C. Stevens.
 Stallion, 1 year and under 2.—First and second, Fred C. Stevens.

Mare, 3 years or over.—First and second, Fred C. Stevens; third, Robert Beith; fourth, Fred C. Stevens.
 Filly, 2 years and under 3.—First, Fred C. Stevens; second, Robert Beith; third, Fred C. Stevens.

Filly, 1 year and under 2.—First and second, Fred C. Stevens.
 Blood mare to be shown with foal at foot and one other of her produce, 3 years or under, by a registered sire.—First and second, Fred C. Stevens.

FRENCH CANADIANS.

Stallion, 3 years or over.—First, Samuel C. Mooney, Bankleek Hill, Ont.; second, Eus. Bucher, Ste. Madeleine, Que.; third, Zenon Robillard, St. Jacques, Que.; fourth, Canille Aichambault, Charlemange, Que.; fifth, Elie Goronard, Ste. Victore, Que.

Stallion, 2 years and under 3.—First, L. F. Sylvester, St. Theodore d'Acton, Que.; second, Amedes Charron, St. Denis, Que.; third, Mearsel Beliste, St. Jacques, Que.

Mare, 3 years or over.—First, Henri Deland, L'Arcadie, Que.; second, Mearsel Beliste.
 Filly, 2 years and under 3.—Henri Deland; second, L. Thounin, Repentigny, Que.

Blood mare to be shown with foal at foot by a registered sire.—First, Henri Deland; second, Mearsel Beliste.

THOROUGHBRED.

Stallion, 3 years or over.—First, The Telfer & Climie Company, Montreal, Que.; second, W. W. Fleming, Exeter, Ont.; third, A. Frank & Son, The Grange, Ont.; fourth, The Telfer & Climie Company.

OLDENBURG, HANOVERIAN, TRAKHENEN, AND HOLSTEIN COACH.
 Stallion, 3 years or over.—First, second, third, and fourth, J. Crouch & Son.
 Stallion, 2 years and under 3.—First and second, J. Crouch & Son.

Stallion, 1 year and under 2.—First, J. Crouch & Son; second, Bell Bros.
 Mare, 3 years or over.—First and second, J. Crouch & Son.

DRAFT HORSES.

Sweepstakes, stallion, any age.—First, McLaughlin Bros.
 Sweepstakes, mare, any age.—First, Hodgkinson & Tindale.

COACH HORSES.

Sweepstakes, stallion, any age.—First, J. Crouch & Son.
 Sweepstakes, mare, any age.—First, J. Crouch & Son.

Keiser Bros.' Percherons and Shires.

Over at Keota, Iowa, Keiser Bros. maintain one of the leading importing and breeding establishments for draft horses in America. Their importation for the present season consisted of 62 head of young Percheron and Shire stallions, 2-3-, and 4-year olds, the former breed predominating. The boys are not claiming the most in numbers, but they do claim highest quality, style, action, and, in many cases, the maximum of weight: consistent with good, clean bone and a well balanced animal. Mr. Sam Keiser was the first buyer in France in 1901, his selections for the Keota establishment having been made in the month of February. Why was Mr. Keiser thus early on the ground? We need hardly say that it was to secure a fine string of the best young stallions available for his firm's trade on this side of the water. There is no question that his success reached even beyond his expectations. Mr. Keiser surely must have gone to the front with "blood in his eye." He is an old buyer and knows all the "ropes" to be pulled, and when he comes home without the good ones it is a sorry day for the next fellow. The firm's 1901 importation of Percherons is practically one of blacks, there being but one gray in the whole string; and every horse is in the finest of fettle. It is certainly a pleasure to Kansas Farmer to commend such high class horses to the favor of our readers.

We are assured by Keiser Bros. that every horse in their stables has been selected upon sober judgment as to its fitness for meeting the legitimate wants of the trade. They are ready to show them to prospective customers who are looking for the best. These gentlemen are giving it out flat, too, that they are expecting to sell some more horses in Kansas this year. With this end in view they invite early and deliberate inspection. They will hold largely to the plan of selling to organized companies of farmers and horsemen, and therefore they will be particularly pleased at all times to answer questions regarding the organizing of such companies, and to show horses to committees delegated by their companies to inspect such horses previous to purchasing. If interested in the most advanced types of Percheron and English Shire horses please write Keiser Bros. for any information wanted and plan to visit their stables at the earliest date convenient. Mr. Sam Keiser is again to act as Judge in the Percheron classes at the National Live Stock Show at Chicago this winter. Mr. Chas. Keiser is another member of the firm, a young man who is already one of the "wheel horses" in the business. A representative of Kansas Farmer who recently visited this Iowa establishment is warm in praise of the courtesies extended him by these thorough-going business men. In this brief notice he has done little more than hint at the good character of the hundred head or more of first class stallions that are to be drawn upon as material for their winter's trade. Please turn to the advertisement for other particulars, and mention Kansas Farmer when you write.

Gossip About Stock.

F. C. Kingsley, of Dover, Kans., recently sold to Harry Buckley, also of Dover, a fine yearling Shorthorn bull out of the Earl of Valley Grove; price \$100. Mr. Kingsley has 5 more good, all red, strong yearling Cruickshank bulls ready to go into new hands. They are capable of getting money makers.

The Kansas Farmer has received a copy of the \$3,000 stock-book published by the International Food Co., of Minneapolis, Minn. It is one of the best illustrated stock books of the many which have reached our office, and should be in the hands of every farmer. Notice the advertisement of International Food Co. on another page of this issue and send for their book, which is free except the answering of three questions, which are asked in the advertisement.

The combination sale of Herefords to be held during the week of the International Exposition at Chicago and under the auspices of the American Hereford Breeders' Association, will include the greatest lot of breeding cattle ever offered at an association sale. This statement is a strong one and is so intended, for it would seem that in this instance each of the forty-odd breeders contributing is determined that he will not be outdone in the matter of quality by his fellow consignors, and as a consequence the tops only of each contributor's herd is to be sold in this sale. The show herds that have won the bulk of the premiums at the previous shows this year will be represented in considerable numbers. It will be the greatest opportunity to purchase prize-winners for next year, to purchase a herd bull, or to purchase the right kind of seed with which to start a breeding herd. As with the previous sales held under the Hereford Association's management, each animal is sold under an iron-clad guarantee of its usefulness as a breeder. The purchaser is at no risk whatever in this respect. The sale will be held Wednesday and Thursday forenoons, December 4th and 5th, beginning promptly at 10 o'clock on each day. The shortage of feed in some sections of the country will work to the advantage of the person who can care for his cattle properly this winter, and to such this sale is an exceptional opportunity. Write C. R. Thomas, Secy., 225 West 12th Street, Kansas City, Mo., for a catalogue.

Perhaps Kansas is not the fairest land on earth, but she is very fair. And then she has some very fair neighbors, and Nebraska is one of them. At this season of the year it is perhaps a little difficult to judge accurately as to what is best in any State in an agricultural way, but with live stock it is different. Live stock, and especially that which is highly bred and well cared for, is a sure index of the ability of the farmer as well as of the season's work. Because of the good stock for which she is becoming famous and with which she can utilize her crops, Nebraska shows well this year. One of the points in this State to which the lover of good horses will naturally turn is Lincoln, and one of the stables that will attract his attention first is that owned by Watson, Woods Bros. & Kelley. While this firm does not claim to be the largest importers of pure-bred Percherons and Shires, they do make four or five importations a year, and those of the best that Mr. Joseph Watson, the president of the company, can select. They now have a very considerable number of stallions of these two breeds on hand, and are expecting to make another importation shortly. Mr. Watson has earned a reputation as a good judge and a good buyer of horses of these breeds, and the stables show that this reputation is well earned. The stallions are young, active, and in the pink of condition, and a lover of good horses as well as a would-be buyer will find his time well spent if he visits the stables of Watson, Woods Bros. & Kelley.

Well out towards the end of one of Lincoln's long street car lines and just across the road from the Nebraska Experiment Station there lies a well equipped farm, the most prominent object on which is one of the largest and best appointed horse barns that it has ever been the writer's privilege to see. In this barn, ranged in long rows of box stalls, is a collection of Percheron stallions that are just over from France, and of Shires that seem to take well to the good things of this country. These stallions are the property of the Lincoln Importing Horse Co., whose destinies are presided over by Mr. A. L. Sullivan, who is both secretary and general manager. Among other good things to be seen in this barn are 20 head of black Percheron stallions, from two years old to three years past, which Capt. J. H. Westcott, the treasurer of the company, landed with on October 14, and they are

good ones. Clean, active, well made, and glossy coated fellows, who weigh out their welcome or challenge to any approaching team. They have stood the passage over without ill effect, and are now in splendid condition and ready for active service. The Shires are of an earlier importation, but are fine animals, and in equally good condition. About a half dozen choice Shires are now ready for the buyer. Interesting, though less important perhaps, are the Shetland ponies which have their home here though these do not constitute the stock in trade of this farm. Mr. Sullivan is a genial man, whom it is a pleasure to meet, and he knows how to make pleasant the stay of the visitor.

The sale of Hereford cattle at the National Stock Yards, East St. Louis, on Wednesday and Thursday, November 20 and 21, will be an event of much greater importance than may be considered at first thought. This will be the first sale of pure-bred cattle ever made at St. Louis, for while the National Stock Yards are on the Illinois side of the river, they are nearer to the heart of the city of St. Louis and more easily reached by pedestrians and street car via the Eads bridge from the city of St. Louis, Mo., than are the yards at any of the other great cattle markets of Chicago, Kansas City, Omaha, etc. The National Stock Yards have, in a thorough and consistent way, built up an immense southern trade, and this trade is growing, being encouraged by the great southern railways, all of which center at St. Louis. St. Louis enjoys the happy position of being at once a Northern and Southern city, a fact that is appreciated by the entire country, as well as demonstrated by the unparalleled success that is bound to be achieved by the Louisiana Purchase Exposition. The live stock agents of the Southern railways entering St. Louis, and the enterprise of her citizens, and particularly the active and intelligent work of the National Stock Yards Company, has tended to awaken an interest in live stock among the agriculturists of the South, with the result that we find that the railways are ready to grant reduced rates on all Hereford cattle bought at the November sale and shipped southward over their lines. The Stock Yards Company, too, have provided a banquet in their amply equipped dining hall of the National Hotel, for which occasion speakers of national reputation will address the banqueters upon "Live Stock as a Necessity to Successful Southern Agriculture."

It goes without saying that Mr. Sotham, as manager of the National Hereford Exchange, will use every available means at his command to make this occasion a great success. By reference to his advertisement, it will be seen that the exchange will offer, "registered Herefords for all classes of buyers—splendid specimens for the experts, cheaper ones for beginners." Profitable Herefords for everybody are to be sold strictly on their merits, without any attempt to exaggerate or deceive. As announced by Mr. Sotham sometime ago, he has withdrawn from offer all daughters of Corrector until further notice, but for the special benefit of his Southern friends, he will include in the St. Louis sale, the only daughter of Corrector that he will offer the public during the next twelve months. Corrector bulls of Mr. Sotham's raising will also be included. Everything promises to make this a most interesting and creditable event, and being the first sale at St. Louis and made especially for Southern buyers, who are not educated to high prices, we believe that this will be a rare opportunity for all buyers to acquire Hereford cattle at bedrock values. Mr. Sotham is without doubt the leading exponent of Hereford cattle, upon which he is an unquestioned authority; his father, the late Wm. H. Sotham, being the first importer of Hereford cattle to America. He is the acknowledged Hereford expert, and his integrity is unquestioned. We urge our readers to take advantage of this occasion to found Hereford herds, or add creditable specimens to those already

founded. Advertisement is found elsewhere in this issue. Catalogues are now ready and can be obtained upon application to T. F. B. Sotham, Chillicothe, Mo. Mr. Sotham has other interesting Hereford literature and illustrations, which he is always glad to mail to those desiring same.

The Best Christmas Gift for a Little Money.

Sent as a year's subscription to The Youth's Companion \$1.75 will buy the fifty-two weekly issues of the Youth's Companion for 1902.
 It will buy the two hundred and fifty fascinating stories in the new volume for 1902.
 It will buy the fifty interesting special articles contributed by famous men and women to the new volume for 1902.
 It will entitle the new subscriber who sends in his subscription now to all the issues of The Companion for the remaining weeks of 1901 free.
 It will entitle the new subscriber for 1902 to one of The Companion's new Calendars for 1902, lithographed in twelve colors and gold.
 Full illustrated announcement of the new volume for 1902 will be sent to any address free. The Youth's Companion, 195 Columbus Ave., Boston, Mass.

A Splendid Tailor-Made Suit \$10.00
 A Fine Gent's Suit \$7.50
 Material and fit guaranteed. Samples of cloth sent on request \$3.98 for finest Ladies' Jacket ever offered at such a price.
 Big Catalogue FREE.
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FARMER AND CAPITAL

\$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. Address: THE KANSAS FARMER CO., Topeka, Kansas.



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 The "tops" of these three great beef breeds to be sold at Auction. The Premier Beef Cattle sales of the year. Contributed to by the leading breeders, and under the management of the National Associations.
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The Home Circle.

ON DE MISSISSIPPI'S SHO'.

Dah's a dingy little cabin sittin' just below de bluff
 Whah de Mississippi ben's in f'om de wes'.
 An' its dah de steep cliffs slopin' fo'm a petchuh will an' rough,
 Yet ob all de spots on uht I lubs it bes'.

In de mawnin bright an' uhly, fo' de fust down's in de sky,
 You can see ouah light shine out across de stream,
 An' de pickaninnies open wide each shinin' little eye
 As dey watch dah mammy by de candle's gleam.

When we all hab had ouah breakfus' an' de great sun shows his face,
 Den I takes my hoe and goes down to do co'n,
 While de pickaninnies scattuh out all roun' about de place,
 An' dey spen' in play de happy hou's ob mo'n.

When de sun says "Time for dinnuh," shinin' straight between de rows,
 I so gladly seeks de cabin's res'ful shade
 An' sit down in de open do' whah de souf wind gently blows,
 While de babies tell me how dey've wu'ked or played.

Oftentime I goes out fishin' in de pleasant afternoons,
 An' takes my boat way up aroun' de ben',
 An' I stay until de daylight fades befo' de risin' moon,
 Which wa'n's me dat de day hab reached its en'.

Den I drift back down de rivuh, an' my haht fills up wid joy,
 As I watch de steamboat lights come roun' de tuhn,
 An' I sing de ole plantation songs I luhned when but a boy,
 Jus' to let de home folks know ob my retuhn.

When I reach home suppuh's waitin', so I stow de ole canoe
 An' we gathuh roun' de table to be fed,
 An' when ouah hunguh's left us an' de little folks are through,
 An' da... mothuh tucks 'em safely into bed,

Den she comes an' sits beside me on de step outside de do',
 Whah I smokes my evenin' pipe beneath de stahs,
 An' we watch dah silent brightness wid no sound along de sho'
 Save de watuh lappin' on de rivuh's ba'hs.

Dah we talk ob past an present an ouah tones are hushed an' low,
 For de evenin's solemn beauty seems to say
 Dat de moonbeams light de angels on dah jou'neys to an' fro,
 From de uht to God's great land ob endless day.

When at last ouah eyes grow heavy as if fanned by unseen wings,
 An' we go in froo de cabin's open do',
 Soon de house am wrapped in stillness an' de only movin' things
 Are de yellow moonbeams dancin' on de flo'.

-C. C. Duke, Madison Co., Ill., in Coleman's Rural World.

MEN WHO HAVE HELPED THE FARMER.

T. C. Abbott.

(Born in 1826; died November 7, 1892.)

Michigan has been fortunate in the history and influence of her agricultural college—largely because of the intelligence and practical wisdom of her farmers; mainly because of the sagacity, tact, foresight, courage, and absolute loyalty to agriculture of one devoted man. The Michigan Agricultural College opened its doors to students May 13, 1857, having been organized by an act of the State legislature passed February 12, 1855. The first of the American agricultural colleges, its first president came to his office as the result of a political trade. Happily for agricultural education, that bargain of the politicians did not work out as was expected. The presidency of an agricultural college in the back woods of Michigan was not suited to the tastes and habits of the man who attempted to use it to further his personal and selfish ambitions. Another sort of man was needed. That man was at hand. Four years before—almost from the beginning—he had been professor of English literature in the Michigan Agricultural College. He knew its needs as a school; he knew the needs of the farmers of his adopted State; he had the prophetic gift to see into the future and to read the history which the new education was yet to make; and he had the will and the power to work, and the faith and the grace to wait for results. So he succeeded.

On December 4, 1862, Prof. T. C. Abbott was elected president of the Michigan Agricultural College; and from that day forth the mother agricultural college had a mission and a purpose. It could not be otherwise; for President Abbott was a man of ideals and energy, a man of faith and force of character. He put his whole soul into his work as teacher, organizer, and executive. He was the mind and soul and will of the college. It was his one ambition to make it worthy of its opportunity for

genuine service to the cause of agricultural education. The testimony of one of his most distinguished students is interesting in this connection. In a personal letter to the writer on this sketch, Prof. L. C. Carpenter wrote as follows of his teacher and friend:

"Dr. Abbott was an all around man. His great merit, which there is no danger of praising too much, is that, notwithstanding the idea that a college must be a classical school, he steadily and constantly held in view the prime purpose of an industrial school, especially one founded principally for agricultural education. He did this through the pressing days of the war, against misrepresentation and misunderstanding, both throughout his own State and in his own faculty, and from those whom the institution was intended to benefit. The history of his life is incorporated in the development of that institution; for he put all his energies into it. His strong influence was in his personality and in his constant appreciation of the purposes of the institution and keeping the institution to those purposes."

President Abbott did not come to his position of opportunity and power without previous training. Born in Maine, he was educated in the schools of that State, graduating from Waterville (now Colby) College, and afterwards taking a course at Bangor Theological Seminary. Then he spent a year studying in England and Scotland. In 1856 he went to Michigan, teaching first at Berrien Springs. He was principal of the high school at Ann Arbor at the time he was elected to a professorship in the new agricultural college.

The reader who is familiar with the tendencies in educational work will have seen that Mr. Abbott's training was such as to fit him for leadership in a college of the traditional sort. Perhaps one man in 10,000, having such a course of preparation, would have had the originality and the independence to strike out along new educational lines, "blazing his way," as it were, through a pathless forest. That he did as he did, and not as others would have done, is the best proof of his fitness for leadership. He had learned what the schools did not teach. Perhaps he knew without learning. At any rate, it was in him to interpret the needs of those to whom the agricultural colleges must appeal for support and for opportunity to do their appointed work. He saw a new opportunity, and, like every wise apostle of a new cause, he studied the conditions and the needs of those to whom he had been sent. He became one of them in sympathy, understanding their hindrances and their aspirations; and, by his insight and his devotion, he became a real leader of his people—an interpreter of their desires and ambitions, a representative of their best purposes.

After twenty-two years of faithful service in that office Dr. Abbott resigned the presidency of the college, which owes so much of its character and influence to him. His health had been failing for a number of years. He had been too generous—too unsparing of himself in the service of his college and his people. He was breaking down. But the State Board of Agriculture knew his worth. Its members were wise in their day and generation. They continued the ex-president as Professor of Logic and Mental Science, paying him a moderate salary as long as he lived, although for the last few years of his life he was helpless, his mind a blank.

The scope of the Michigan Agricultural College was widened after the retirement of President Abbott, his successor adding a mechanical department, so that now, while retaining the old name, it is strictly an agricultural and mechanical college. But its spirit is the same as of old; its mission is to the industrial classes, and the influence of President Abbott persists; his ideal is its ideal, and, although his body has

been nine years in the grave, he still lives in the college to which he gave his best powers.

Denver, Colo. D. W. WORKING.

Integrity Among the Farmers.

R. T. KIRKPATRICK, BEFORE THE GIRARD FARMERS' INSTITUTE.

The Standard dictionary defines integrity as uprightness of character and soundness of moral principle, and honesty. In no class of men is there the need of integrity of character more than with the farmer. The farmer is the producing class of our nation. We could live if there were no other occupation—it has been done and could be done again—but other people can not live without the farmer; therefore

THE FARMER STANDS FIRST ON THE ROLL OF HONOR.

We must take off our hat to him whether we will or not, for to him we are indebted for life and pursuit of happiness. Think of a state dinner, a wedding breakfast, that has not been catered to by that most important of all men, the farmer.

This country owes its success and prosperity to its broad acres, which offer a home and a livelihood to all who are willing to accept the terms laid down for man when Adam was sent forth from the Garden of Eden.

In 1890 there were 8,395,000 persons engaged in agriculture in the United States, who were not only producing the food, clothing, etc., but, in a large sense, the men of the nation. How many of those in public life, as well as in business in our great cities, were reared upon the farm? It is important to furnish men of noble character, and we believe the character of parents determines in a large degree, the character of the sons and daughters. The world is looking for

MEN WHO ARE NOT FOR SALE.

Men who are honest, sound from center to circumference; men whose consciences are as steady as needle to pole; men who dare to tell the truth always and look the world and the devil right in the eye; men who know their place and keep it, who know their own business and attend to it; men who are not too lazy to work, nor too proud to be poor; men who are willing to eat what they have earned, and wear what they have paid for; men who can live within their income.

TRUTHFULNESS IS A MARK OF CHARACTER, and is much needed to-day, not only among farmers, but others as well. However, with but few exceptions the farmers of my acquaintance are men whose word is as good as their bond. They consider integrity a sacred trust. A person whose word can not be trusted implicitly is looked upon with aversion and contempt. It has been said that the moral grandeur of independent integrity is the sublimest thing in the universe. As an illustration of fair dealing, I will mention

A TRUE TRANSACTION BETWEEN TWO FARMERS.

One had a bunch of cattle, and the other wished to buy them. After examination, he offered him \$60 per head, but the farmer who owned the cattle thought they were not worth over \$50 per head, and would not accept the \$60 offered, neither would his neighbor take the cattle at \$50. After some time they agreed on \$55 per head. Such examples are rare. But imagine the power of such a character in any community. Such a man would not put all the small potatoes or apples in the bottom of the bushel, or barrel, as is so often done today, or would he sell eggs by the case, and leave bottom of case empty. The farmer whose integrity of character bears the right brand always gives

GOSPEL MEASURE

in sale of all his goods. I would emphasize the fact that character is power. The man whose every word or act is open to the world, wields a mightier influence, and has greater power, than the man who misrepresents either in word or deed.

I have heard of

AN IRISHMAN

who was in a sleeping-car when a collision occurred, and was thrown from his berth, but fortunately he got hold of his pantaloons, and slid into them and crawled out of the wreck. After a time some one appeared with a lantern, and revealed the fact that Pat had gotten into his pantaloons wrong side foremost. A friend asked him if he was badly hurt, or if he was suffering much. "Faith, I'm not hurt at all, but it looks like I was terribly twisted." Moral—Some men appear to be terribly twisted

"Let the GOLD DUST twins do your work."



GOLD DUST will clean anything about the house at half the cost of soap and with half the labor. "Housework is hard work without Gold Dust." THE N. K. FAIRBANK COMPANY, Chicago.

in the morals when you have dealings with them. Now in conclusion, brother farmer, let us never dishonor our calling, but let us practice the Golden Rule in all our dealings with our fellow men.

My Kansas Young Mothers.

I have been sending the following recipe (which I call "Black Mammy's recipe" for she helped my mother to rear us all and everything she did and said seems almost sacred to us now) to so many young mothers with their first precious babe who have written to know how to keep their dainty embroidered flannels from shrinking and drawing up. It hurts the flesh of a little tender babe to put rough flannels next to its skin. The following method was used successfully by my mother for years, and as each one of us would leave home, to make a home for ourselves, we would take the legacy of washing flannels with us. As I write for a number of household departments I have an opportunity to help all young mothers.

Use water that is as hot as you can bear your hands in—as the hot water kills disease germs and purifies it. Dissolve a little borax in it, and add enough soap to make a good suds; wash the flannels through 2 waters prepared thus, rubbing them up and down vigorously, then gently between the hands. The borax softens the water making very little rubbing necessary. Rinse through clear water of the same temperature as that used for washing and pass through a rubber wringer. Place out doors, smoothly on a line, pull each piece into shape. Every part of the work should be done speedily.

S. H.

Our Remarkable Language.

Mrs. Snaggs—They must have some big pistols out West.
 Mr. Snaggs—Why?
 Mrs. Snaggs—There's something in the paper about a train robber covering a conductor with a revolver.—Pittsburg Chronicle Telegraph.

Probably.

Willie—Pa, what are false eyes made of?
 Pa—Glass.
 Willie—But what kind of glass?
 Pa—Oh—er—looking glass, I suppose.
 Now run off to bed.—Philadelphia Press.

A Possibility.

"There's a good deal of trouble in Colon," remarked the Observant Boarder.
 "Yes, the belligerents may reduce the place to a semicolon," added the Cross-Eyed Boarder.—Pittsburg Chronicle Telegraph.

Teacher: "What led Columbus to conclude the world was round?"
 Bright Boy: "Well, his experience with it proved that it was anything but square."—Albany Telegram.

How's This!

We offer One Hundred Dollars Reward for any case of Catarrh that can not be cured by Hall's Catarrh Cure. F. J. CHENEY - CO., Props., Toledo, O. We, the undersigned, have known F. J. Cheney for the last fifteen years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligations made by their firm. West & Truax, Wholesale Druggists, Toledo, Ohio. Waiding, Kinnan & Marvin, Wholesale Druggists, Toledo, Ohio. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price 75c. per bottle. Sold by all druggists. Testimonials free. Hall's Family Pills are the best.

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 who neither sands his sugar nor waters his milk—who believes in the best, and is particular to please his patrons.
 That's the grocer who recommends and sells
Lion Coffee
 Coffee that is coffee—unglazed—unadulterated.

The Young Folks.

WHEN TO MARRY.

Marry when the year is new,
Always loving, kind and true;
When February birds do mate,
You may wed, nor dread your fate.
If you wed when March winds blow
Joy and sorrow both you'll know.
Marry in April when you can,
Joy for maiden and for man;
Marry in the month of May,
You will surely rue the day;
Marry when June roses blow,
Over land and sea you'll go.
They who in July do wed
Must labor always for their bread;
Whoever wed in August be,
Many a change are sure to see.
Marry in September's shine,
Your living will be rich and fine.
If in October you do marry,
Love will come, but riches tarry;
If you wed in bleak November,
Only joy will come, remember,
When December's snows fall fast,
Marry, and true love will last.

—Woman's Life.

Hilary's Six Little Pigs.

Hilary's pigs were "poor, common trash, as they say in the South, and were little better than the semi-wild "razor-backs" which roam at will through the pine woods and low swamps of Florida. But they had been carefully reared by the boy, who, among other tricks, had taught them to respond to his calls.

"Piggy! Piggy!" was not an attractive word from one point of view, but it always acted like magic upon the six little "razor backs." The reason for this was that Hilary always rewarded them with some toothsome food when they responded promptly.

Hilary expected to make enough from the litter to start himself on the road to a fortune by the next year, when he intended to purchase fruit trees and begin his orange grove. His father had promised him the land, and had given him the pigs to raise.

The growth and development of the animals consequently formed a matter of daily importance to the boy. He watched them, played with them, and admired them until they were more like pets than practical farm animals to fill somebody's pork barrel later.

There were 3 white pigs, 2 mottled brown and white, and 1 black. The latter was always the scamp of the litter, and if any mischief was brewing, Hilary watched the black pig and waited for developments. He knew that if he was help under control, the others could be trusted.

But the blood of their wild ancestors showed itself more or less in all of the pigs as they grew older, and they made Hilary work for the money he intended to reap from their dead carcasses. Such simple things as breaking into the corn-field and destroying the stalks, or running away and hiding for days in the swamp were hardly worth chronicling. These accidents Hilary expected, and he took them as a matter of course.

But when one day 6 pigs walked up to the house and grunted dismally, and Hilary looked out and saw that every one was painted a bright green, his heart misgave him. For a moment he was so overcome by the sight that he laughed outright, exclaiming aloud:

"Look at the green pigs! Where did they find all that paint?"

"That isn't paint, said his father. In a moment. "They've been at that Paris green I left in the potato field."

Then looking seriously at Hilary, he added: "I'm afraid that's the last of your pigs, Hilary. They must have taken enough inside to poison them."

Hilary said nothing, but believed as his father did. Nevertheless, he held them under the pump and deluged them with water until some of the green was washed off. The pigs liked this less than the dose of Paris green, and squealed continually during the process.

Instead of dying, the whole litter seemed to thrive on the Paris green, and by the time the last vestiges of the poison had worn off they were fatter and heavier than ever. For a few days they were quiet and kept out of mischief. Then, led by their little black companion, they resorted to other mischievous tricks and escapades, which brought down anger upon their heads.

Late one evening queer noises sounded on the cellar stairs, followed by a rumbling sound as if barrels were being rolled down the steps. At first thoughts of ghosts and burglars alarmed Hilary and his parents, and they started for the cellar with a lantern and gun, but before the door was open somebody said:

"I'll bet it's Hilary's pigs up to more mischief."

This proved true, for when they investigated they found 6 porkers in the cellar busily engaged in devouring a load of cabbages that had been stored there the day before. How the animals

had broken loose from their pen, shoved open the cellar door, and tumbled down the steps, are all problems that are not easy to solve. They were in the cellar, and it took two hours to catch them and carry them, one by one, to the surface of the earth again, all squealing until the nearest neighbor came running to the rescue.

"Thought you were having a midnight pig-sticking," he said, when matters were explained. "If I were you, I'd sell those pigs right away."

"Who'd buy them," asked Hilary. "Nobody, I guess, unless he wanted 'em for a circus."

They were too small to kill, and they had eaten so much that something had to be done with them to recover the money already expended in raising them.

"It isn't only what they have eaten," said Hilary, ruefully, a few weeks after this, "but it's what they have damaged. I guess if I paid you for all the injury they have done, I'd be out of pocket now."

"It was well that I didn't put that in the bargain," replied his father with an amused smile. "How much damage do you suppose they have caused?"

"I can tell you," responded the boy, taking a paper from his pocket. "Here it is. I've kept account of it all."

He pushed the paper before his father, on which was plainly written:

June 10—Damage to corn field and fence.....	\$1.50
June 12—Damage to barn by rooting under the foundation.....	2.00
June 15—Destruction of 10 gallons of Paris Green.....	2.50
June 20—For destroying 100 cabbages.....	2.00
For sundries, torn trousers, broken fences, shoe leather, etc.....	5.00
Total.....	\$13.00

"I think that will cover most of the damage," added Hilary, "and at that rate they are a losing venture. I am already in debt to you."

"Then you propose to turn them over to me?"

"Yes, if you will take them."

"But if I don't want them, what then?"

"We shall have to sell them or kill them."

There was silence, and then Hilary's father said:

"We won't kill them now, or give them away; that would be poor business policy. Besides, it wouldn't be just to the pigs. We must let them have every opportunity to redeem themselves. We must give them another chance."

"What do you propose to do?" asked Hilary, interested in the new plan, but not sure of what his father meant.

"We'll turn them over to nature. Their ancestors were wild razor-backs; and it is evident the wild blood is in them, and that we can't civilize them. We'll brand them with some mark, and turn them loose in the swamp, where they can forage for themselves. If they live, we will round them up next winter and kill them for market."

"They will hardly seem like my pigs," remarked Hilary, a little ruefully, remembering the many good times he had had with the pigs when they were young. "If they were not so bad, I'd try them again on the farm."

He was half inclined to give the animals another trial; but early next morning he was startled by a noise near the barn. Hurrying out, he was greeted by a chorus of wild squeals. His pigs were in trouble again.

All except the black leader were covered with half-slaked lime, which had poured over them from an overturned tub, where his father had put it in the morning to prepare for white-washing the cellar. The little black leader had escaped harm, but the others were covered with the burning stuff. For hours they squealed and grunted around, until every hair was burnt off their bodies.

"That settles it," said Hilary to himself.

On the following day, the pigs were branded with the letter H, and then they were conducted to the swamp and banished forever. They were so fond of this swamp that there was little danger of their ever returning voluntarily to the farm.

Although banished from the farm, and deprived of the corn and other delicate food that had been fed to them in the past, the pigs seemed perfectly contented, wallowing in the muck and dirt, and eating the wild plants, acorns and roots. Hilary went down to the swamp nearly every day to watch them, occasionally carrying corn for them to eat. Not once did they attempt to return to the forbidden land—not even to play some prank upon their owner.

A month after their banishment, Hilary was in the swamp cutting logs to make box-staves with, when he met with a queer experience. He had crossed a wet, marshy place, near a lagoon, when suddenly he heard an ominous hissing



Enameline



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**LIQUID-
BETTER
YET!
FIRE PROOF!!**

all around him. That warning was well known to him, and he stood perfectly still.

The Florida diamond-back rattlesnake is a dangerous creature to anger, and when he announces his presence by a rattle, it is safer to stand perfectly still until the creature can be located. In a few moments Hilary caught sight of the rattler a dozen feet in front of him, with head erect and body coiled ready for a spring.

The boy would have backed cautiously away, but behind him he had heard another rattle. He knew that the mate of the big fellow was somewhere near him in the rear, and he was almost paralyzed with fear.

For nearly five minutes he stood, facing the snake, and straining his ears to catch the rattle behind him. It was a fearful position, and any sudden movement on his part probably meant death. He could almost hear his heart beat, so great was his excitement.

Then suddenly, to relieve the strain, there was a crash in the bushes in front, and a black head protruded, followed by several white ones. Then came a series of grunts. Hilary recognized his six pigs, now grown fat and strong; and they apparently knew him.

For a moment the boy's attention was diverted from the snakes to the pigs; then he opened his mouth, and called.

The six porkers had not forgotten the rewards that always followed this call, and with almost a simultaneous bound they dashed through the bushes toward the boy. They came onward like a whirlwind, startling the snakes so that they turned around to face this unknown danger. As the pigs dashed past them, the rattlers struck out at the charging enemy, but instantly realized their mistake, and tried to slink away.

With a grunt of satisfaction, the black

porker caught sight of the rattlers, and then dashed at them, followed by the whole litter. It was in vain that the snakes squirmed and struck at their new enemies. With sharp hoofs the pigs trampled them to pieces, and so mutilated their bodies that they were hardly recognizable.

When they were through, Hilary was ready to fall upon his banished pigs and pet them; but they were averse to petting, and stood their distance. Nevertheless, he promised them the biggest dinner of choice corn and cabbages the next day that he could collect.

That night he said to his father: "I guess we can wipe out the damages in that bill. The pigs were worth more than thirteen dollars to me to-day."

"Yes, and a hundred times thirteen," replied his father, with a faint indication of moisture in his eyes.

And so Hilary's pigs were considered a good investment, in spite of mischievous tricks and pranks.

Note.—Florida's "razor-back" hogs are immune to the rattlesnake's poison, and are their deadliest enemies in the swamps.—George Ethelbert Walsh, in Country Gentleman.

The kidneys are small but important organs. They need help occasionally. Prickly Ash Bitters is a successful kidney tonic and system regulator.

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GREAT
SCHOOLS.**

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116 West Sixth Ave., Topeka, Kans.

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, 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.

"Grass-fed" beef may be expected in the markets until the snow covers the finest pastures in the world, the 6,000,000 acre Kansas wheat-fields.

The final official estimate of the Kansas wheat crop of 1901 will not vary much from 95,697,000 bushels. Official estimates of an excessive crop are usually under, while official estimates of a short crop are usually above the actual yields.

The world's production of wheat this year is placed at 2,712,000,000 bushels. This is the largest production since 1898, when the aggregate was estimated at 2,936,000,000 bushels. The total yield of the 3 staple grains, wheat, corn, and rye is smaller this year than for several years. The decrease from last year's figures amounts to 584,000,000 bushels.

Since the development of the great oil "gushers" at Beaumont, Texas, there has been much discussion about the practicability of substituting oil for coal as fuel. Railroads whose trains run through or near the oil field have found in the use of oil great possibilities of economizing. Enthusiasts now declare that oil can be transported to Kansas City at a price that will make its use for fuel about half as costly as the use of coal.

It is reported that a great development is to be given to the production of steel at Pueblo. The Santa Fe is said to be behind the movement. Materials for making steel exist in great quantities in the Rocky Mountains. That the steel used in the Great West should be transported from the Allegheny Mountains is an absurdity. The development of the iron and steel industry in the West will bring to our doors larger numbers of consumers of farm products, thus placing the western farmer nearer market. The full development of the resources of the West means much to the tillers of the soil.

The organization of the United States Steel Company (the steel trust) with a capital of \$1,000,000,000 was, in the day of it, an occasion for serious alarm to the many who thought they saw the signs of the coming end of all competi-

tion. Now it is reported that another steel company is forming with a capital of \$2,000,000,000—twice that of the trust—and that it is to be conducted by men of proved ability. For some reason a great deal of "steel trust" stock has been thrown upon the market recently and it is suggested that holders are frightened at the prospects of a war of competition such as the world never saw.

There has often been discussion as to the richest man in the world." A recent newspaper article appears to have located him in the person of U. S. Senator Clark, of Montana. Mr. Clark has long been known as a copper king. His mines are acknowledged to be of exceeding richness. He has stated that he could not make an estimate of the value of his possessions. For one of his mines which yields copper, silver, and gold an offer of \$500,000,000 is reported to have been refused. Borings in the bed of ore in this mine have given the basis for estimates of the value of the available riches. These place the value obtainable from this one mine at \$2,500,000,000, making Senator Clark easily the richest man in the world. Recent estimates of his other properties have not been made public.

TOOK A CAPABLE MAN FROM KANSAS.

Receipt of the catalogue and other literature of the Michigan College of Mines is a reminder of the fact that a few years ago this institution robbed the Kansas State Agricultural College of one of its ablest professors. How the authorities of the Michigan college became aware that Kansas possessed such a man as Prof. Ozni P. Hood is not known to the writer. Professor Hood had built the mechanical department of the Kansas college from an insignificant and indifferent beginning to a progressive and wide-awake branch of the school. The Michigan College of Mines sent its president to watch the course of this young man's creative ability. The result was an offer of a much larger salary than the Kansas college would pay. Professor Hood was taken by surprise. His attachment to the department which his energy had called into being was hard to overcome. But there stared him in the face the liability, even the probability, of revolutionary changes at Manhattan with the possibility that his record for valuable services would not count against the demand for change. What was an ambitious and capable young man to do under these circumstances? On the one hand the great department he had created, moderate salary with no promising prospect of increase, and the liability of being thrown, discredited, upon the cold sympathies of the world; on the other hand a larger salary with certainty of rapid increase, permanency of tenure, and a chance to make another place in the world. What would you have done under these conditions? Michigan took Professor Hood from Kansas.

These facts, just now brought to mind by the receipt of the catalogue of the Michigan College of Mines, are stated here in the hope that the lesson they convey may be impressed upon the "powers that be" in Kansas. Can it not become the assured fact that the man who has ability, who uses it diligently and faithfully, who creates, can have just as good prospect of permanency of tenure and good treatment as in Michigan or anywhere in the world?

WALNUT AND OAK IN SOUTHWEST KANSAS.

EDITOR KANSAS FARMER:—I am anxious to get a few walnut and oak trees mixed into a grove that is to be planted next spring. The grove is to be on a slope and hill and will be irrigated a little. We expect to plant in squares and cultivate well. Now would it do to leave out every third row of tree plants and put in seed of walnut or oak? Or would it be better to put these seed in a nursery for a year or two and then set in the grove? What sorts of trees would you plant in such a place as this in Comanche County? The grove is to be rather more for beauty than profit, yet to help protect an orchard.
Comanche County. W. V. JACKSON.

Most nuts lose their vitality within a comparatively short time if allowed to become very dry. The walnut needs the action of frost to crack the shell and allow the sprout to get out. The writer had fine success with walnuts in western Kansas by treating them as follows: Soon after the nuts were gathered they were bedded in the garden near the house. The bed was made by spading and otherwise preparing a good seed bed. The nuts were placed in a single layer in the bed and covered with ½ to 2 inches of loose soil. Each

wash day the water was thrown upon this bed. With the advent of growing weather the following spring the nuts sprouted and were then taken up and planted where the trees were wanted. The writer has never had experience with the oak, but would follow the same plan as with the walnut.

In a moist climate nuts may be planted in the fall, but in the dry climate of western Kansas the bedding process is safer. Nut-bearing trees are not well adapted to transplanting. Injury to the tap root is almost certain and usually causes a stunted growth if not the death of the tree.

Elm, ash, and honey-locust are probably the best trees for our correspondent's purpose. It will be well to write to W. L. Hall, Division of Forestry, U. S. Department of Agriculture, Washington, D. C., asking all the questions the correspondent can think of. Mr. Hall is a Kansas man and of course a good one. He will take great interest in extending helpful advice to all tree planters. It is for this that the Government pays him.

Government Crop Estimates.

CORN.

The preliminary estimate of the average yield per acre of corn, as published in the November monthly report of the statistician of the Department of Agriculture, is 16.4 bushels, as compared with an average yield of 25.3 bushels per acre in 1900 and 1899, and a ten year average of 24.4 bushels. The present indicated yield per acre is the lowest general average ever recorded for this crop, being 2.2 bushels per acre below the yield in 1881, which has stood for twenty years as the lowest on record. The indicated yield in bushels per acre in the 7 principal States is as follows:

Ohio, 26.1; Indiana, 19.8; Illinois, 21.4; Iowa, 25; Missouri, 10.1; Kansas, 7.8; and Nebraska, 14.1. Of the 23 States having 1,000,000 acres or upward in corn, all but Pennsylvania, Virginia, and Michigan report an average yield per acre below their respective ten-year averages. The general average as to quality is 73.7 per cent, as compared with 85.5 per cent in November last and 78.2 per cent in November, 1899. It is estimated that 4.5 per cent of the corn of 1900 was still in the hands of the farmers on November 1, 1901, as compared with 4.4 per cent of the crop of 1899 in farmers' hands on November 1, 1900, and 5.9 per cent of that of 1898 in hand November 1, 1899.

BUCKWHEAT.

The preliminary estimate per year of buckwheat is 18.9 bushels, against an average yield per acre of 15 bushels in 1900, 16.6 bushels in 1899, and a ten-year average of 16.9 bushels. Of the 6 States having 10,000 acres or upwards under this product, including New York and Pennsylvania, which together contain over three-fourths of the entire buckwheat acreage of the country, 4 report a yield per acre in excess of their respective ten-year averages. The general average as to quality is 93.3 per cent, against 90.2 per cent in November last and 86.4 per cent in November, 1899.

POTATOES.

Preliminary estimate of the yield per acre of potatoes is 59.9 bushels, against an average yield per acre of 80.8 bushels in 1900, 88.6 in 1899, and a ten-year average of 78.7 bushels. The present indicated yield per acre is the lowest since 1890. Of the States having 50,000 acres or upward in potatoes, all except Michigan and Maine report a yield per acre comparing unfavorably with their ten-year averages. Indiana, Illinois, Iowa, Kansas, and Nebraska report less than one-half, and Missouri less than one-fourth of an average crop. The average as to quality is 78.4 per cent, as compared with 88.1 in November last and 91.4 in November, 1899.

HAY.

The preliminary estimate of the average yield per acre of hay is 1.32 tons, against an average yield of 1.28 tons in 1900, 1.35 tons in 1899, and a ten-year average of 1.28 tons. While more than three-fourths of the 47 States and territories for which comparative data are available report a yield per acre in excess of their respective ten-year averages, such important States as Illinois, Iowa, Missouri, Kansas, Nebraska, South Dakota, Texas, and Arkansas are all included in the region reporting less favorable. The average as to quality is 91.3 per cent, against 89.7 per cent in November last, and 93.8 per cent in November, 1899.

TOBACCO.

Of the 15 principal tobacco States, 9, including Kentucky, Virginia, North Carolina, and Tennessee, report an average yield per acre of tobacco in excess

of their ten-year averages, while 6, including Ohio, Wisconsin, and Missouri, fall below such averages.

OTHER CROPS.

The apple crop is considerably below the ten-year average, the pear and grape crops are slightly below and the sweet potato crop is slightly above.

Governor Stanley's Thanksgiving Proclamation.

Once more our annual harvests have been gathered, in some respects the most bountiful the State has ever produced. Prices for the products of our farms, mines, and work shops have been satisfactory. Our bank deposits have shown a large gain. Our population is increasing. There has been a satisfactory growth in the attendance in our universities, colleges, academies, and common schools. Nearly half a million dollars has been set apart for the erection of new school buildings. New homes are springing up all over the State. Churches and Sunday schools are in flourishing condition. The people are interested as never before in the cause of benevolence and charity. We have been free from plague and pestilence. The Great Ruler has been merciful in His dealings with us and lavish in His bounties. For the blessings of another year the people of the State have great cause for thanksgiving.

Now, therefore, I, W. E. Stanley, Governor of the State of Kansas, do hereby designate Thursday, the 28th day of November, 1901, as a day of general thanksgiving and prayer, to be kept and observed by all the people of the State. On the day appointed, let us lay aside business affairs, assemble in our respective places of worship, confess our responsibility to God and petition for a continuance of divine favor. Let those who have been the recipients of these blessings share them with those who are less fortunate, that the sick and afflicted may be comforted, and the day set apart to friendship and good deeds.

The Autumn Haze or Indian Summer.

In reply to a letter asking the Chief of the U. S. Weather Bureau as to the nature of the haze or hazy weather called Indian Summer, the following has been sent:

The dry haze is undoubtedly due to fine particles of dust. The finest dust is composed of one or all of the following substances, namely, fine particles of soil or the dead leaves of plants, smoke, or ashes from wood fires, salt from the ocean spray, the shells or scales of microscopic silicious diatoms, germs of fungi, spores of ferns, pollen of flowers, etc. In the still air of damp nights these dust particles settle slowly down, or rapidly if they gather dew on themselves, and the morning air is comparatively clear. During the daylight the sun warms the soil which heats the adjacent air and the rising currents carry the dust up as high as they go. Up to this height the air becomes more and more dusty day after day depending on the balance between the settling by night and the rising by day. If a general wind is blowing this will bring an abundance of fresh air, and the haze is generally diminished thereby in intensity, but spread over a large area of ground. If there be no general wind, as for instance in the midst of areas of high pressure (where the daytime is warm, dry, and clear), then the layer of dust reaches higher and higher each successive day; during long, dry summers in India it rises to 3,000, 5,000, and 7,000 feet with a well-defined upper surface that is higher in the daytime than at night-time. This is a general explanation of dry-haze weather, and applies to Indian Summer as well as to all occasional areas of high pressure. The reason why we have more of it in the autumn is because there is then less horizontal wind and less rising air. The reason for the diminished horizontal wind is probably found in the general circulation of the atmosphere. The reason for the feebler vertical ascending currents is because the surface of the ground is not then heated warm enough by the sun relative to the temperature of the air to make such strong ascending currents as occur in midsummer.

Plants with white blossoms have a larger proportion of fragrant species than any others; next comes red, then yellow and blue, after which, in the same order, may be reckoned violet, green, orange, brown, and black.

For the serious diseases that attack the kidneys, Prickly Ash Bitters is an unfailing remedy. Relieves backache, swelling of the feet and persistent headache—symptoms which indicate kidney trouble.

Farmers' Short Course at Kansas State Agricultural College, January 7 to March 28, 1902.

FROM THE INDUSTRIALIST.

The short course is designed for those farmers and farmers' boys who can not spare the time or the money to take our regular four-year course. The time required for the farmers' short course is two winters, twelve weeks each, coming at a time of year when men on farms can best leave their work. Instruction is given in crop production, feeding and breeding, orcharding, gardening, and farm shop work. Diseases of farm animals, the study of bacteria and insects, botany, chemistry, and physics are treated from a strictly practical standpoint. The aim of the course is to give instruction which will enable the student to grow larger and better crops, increase the fertility of the soil while taking paying crops from it, secure cheaper and greater gains in feeding, maintain the health of the animals on the farm, improve the quality of all the products of the farm, and market them to the best advantage.

SUCH A TRAINING PAYS.

Putting his knowledge of crop production and botany together, one of our students, by a simple method of crossing, has increased his yield of corn 10 bushels per acre. Wheat experiments conducted at this college for eighteen years show that proper preparation before seeding increases the yield 40 per cent. Steers fed the ordinary ration fatten in from five to seven months; on a balanced ration they are ready for market in from eighty to one hundred days, and a feeder who knows how can produce a balanced ration as cheaply as the ordinary one. The college purchased half of a farmer's herd of hogs, taking a fair average of the lot. We fattened these hogs in fifty days, while the farmer, doing the best he could, marketed his in one hundred and ten days. We spent less for feed and had risk from diseases for less than half the time. By feeding alfalfa hay with grain to fattening hogs the college secured 868 pounds of pork per ton of hay fed. It pays to know what type of animal gives best results for feed consumed. In 1898 a scrub cow of the dairy type gave the college milk worth \$40.37 above cost of the feed, while another scrub cow not of the dairy type yielded milk during the year worth \$6.25 less than her feed. Steers of the beef type required one-half the feed consumed by steers not having a beef form to make a pound of gain. Come and study animal form as an index to feeding quantities. On many farms in a single year the cost of taking this course could be saved by the knowledge gained in our carpenter and blacksmith shops. Inoculation is an almost sure preventative of blackleg. Students taking the farmers' short course perform the work of inoculation in the college feed lots.

STOCK JUDGING.

The special feature of the short course work this year will be stock judging. The college owns good representatives of 10 breeds of cattle—Aberdeen-Angus, Galloway, Hereford, and Shorthorn, representing the beef breeds; Ayreshire, Guernsey, Jersey, and Holstein-Friesian, representing the dairy breeds; and the Polled Durham and Red Polled, representing the dual-purpose breeds.

Twenty-five Kansas breeders have donated pure-bred pigs to the college, each breeder sending what he considered a model animal, and it will be a rare opportunity to study the ideals of these successful men. Four breeds are represented.

A number of breeds of poultry are represented on the college farm, and Manhattan fanciers will loan the college all the birds needed for thorough work in scoring.

The college has secured the loan of some of the best horses in the State for use in the work of judging horses. The instructors and dates are as follows:

- Poultry, February 17-22, C. H. Rhodes, Topeka.
- Beef cattle, February 24-March 1, John Gosling, Kansas City.
- Dairy cattle, March 3-8, T. A. Borman, Topeka.
- Swine, March 10-15, Geo. W. Berry, Berryton.
- Horses, March 17-22, J. W. Robison, El Dorado.

The special instructors in this judging work are among the most successful in their lines of work in the State as a brief statement of their work will show:

C. H. Rhodes will act as judge this season at leading poultry exhibitions in Kansas, Colorado, Missouri, Nebraska, and Oklahoma, and for the fourth time

as judge for the Kansas State Poultry Association. He has successfully bred 9 varieties of chickens.

John Gosling has been a judge of beef cattle at State and other large fairs in Ohio, Indiana, Illinois, Missouri, Minnesota, Iowa, Nebraska, and Texas, and at Chicago and Kansas City fat-stock shows. The Breeder's Gazette says that he is a judge among judges, and that few men can set forth their views with such force and clearness.

T. A. Borman started in Dickinson County with a common herd, and, through his knowledge of what a dairy cow should be, bred his herd up until he secured an average of \$81 per cow a year selling milk to a creamery. He is editor of the Dairy Age, and assistant manager of a creamery that makes \$2,000,000 worth of butter a year.

Geo. W. Berry is a breeder of both Berkshire and Poland-China hogs. He originated the prize-winning Silver Lip strain of Berkshires; has exhibited at leading fairs, and sold hogs in 12 States and Territories and 75 counties in Kansas. He has acted as judge at State fairs in Kansas, Texas, and Oklahoma, and at Kansas City, St. Joseph, Atchison, Dallas, and other large shows, and conducted score-card practice for the Kansas Swine Breeders' Association.

J. W. Robison has the largest herd of Percheron horses in the State, and also breeds standard trotting-horses. He recently spent the summer in the great horse-breeding sections of France and made a choice importation of Percherons. Besides his extensive horse interests, Mr. Robison owns and manages farms aggregating 16,000 acres. His corn-fields cover 1,200 acres, his alfalfa fields 1,000 acres, and other crops in proportion. He has 12 large orchards, 1,500 cattle, and hundreds of hogs.

The short course this year offers the student a close acquaintance with the college force of teachers and with some of the most successful Kansas breeders.

ADMISSION.

Persons at least eighteen years of age and of good moral character are admitted to these courses as follows:

Persons between the ages of eighteen and twenty-one will be admitted upon presentation of common-school diploma, grammar-grade certificate, teacher's certificate, or high-school diploma, or upon passing an examination in the following subjects: Reading writing, spelling, arithmetic, grammar, geography, physiology, and United States history. Persons over twenty-one will be admitted without examination, but should have sufficient education to enable them to understand the simple text-books used and to handle readily problems in common and decimal fractions and percentage. They will be required to attend strictly and constantly to their duties, or leave. They have the same free use of the college library that other students have. Owing to the peculiar nature of the work and to the slight degree of preparation which it assumes, students are required to be present at the very beginning of the course, and those applying later will not be admitted.

The short courses are in no sense equivalent to the long courses, and no one should take a short course who can take a whole or even a part of one of the long courses. All of the common-school branches are taught each term; all of the first-year subjects, except elementary botany, which is not taught during the winter term, and nearly all of the second-year studies, are taught each term; so that it is possible for one to get nearly all subjects of the first two years by attending during the winter terms only.

EXPENSES.

Tuition is free; board and rooms can be secured for \$2.50 and upward per week; lunches may be had at the college dining-room at cost; laundry costs about 50 cents per week. Incidental expenses may be high or low, as the individual determines. The total of all expenses for the entire time, exclusive of railroad fare in coming and returning, need not exceed \$40. Students in the short course can not expect to earn any part of their expenses while at the college, as every hour will be needed for class work, practice work, or study. Any bright, earnest young man can save during the summer sufficient money to take a winter's term here.

COURSES OF STUDY.

First Year (Winter Term, Twelve Weeks).	Hrs. per wk.
Feeds and feeding.....	5
Horticulture, Entomology.....	5
Crop Production, Bookkeeping.....	5
Diseases of Farm Animals, Bacteriology..	5
Breeds and Breeding.....	5
Blacksmithing, Repairing.....	10
Science Lectures.....	1
Second Year (Winter Term, Twelve Weeks).	

In the second year the course divides, and the student can take either the course in agriculture or the course in horticulture, as he desires.

AGRICULTURE.

	Hrs. per wk.
Orchard Treatment, Pomology.....	5
Dairying, Farm Architecture.....	5
Botany.....	5
Physics and Chemistry.....	5
Shops, Farm Carpentry, etc.....	10
Farm Practice.....	5
Science Lectures.....	1

HORTICULTURE.

	Hrs. per wk.
Vegetable-gardening and Small-fruit Culture.....	5
Orchard Treatment, Pomology.....	5
Diseases and Insects.....	5
Physics and Chemistry.....	5
Shops, Farm Carpentry, etc.....	10
Horticultural Practice.....	5
Science Lectures.....	1

OUTLINE OF STUDIES.—FIRST YEAR.

Feeds and Feeding.—The properties of feed stuffs, and their combination to secure good returns at least cost with products having the desired qualities; effect of foods on quality of products; construction of farm buildings and appliances to secure best returns from feed and for saving labor; a study of the feeding on the college farm. Text-book, Henry's "Feeds and Feeding." Lectures.

Horticulture.—General principles underlying plant growth; structure and functions of the various parts of the plants; nutrition, formation of seed, etc., propagation by seedage, cuttage, graftage, and layerage; environment, including the effects of temperature, light, food, and water-supply; possibilities of improvement by cultivation, training, and selection. Text-book, Goff's "Principles of Plant Culture."

Breeds and Breeding.—Characteristics of the breeds of live stock and their adaptability to Kansas conditions; principles of breeding; form as an index of qualities; selection and judging of horses, beef and dairy cattle, swine, and poultry.

Entomology.—Nature, time, and extent of the injuries from insect life, and a knowledge of the remedies, when and how to apply them. Structure of a number of insect types; study of the beneficial insects, and the more injurious forms attacking farm, orchard and garden crops. Use of preventives and insecticides.

Crop Production.—A study of the soil, the plant, and crop growing, including the management of the soil for maintaining and increasing its productivity, the improvement of worn-out soils, conservation of moisture and the preparation of the soil, selection of the seed, method of planting, treatment after planting and harvesting of Kansas field crops to secure best returns at least cost. Text-book, Bailey's "Principles of Agriculture." Lectures.

Bookkeeping.—The principles are mastered through their practical application to forms adapted to farm affairs. Each student keeps a regular set of books, in which accuracy and neatness are not less important than a correct understanding of principles. A set of books is developed which would be practical for every farmer, accounts being kept with various departments of his business—fields, granaries, barns, orchards, hogs, cattle, milch cows, etc.

Diseases of Farm Animals.—The common ailments of farm animals are discussed, their causes and symptoms explained, and preventives and remedies suggested. Inoculation against blackleg will be performed by the student in this course.

Bacteriology.—Characteristics of bacteria; their relation to health and disease of man and animals, to soil fertility, and to quality of dairy products; principles and methods of disinfection.

Blacksmithing.—Forging and welding, construction of singletree clips, wagon ironing, clevises, horseshoes, sharpening and tempering plows and tools, general repair work. Advanced work is also offered in the care and management of boilers and engines. If the student desires, he can make a forge and set of blacksmith tools to take home with him, paying only for the iron used.

Science Lectures.—Lectures will be given in both the first and second years of the course by the instructors on subjects of most interest to the students in this course.

SECOND YEAR.—AGRICULTURAL COURSE.

Dairying.—Milk: its secretion, nature, and composition; causes and conditions influencing the quality and quantity of milk; handling of milk for the market and for butter-making, including milking, straining, aerating, cooling, preserving, and shipping; creaming of milk by gravity methods and by the separator; cream ripening and churning; washing, salting, working, packing, and marketing butter. Text-book, Wing's "Milk and its Products."

Farm Architecture.—Each student will be required to prepare plans, elevations, sections, detailed drawings, and specifications of a sanitary farm barn, with outbuildings.

Orchard Treatment and Pomology.—Same as in horticulture course.

Botany.—The laws of plant growth which have a direct bearing upon the raising of grasses, grains, clovers, forage-plants, and weeds; a study of the common fungi that affect cultivated plants; seed testing; practical methods of farm seed-breeding.

Physics.—A consideration of the principles of physics which underlie farm operations, farm mechanics, control of soil moisture, physical laws of tillage, meteorology. A knowledge of the law of physics enables the farmer to store moisture and to reduce loss of water from the soil by evaporation. It is the practical application of these laws that will solve our drought problem.

Chemistry.—The relation of soils to earth, air, and water, formation and characteristics of different kinds of soils, soil enrichment and improvement, the chemistry of feeds and of animal products.

Farm Carpentry.—Elementary woodwork in joinery and construction, followed by general woodwork and carpentry, care and use of farm machinery, the building of frame structures, such as stables, piggeries, poultry-houses, ice-houses, and farm creameries will be given both by lectures and by practical work.

SECOND YEAR.—HORTICULTURE COURSE.

Vegetable-Gardening and Small-Fruit Culture.—The first half of the term is devoted to vegetable growing, consideration being given to the raising of vegetables for home and market; locations, soils, fertilizers, tools, irrigation, etc., best suited for crops grown in kitchen- and market-gardens; the growing of extra-early or late crops, their special treatment, cultivation, and harvesting; the means employed in the preservation of vegetables for future use; vegetables suited to Kansas conditions, methods of improvement, etc. Small-fruit culture occupies the second half of the term. The subject is treated in much the same manner as vegetable-gardening, taking up the cultivation of small fruits and the methods employed in their propagation, handling, and improvement. Five hours per week. Lectures.

Orchard Treatment and Pomology.—This branch is devoted to the practical treatment of orchard work; location, soil, planting, pruning, cultivation, and fertility of the orchard; a study of the use and value of windbreaks—how best made, trees suitable for same in Kansas; causes of plant variation and methods employed in the improvement of orchard fruits; grape growing in the West, a study of the distinctive characteristics of varieties, their value for home and market use; lists of varieties of fruits suitable for Kansas orchards; a general treatment of planning the grounds, location of houses, barns, gardens, orchards, lawns, fields, etc. Five hours per week. Text-book, Bailey's "Principles of Fruit-Growing." Lectures, with library references.

Orchard Diseases and Insects.—The work of this branch is the investigation of various orchard pests. Life-history and depredations of insects and fungous diseases attacking horticultural crops, together with means of combating them, preventives, and remedies; mechanical devices, spraying compounds and machinery, and methods employed in the warfare.

Chemistry and Physics.—In classes with the agriculture course.

Cottonseed-Meal vs. Corn.

An interesting and valuable pamphlet entitled "Cottonseed vs. Corn" is issued by the Union Supply & Manufacturing Company, Kansas City Stock Yards. It contains data from experiment stations and other sources with reference to the value of cottonseed-meal as compared with other feeds and the different combinations necessary to secure the best results. Any one using cottonseed-meal can not well afford to be without it, especially as it can be had for the asking.

Any of our horticultural readers desiring a first class publication devoted entirely to fruit growing, can find such a one in the Western Fruit Grower, published at St. Joseph, Mo. Send to this office \$1.20 and it will pay one year's subscription to both the Kansas Farmer and also to Western Fruit Grower.

Have You Hogs?

All our subscribers who own hogs should read Blooded Stock, Oxford, Pa. It is a first-class swine paper. Send stamp for sample.

Horticulture.

Forcing of Vegetables.

TOMATOES.

Whether they are planted in pots, boxes, or benches, tomatoes should have plenty of room. The weight of the crop will depend upon the amount of sunlight which each plant receives. There should be a distance of at least 2 feet every way between the plants, and each plant trained to a single stem only.

A light, rich, sandy soil suits them well to start in, say 6 parts soil to 1 of manure. They are best planted in a shallow depth of compost to begin with, adding the balance in light top dressings as the growth proceeds.

With this treatment the growth is dwarfish, stronger, and more fruitful. When they set part of their crop the top dressing should consist of one-half soil to one-half old manure with occasional waterings of liquid manure.

As a rule it is necessary to help the setting of tomatoes grown under glass. This can be done by tapping the plants with a stick in late autumn and again in early spring to distribute the pollen. In midwinter, when the sun is weak, a camel's hair brush will have to be used to carry the pollen from flower to flower. A night temperature of from 55° to 60° with a rise of 10° during the day is suitable. Sometimes higher and lower temperatures are used. Tomatoes can be grown by amateurs in ordinary greenhouses in autumn and spring and trained to the roof of the greenhouse. If a temperature of 50° is maintained and the plants not overwatered, they may be safely brought over the winter.

I believe it is not generally understood what development this plant is capable of. About twenty years ago I saw the roof of a good-sized, lean-to greenhouse covered by a single plant in perfect health carrying a fine crop of fruit in various stages of development. At the time of my visit I was informed that the plant was three years old, and had been giving a continual supply of ripe fruit for most of that time. Lorillard and Best of All are leading forcing varieties.

CUCUMBER.

The same kinds of soil and modes of applying it as used for tomatoes will suit the cucumber. A free mixture of leaf mould, if it can be had, will help. They can be planted 3 feet apart around the sides of the house and grown with 3 leading shoots to each plant. The side shoots sent out by leaders will produce the first. The points of these should be taken out at the first or second leaf beyond the fruit. Night temperature of 65° to 70°.

A rather moist atmosphere should be maintained, but kept pure by careful ventilation. Smoke lightly with tobacco to destroy fly and syringe carefully to keep them free of red spider. Best kinds: Telegraph, English, and White Alpine.

BEANS.

Planted in pots or on benches of soil about 4 inches in depth, these give good results. The cultural treatment of cucumbers in regard to soil, atmosphere, and insects will also suit beans admirably. Varieties: Sion House, Mohawk.

LETTUCE.

This may be grown on benches or solid beds at about 7 inches apart for small kinds like Tennisball and 9 or 10 inches apart for large sorts. In a light, rich soil ground bone is a capital manure for this plant. A night temperature of from 45° to 50° is best with a free circulation of air when the weather permits. Careful watering and constant cultivation are essential. Stirring of the soil is one of the first elements of success in the forcing of all kinds of vegetables. Varieties: Tennisball, Boston Market, Dutch Butter.

RADISHES.

The soil for radishes should be of a light and very sandy nature, fairly rich. If the earth is inclined to be heavy it ought to receive a liberal sprinkling of sand.

Sow the seeds either broadcast or in lines 4 to 6 inches apart and thin them to 1 inch apart. Pull as soon as the roots are large enough, with a view of admitting more light and air to those that remain. Temperature 45° to 55° at night. Cardinal, Globe, and White Box are good varieties.

BEETS.

Beets are easily forced in any light, rich soil in rows 9 or 10 inches apart. The early or short top varieties should be used.

A quick growth is necessary to have tender beets. Night temperature, 50° to 55°. Eclipse, Improved, and Egyptian.

CAULIFLOWER.

The cauliflower delights in plenty of light, moisture, and a free circulation of air, with fresh, well-manured soil and frequent cultivation. When they commence to head top dressings of guano or bone manure with frequent waterings of liquid manure will produce large heads. As the days get longer and the atmosphere drier damping of the foliage with the hose or syringe will help to create a stronger growth.

Plant on benches in 6 inches of compost 2 feet apart from row to row and 18 inches from plant to plant in the row. Fifty degrees night temperature. Dwarf Erfurt, Snowstorm, and Eclipse are all good.

RHURARB AND ASPARAGUS.

These can be forced under the benches in houses containing any of the crops here named. However the produce will be finer if the night temperature ranges about 50°.

They will bear packing closely together and will require a good supply of water when in full growth. On all night temperatures mentioned a rise of 10° to 15° may be allowed, with ventilation during fine days.

HOTBEDS.

The forcing of vegetables by the aid of hotbeds seems to me to be a subject of much importance, because of its being a comparatively inexpensive means of producing choice vegetables out of season. It is within the reach of the greatest number. Anybody with a few dollars to spare and commanding a few square yards of ground open to the sun can have a hotbed. The frames used for hotbeds may be turned to profitable use the whole year round in forwarding vegetables. In every large city like Philadelphia there goes to waste every year the heat generated by thousands of tons of manure.

It is a pity this is not economized and used for the forcing of vegetables. The produce would be worth many thousands of dollars and should be the means of giving considerable employment at a time of the year when work is generally scarce. Perhaps this idea might be worth the consideration of the Vacant Lots Association, which has been doing such good work for several years by helping the poor to help themselves through the means of raising vegetables.—John Hobson, Radnor, Pa., in American Gardening.

A Dead Air Space Apple House.

It may or may not be advisable to sell the crop of winter apples in autumn directly after picking. Of this each grower must himself be the judge. But somebody must keep, in ordinary years, a large proportion of the crop of winter fruit, and until the apple trade is differently organized and better systematized than at present, much of this fruit, in fruitful years at least, must be held for a time in the grower's hands. Hence the subject of storage, says an Eastern exchange, is an important one. From the day when the sweating process of piling fruit in the orchard for that purpose was considered as important, down to the present time, there has been much said and written on the subject and many different methods recommended. But so far practice among growers has rarely gone farther than providing storage room in the cellar of the house or basement of other buildings, and it is not uncommon for fruit to be stored in open sheds at picking, there to remain till cold weather forces its removal to closer quarters. In fact, in all these years there has been scarcely any advance among fruit-growers in general in the matter of providing improved storage for their fruit. It is quite time so important a matter received the attention it deserves. There are two conditions necessary to the long keeping of fruit without change, low temperature, and even temperature. At picking time the basement cellar is the coolest place available. So long as that is to be the room for storage, into that cellar the fruit should go as fast as taken from the trees, as being the best place available for it. But the temperature of the cellar is not even under ordinary management. During the warm turns frequently experienced in October and November, and sometimes in the month of December, the temperature of the cellar rises, and rapid ripening takes place with the fruit, followed by decay. Not only is low temperature necessary to long keeping, but it should be uniformly low. Very few fruit-growers are provided with the means of preserving this needed uniform low temperature, and worse yet there seems to be but little effort toward that end. In a previous article we referred to a fruit storeroom built by a gentleman at comparatively small cost, that proved well adapted to the purpose designed, and in

all respects was preferable to basement rooms under dwellings or other buildings. This was simply a building constructed with dead air-spaces all around—floors, walls, and ceiling, and without windows. The building was not expensive since no costly material or expensive workmanship was called for in its construction. Every one knows that dead air-space is a complete protection from both cold and heat alike. Hence such a building provides just the conditions needed for the storage of fruit. We have no doubt that extensive storage houses in time will be provided at shipping points, where dealers in fruits will store their purchases and hold them at pleasure. But better storage facilities are now needed where the fruit is grown, and inexpensive structures like the one referred to would be a long step in advance of conditions as now found. Such a storehouse is not expensive. Every owner of an orchard can afford to provide one, where the fruit can go into a cool, even temperature directly from the orchard. Much fruit is ripened prematurely by being stored in warm house cellars.

Winter Keep of Cabbage.

Cabbage may be kept by any mode which nearly excludes the frost, preserves a cool temperature, and a slight degree of moisture. A pile resting on the earth would keep better than if resting on a floor, and would require less protection. It would be likely thus to receive a proper degree of moisture. A common way to keep cabbage by the quantity is to leave them out in the ground until near the end of November, and then pull and place them, inverted, on smooth ground, packed closely together in beds 5 or 6 feet wide, with 6 foot spaces between. They may be thus left till the ground is about to freeze, when the earth between the rows is dug and placed as covering on the inverted heads, about 6 inches thick, the tips of the roots projecting above. With less labor, the spaces may be plowed and harrowed until the earth is fine and mellow before it is placed on the cabbage, the plow throwing the earth nearest to them upon the heads. With this treatment, the work must be done earlier than by hand in order to have the soil in right condition, and it is always best to cover them up as late as practicable. It is important that the ground has very thorough drainage.

A great many regard it as of great importance to plow the earth many times, making it mellow 2 feet deep in forming a trench or hollow to place them in; then the mellow earth is thrown against the heads with the plow. The frost can not penetrate the mellow earth. If the work is done before very cold weather sets in, the central part of the row may be left nearly uncovered, and when freezing commences, the whole covered with the mellow soil. For early winter use, cabbage may be stored in cold cellars packed in large boxes of damp moss; or they may be set in their natural position in low boxes filled with earth, damp moss, damp sawdust, or placed in heaps out of doors, and covered with a foot of chaff, or with straw.—Charles Ashley, Kansas City, Mo., in the Epitomist.

A bottle of Prickly Ash Bitters kept in the house and used occasionally means good health to the whole household.

Mrs. Mildy: "Matches have gone up two cents a box. I wonder why that is?" Mr. Mildy: "I suppose it is because there are so many strikes."—Lippincott's Magazine.

Towne: "Do I understand you to say that Spender's case was really a faith cure?" Browne: "Yes. You see, the doctor and the druggist both trusted him."—Philadelphia Press.

Honey for Kansas, Missouri, and Oklahoma.

Two cans, 120 pounds net, amber \$7.80, whitest (more from alfalfa bloom) \$9.00, comb honey in one pound sections, 10 to 13 cents. Also small cans, all sizes. See price list. Nothing but genuine bees' honey. Reference, KANSAS FARMER Co. Address, Arkansas Valley Apiaries, Oliver Foster, Proprietor, Las Animas, Col.

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PATRIOTISM

The stomach is a larger factor in "life, liberty and the pursuit of happiness" than most people are aware. Patriotism can withstand hunger but not dyspepsia.



The confirmed dyspeptic "is fit for treason, stratagems and spoils." The man who goes to the front for his country with a weak stomach will be a weak soldier, and a fault finder.

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L. D. Palmer.

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Dr. Miles' Heart Cure:

"I suffered agonizing pain in the left breast and between my shoulders from heart trouble. My heart would palpitate, flutter, then skip beats, until I could no longer lie in bed. Night after night I walked the floor, for to lie down would have meant sudden death. My condition seemed almost hopeless when I began taking Dr. Miles' Heart Cure, but it helped me from the first. Later I took Dr. Miles' Nervine with the Heart Cure and the effect was astonishing. I earnestly implore similar sufferers to give these remedies a trial."

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SEEDS

In the Dairy.

Conducted by D. H. Otis, Professor of Dairy Husbandry, Kansas Experiment Station, Manhattan, Kans. To whom all correspondence with this department should be addressed.

Management of Milch Cows on High Priced Feed.

Economical management of the milch cow requires that a man shall be able to size up his herd and not feed his poor cows more high-priced feed than the value of the products they turn out. Dry cows and those so near dry that their milk is not paying for their feed can be put on maintenance rations, i. e., enough feed to keep the animal in good health and enable it to maintain its present weight without making gains. The following may serve as a guide to the amount of different feeds required dairy per 1,000 pounds live weight:

- (1) Wheat straw 18 to 20 pounds (feed all cattle will eat), ground wheat or bran 4 to 5 pounds.
- (2) Corn fodder (stover) 10 to 20 pounds (feed all cattle will eat), ground wheat or bran 3 to 4 pounds. Oat straw can take the place of corn fodder by increasing the allowance of grain by 1/2 pound.
- (3) Sorghum hay 20 pounds, ground wheat or bran 2 1/2 pounds. Corn fodder and timothy hay can be used in place of sorghum hay and the allowance of grain increased a trifle.
- (4) Oat hay, millet hay and orchard grass hay will probably maintain an animal without grain. Prairie hay may require a little grain, alfalfa and clover hay will not only maintain an animal but will enable it to grow or gain in live weight. When forming a part of a ration with other roughage an animal can be maintained without grain.

On the above rations ground wheat and bran have been used for the grain because in most localities they are the cheapest. Where corn and oats can be had at the same price they make excellent substitutes. Kaffir-corn or sorghum-seed can also be used by slightly increasing the allowance. Wherever possible a mixture of either grains or roughness will give better satisfaction than any one alone.

In any ordinary herd cows will be found that vary considerably in their milk yield. It stands to reason that a cow giving 10 pounds of milk daily does not need the same quantity and quality of feed as a cow giving 20 or 30 pounds daily. The following rations indicate the amount needed daily per head where different amounts of milk are produced. Where cottonseed-meal is used cows should become accustomed to it gradually; allow 1/2 pound the first day and increase not over 1/4 or 1-5 pound per cow per day.

- COWS YIELDING 11 POUNDS OF MILK DAILY.**
- (5) Alfalfa hay 10 pounds, wheat straw 10 pounds, ground wheat 5 pounds.
 - (6) Corn fodder (stover) 20 pounds, ground wheat 4 1/2 pounds, cottonseed-meal 2 pounds.
 - (7) Corn fodder 15 pounds, wheat straw 5 pounds, ground wheat 4 pounds, cottonseed-meal 2 pounds.
 - (8) Sorghum hay 20 pounds, bran 3 1/2 pounds, cottonseed-meal 2 pounds.
 - (9) Prairie hay 20 pounds, bran 3 pounds, cottonseed-meal 1 1/2 pounds.

- COWS GIVING 16 POUNDS OF MILK.**
- (10) Alfalfa hay or soy-bean hay 10 pounds, oat hay 8 pounds, ground wheat 6 pounds.
 - (11) Alfalfa hay 8 pounds, millet hay 12 pounds, bran 5 pounds.
 - (12) Alfalfa 10 pounds, millet 8 pounds, wheat 6 pounds.
 - (13) Sorghum hay 20 pounds, ground wheat 5 pounds, cottonseed-meal 3 pounds.
 - (14) Prairie hay 10 pounds, corn fodder (stover) 10 pounds, bran 7 pounds, oil-meal 2 pounds.

- COWS GIVING 22 POUNDS OF MILK.**
- (15) Alfalfa hay 15 pounds, cut straw 5 pounds, Kaffir-corn-meal 8 pounds, ground wheat 1 1/2 pounds.
 - (16) Alfalfa hay 10 pounds, sorghum hay 8 pounds, ground barley 5 pounds, bran 7 pounds.
 - (17) Sorghum hay 15 pounds, millet hay 5 pounds, bran 7 pounds, cottonseed-meal 3 pounds.
 - (18) Corn fodder (stover) 10 pounds, cow-pea hay 10 pounds, corn-

and-cob-meal 7 pounds, bran 4 pounds, soy-bean-meal 1 pound.

- (19) Prairie hay 10 pounds, soy-bean hay 10 pounds, ground wheat 8 pounds, oil-meal 1 pound.

- COWS GIVING 27 POUNDS OF MILK.**
- (20) Alfalfa hay 20 pounds, ground wheat 10 pounds.
 - (21) Alfalfa 20 pounds, corn or Kaffir-corn-meal 7 1/2 pounds, soy-bean-meal 2 pounds.
 - (22) Alfalfa 15 pounds, oat hay 8 pounds, ground wheat 7 pounds, cottonseed-meal 2 pounds.
 - (23) Sorghum hay 10 pounds, prairie hay 10 pounds, ground wheat 8 pounds, cottonseed-meal 3 pounds.
 - (24) Millet 10 pounds, corn fodder 10 pounds, corn or Kaffir-corn-meal 4 pounds, bran 5 pounds, oil-meal 3 pounds.

To successfully feed any cow or any herd of cows it is necessary to study individuality. The experience of the Kansas State Agricultural College shows that 1 cow will produce butter fat at 10 to 11 cents per pound for feed consumed and another cow by her side will charge 24 cents per pound. In order to know what a cow is doing it is necessary to keep a daily record of her milk yield. From this record a dairyman can increase or decrease the feed in accordance with the amount of milk given by the cow. Without this record and the varying of the feed accordingly, much costly feed will be wasted on cows that will not make adequate returns for it.

D.H.O.

Churning, Washing, and Salting Butter.

M. H. MATTS.

The cream should always be strained into the churn and the butter color added immediately, if color is to be used. There should be no variation in the speed of churning, as too fast or too slow a speed will cause a rise in temperature, resulting in too soft a butter. Churns must be ventilated a couple of times after they start to let out gases of fermentation, which are always present. Be sure of a proper churning temperature, as cream will sometimes produce what is known as foaming and will nearly fill the churn. This may be caused either by too much speed at starting, churn too full of cream, or cream being too cold (especially a thin cream). The best remedy is to divide the cream into two churning and proceed at a proper churning temperature. In my experience I have found cream after being churned for between four and five successive hours, then given a rest of about an hour, began to break in ten minutes after starting the second time. After the first stop the cream was not apparently any nearer the breaking point than when first started. After the butter granules have reached the size of a "pin's head" or from one-sixth to one-eighth of an inch in diameter, the butter-milk is drawn off and strained through a hair strainer, then water, at the temperature of 45° to 55° F., depending on the temperature of the atmosphere, of about the same quantity as the butter-milk is added to the butter and the churn revolved a few times. Usually one washing is sufficient, though the wash water should drain comparatively clear. The amount of washing will depend on the size of the butter granules and the condition the cream is in. Both under and over ripe cream will require more washing than properly ripened cream. The importance of using clean and pure wash water can not be over-estimated. The butter is now in a condition to salt and the amount to use varies widely under different conditions. Salt preserves butter to a certain extent and greatly improves the taste. If salt has been used in washing the finished butter will not require as much, or, in other words, the drier the butter the less salt needed. From 1 to 2 ounces of salt per pound of butter fat should be used. Butter only retains from one-half to three-fourths of the salt, depending upon the condition of the salt, which should be kept fine and in a clean place, as it absorbs odor. The salt does not enter the individual butter granules or grains but is dissolved in the water present and any excess of it promptly coheres to the surface of the grains and is pressed between them, thus we see the importance of the kind and right use of salt.

How Gluten Feed Affects the Quality of Butter.

In the Pan-American model dairy the effect of gluten feed on the butter is clearly shown. The following is the conclusion of the report regarding this fact:

In a former comment we mentioned the fact that a reduction in the amount of gluten feed had a tendency to harden the butter. While the facts are exactly

as stated, we do not wish to give the impression that gluten feed is not a good one for dairymen to use. Experiments over an extended period go to show that there is no one kind of feed that will produce as much milk, but, as with all foods, some judgment must be shown, and for the reason stated it is not wise to feed an undue amount of gluten in summer when the butter is inclined to be soft. In the winter, when the tendency of butter is to be hard it very often produces just the effect desired—that of making butter easier to handle. This is particularly true when large amounts of dry corn fodder or timothy hay are fed to the cows.

Value of Knowledge in the Dairy.

G. D. JOHNSON, DAIRY STUDENT KANSAS STATE AGRICULTURAL COLLEGE 1901.

In the first place it is necessary to have the right kind of cows, cows that will give good returns for the food they consume. Find out how rich the cow's milk is in butter fat and how much butter she should make from a certain amount of milk.

The dairy school is the place to learn all of these things. There you learn how to test milk and cream, how to make butter and cheese, and all about running a separator (a machine that every dairyman should have on his place); get practical work with your studies and in my opinion, without the work the studies will not be of much benefit to you.

If a person is going to make dairying his business in life, I believe it a good plan to work on some good dairy farm a year or so and learn something of the way things are generally run, then take a dairy course at some agricultural college. I think you will find that you will get along a great deal better with your work at school than if you had not had the experience beforehand.

If you want to be an up-to-date and successful dairyman, you should not fail to take a good dairy course.

Hand Separators and Station Operators.

H. A. RICHARDS.

There may be some people who think they can do better with a hand separator than they can to send the whole milk to the station. If they want a hand separator do not try to discourage them, but instruct them about the different kinds of machines. Then go out to the farm and help them to set up the machinery and get it into good running order, have it well balanced and on a firm foundation. Tell them that they should keep all parts clean and bright and when they get through separating take the machine apart, wash it in warm water, not hot enough to coagulate the slime, then steam or scald well.

The oil should be light so it will not gum (a little coal-oil will be good to cut the gum), a light oil will reach the warm places better than a heavy oil. Tell them that they should skim a heavy

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cream because if it is to be expressed charges will not be so high, or if they should want to keep it there will not be so much casein, which is what the bacteria live on—not the fat.

We Want You to Come.

T. A. Borman, of Topeka, will teach judging of dairy cattle at the Kansas State Agricultural College, March 3 to 8.

Mr. Borman started in Dickinson County with a common herd and through his knowledge of what a dairy cow should be, bred his herd up until he secured an average of \$81 per cow a year selling milk to a creamery. He started with common mixed cows and by careful selection and breeding, in six years developed a grade cow that produced 12,000 pounds of milk and 476 pounds of butter in a year, with Kansas grown feeds. The average scrub cow gives 70 pounds of butter in a year. Many of his cows from his breeding refuse to become dry.

Mr. Borman is secretary of the Kansas State Dairy Association, editor of the Dairy Age, and assistant manager of a creamery that makes 2,000,000 pounds of butter in a year.

Omar's Profession.

"Who was Omar Khayyan?" asked one young man.

"I don't know," answered the other, "but I have a strong suspicion that he was a wine agent."—Washington Star.

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



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Kansas School Lands.

EDITOR KANSAS FARMER:—I noticed in the KANSAS FARMER of May 16, 1901, a statement to the effect that there are 670,187 acres of school land subject to sale. Do I understand by that that this is deeded land? Furthermore, that of this amount there are 321,997 acres under lease. Will the State auditor send explanations in regard to the above, as I and several other parties intend to buy some land. Please give township, county, and range.
L. J. TOBIAS.
Formoso, Jewell County, Kansas.

To readily answer all such inquiries as the above the Auditor has compiled and published a pamphlet giving explicit directions for taking up school lands, and including a list of available lands by counties. This pamphlet will be sent to any address on application to Hon. Geo. E. Cole, Auditor, Topeka, Kans. The following general information is from Auditor Cole's pamphlet:

"According to official reports by county clerks of Kansas, there are 670,187 acres of unclaimed school land in this State subject to sale under the provisions of the State laws.

"Of this quantity of land, 321,997 acres are now leased; the remaining 348,190 acres are not leased.

"Approximately, there are 38,000 acres of this land, 29,000 acres in Gove and 9,000 acres in Sheridan County, adapted to farming, especially the growing of wheat. The balance of the land is reported to be best adapted to grazing for cattle, or hay-land.

"The leased land, amounting to 321,993 acres, is open to sale, subject to the leases now in existence. These leases run from three to five years, according to law, unless such lease is forfeited by non-payment of rent. The unleased land, 348,190 acres, is also subject to sale.

"It is estimated that there are, in addition to the lands reported to this department, about 1,000,000 acres in the State which have not been patented.

"Leased lands may be purchased by observance of the following requirements of the law:

"First.—On petition of 10 householders of any organized township in which the land is located, to the county superintendent, asking that such land be sold.

"Second.—The county superintendent shall then notify the board of county commissioners of such petition and the commissioners shall cause notice of such petition to be published three consecutive weeks in the official county papers. One year after the date of the first publication the land becomes subject to appraisement.

"Third.—The appraisers are selected by the commissioners. The land must be appraised at not less than \$1.25 per acre.

"Fourth.—Following the appraisement, the county treasurer sells the land at public sale to the highest bidder, the purchaser paying to the treasurer one-tenth of the purchase-price, obtaining therefor a receipt from the treasurer, which procures from the county clerk a certificate of purchase. The purchaser thereupon files with the county clerk a bond double the sum named as purchase-price, conditioned that he, the purchaser, will commit no waste or damage upon the land. Where purchasers pay the total in cash for land, no bond is required.

"Purchasers accept all leased lands subject to the leases upon them.

"Unleased Land.—The proceedings for the purchase of the unleased lands are exactly the same as those for the purchase of leased lands, except that a petition of 20 householders is required and delay of one year for sale is avoided, and the purchaser obtains immediate possession.

"In cases where school lands offered for sale by the county treasurer, after compliance with the provisions of the law recited in the foregoing, are not sold, the law authorizes the treasurer to dispose of such lands at private sale to actual settlers only, in tracts not to exceed 160 acres to each purchaser.

"In cases where such lands fail to sell at public sale, the law provides that the land must be again reappraised and sold at public sale. After second appraisement, any person, at public auction, can buy any or all of such lands offered for sale. This prevents lands being closed to purchasers or prospective settlers for a period longer than one year, except where it is leased.

HOMESTEAD SETTLEMENT.

"Any person locating upon school land for homestead purposes shall file with the county clerk, within ten days, an affidavit of such settlement.

"The county clerk shall issue to the settler a certificate showing the date of such settlement.

"Lands so occupied can not be

brought into market until six months following such settlement.

"After a person has resided on a piece of school land for six months, 20 householders may petition to expose to sale such land, and the settler may within sixty days after its appraisement file in the probate court his petition to prove his settlement.

"After a residence of six months, if the land is not appraised, the settler can reside on the land until the land is exposed to sale by petition of 20 householders and by appraisement.

"In making proof of settlement, the probate judge is the officer who hears the evidence. From his decision, if aggrieved, either the purchaser or the State may appeal to the district court within fifteen days subsequent to the decision.

"Purchasers of school lands should bear in mind that possession of leased lands is governed by the lease thereon. Purchasers of unleased lands may obtain immediate possession.

"When lands fail to sell at private sale, the county treasurer is authorized to offer all such unsold lands at public auction, after giving four weeks' notice of such intention in a newspaper published in the county where the lands are situated.

"Under the old law, the minimum appraisement per acre was fixed at \$3. The last legislature amended this law, fixing the minimum appraisement at \$1.25 per acre.

"It is unlawful for any company or corporation to occupy or include school land in a pasture, or for other purposes, without first having leased or located upon the same for the purpose of a homestead under the provisions of the State laws.

"Persons guilty of violating this provision of the laws shall be deemed guilty of a misdemeanor, and upon a conviction shall be subject to a fine not less than \$10 or more than \$100, and shall also be liable for the sum of the yearly rental of the land for the time it is so occupied.

"The law specifically declares a lien upon any stock so grazed upon the land to secure the amount of the rental.

"Lands granted in lieu of," is a legal term used to designate such lands as have been later set apart by Congress to take the place of sections 16 and 36, which, in some instances, were settled upon prior to the government survey, such settlers not being disturbed in their possession of the lands. A commission was appointed and selected other vacant lands for school purposes. This accounts for the fact that other sections than 16 and 36 are school lands. This is noted more generally in the northwest part of the State.

"The principal derived from the sale of sections 16 and 36, or lands granted in lieu thereof, goes into the permanent school fund of the State, which creates a permanent sinking-fund. This fund can be used for no purpose except the purchase of State, county, city, township, or school district bonds, the interest upon which is distributed to the school districts semiannually, in proportion to the number of children of school age within the State."

Pastured Sorghum Safely.

EDITOR KANSAS FARMER:—The discussion in regard to the value or safety of sorghum for pasture still continues, and the experience of the correspondents is so widely at variance, that I will give mine.

An 8-acre field had been sown with sorghum three years in succession to clear it of weeds, and thus prepare it for alfalfa. Last April the field was plowed and harrowed. Volunteer sorghum came up thick, all over the field. When about a foot high, I plowed it under thinking that I had finally disposed of it, but the field was soon green with sorghum a second time. The drought began about this time, and pasturage was at a premium. The sorghum looked inviting. When I first thought of pasturing that sorghum I shuddered to think of the direful results reported by others. I decided that their losses were the results of mismanagement. I resolved to utilize that pasture. I had 15 acres of blue-grass pasture that was rank, it having been used very little, up to that time. I drove my cattle (80 head) from a dry prairie pasture and turned them in the blue-grass pasture for one hour, when they seemed pretty well filled. I then turned them into the sorghum, which was shoulder high. They enjoyed it hugely, while I was thinking of a possible job of wholesale skinning. After leaving them in the sorghum twenty minutes, I drove them to the prairie pasture. Next day, after filling the cattle on blue-grass, they were turned in the sorghum for one hour. The third day after filling with



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blue-grass, the cattle were turned in the sorghum and left until they came out of their own accord. The gate was then left open and they went in and out at will.

After stripping the sorghum very closely (nearly to the ground) the cattle were shut out for a month, when the sorghum had made such a growth that it was pastured as before, being careful to fill on other feed before turning into the sorghum. I lost no cattle and none were sick. I attribute their immunity to their being well fed just before going into the sorghum.
Reno County. C. W. PECKHAM.

Field Peas.

EDITOR KANSAS FARMER:—I have moved to California and have gone onto a ranch with my family, and having read in your paper about the field pea for stock I ask you to let me know the best kind for a dry climate, where I can get them, the price, how many do you sow to the acre, and any other necessary information in regard to the pea.
Mrs. MARY E. MARVIN.
Boulder Creek, Calif.

This inquiry was referred to F. Barteldes & Co., of the Kansas Seed House, Lawrence, Kansas. Seed can doubtless be obtained from California seedsmen. The other inquiries are answered by Mr. Barteldes as follows:

"In reply to your request for information regarding the Canada Field Pea, will say that it has been grown extensively for a number of years in many States, both for forage and for the seed, which latter is used for the table as well as ground and fed to stock with other similar food. There are two varieties, the Green Canada and the Golden Vine. The former is of a light green color, the latter a rich yellow. They are generally sown broadcast at the rate of from 1 to 2 bushels to the acre, about the time of early corn planting; are abundant yielders and are eagerly accepted and eaten by all kinds of stock, are used for field culture only. So far as we know there is no reason why they can not be grown in California or in any other State where other peas are successfully cultivated. They are growing in favor as their value is better understood and are a very profitable crop."

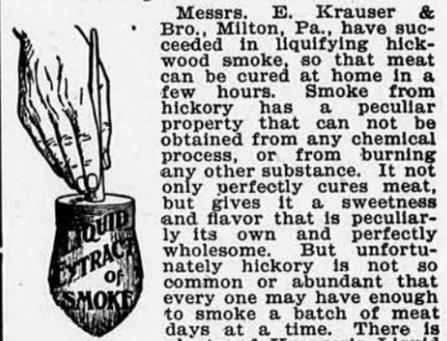
Publisher's Paragraphs.

The following is from Caspar Wistar Hiatt, Euclid Ave. Congregational Church, Cleveland, Ohio: "Among the most brilliant works of fiction I have read, 'Minette' stands conspicuous. It is a tale of the Crusades, and pictures the stirring events which culminated in the capture of Jerusalem by Godfrey, as if they were but yesterday. The author has woven history and romance into a most beautiful and fascinating story. The style is dramatic, the diction elegant, the sentiments pure and lofty, and altogether one is impressed in its perusal as by the symmetries and colorings of some noble painting, or masterpiece of music. I can not speak too highly of this work, commending it to my friends as entitled to popularity and permanence, be-

cause of its double excellence as a true chronicle of events and a vivid portrayal of the mightiest passions of the human heart." This book is published by the publishing house of John W. Iliff & Co., 110 Wabash Ave., Chicago.

The November number of New England Magazine, published by America Company, 5 Park Square, Boston, contains an interesting article entitled: "Isiah Thomas, the Patriot Printer," by Frank Roe Batchelder. It is an interesting biographical sketch of an early New Englander whose zeal during the struggle for liberty gave the Northern colonies just cause for pride. His fearless utterances in the publications over which he at times had control, caused him to suffer many hardships. He was the originator of the Massachusetts Spy, first published in Boston in 1770, and produced the Worcester Collection of Sacred Harmony, the first music printed from movable types in this country. The first folio Bible printed in America was published by him in 1791, and was his greatest work. The article contains of number of facsimiles of the handwork of this contemporary and friend of Franklin.

Smoking Meat With a Brush.



Messrs. E. Krauser & Bro., Milton, Pa., have succeeded in liquifying hickory smoke, so that meat can be cured at home in a few hours. Smoke from hickory has a peculiar property that can not be obtained from any chemical process, or from burning any other substance. It not only perfectly cures meat, but gives it a sweetness and flavor that is peculiarly its own and perfectly wholesome. But unfortunately hickory is not so common or abundant that every one may have enough to smoke a batch of meat days at a time. There is plenty of Krauser's Liquid Extract of Smoke, however, and it will give even better results than the smoke-house, because it can be put on uniformly. In using Krauser's Liquid Extract of Smoke, each piece of meat may be treated to suit its own conditions—thin or thick coat, as the need may appear. The cost of labor in smoking meat with Liquid Extract of Smoke is very slight. With it a boy can equal an expert curer, and do treble the work in a mere fraction of time. Liquid Extract of Smoke is always available—no waiting for the wood to come; or to cut it; or to make the fire. Put it on with a brush—a minute or two to a piece of meat; no more trouble than painting a board and no opportunity for insects to contaminate the meat. Liquid Extract of Smoke gives such a fine flavor to meat that every dealer will give you a better price—if you can be persuaded to sell any of it at any price. Full information will be sent free, on application to E. Krauser & Bro., Milton, Pa.

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Grain Markets.

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

"The human race is divided into two classes,—those who go ahead and do something, and those who sit still and say, why wasn't it done the other way."—Oliver W. Holmes.

Grain Markets to 2 p. m., November 12.

Markets suffered a temporary set back and especially was the decline in futures very marked.

Closing quotations were as follows:
Chicago.—No. 2 red wheat, 72½-73c; No. 2 hard wheat, 70½-71c; No. 2 corn, 60c.

Kansas City.—No. 2 red wheat, 70-71c; No. 2 hard wheat, 68½-69c; No. 2 corn, 66c; No. 2 oats, 42½c.

Market Letter.

F. W. FRASIUS, OF THE KANSAS FARMERS' CO-OPERATIVE GRAIN AND LIVE STOCK ASSOCIATION.

November 11, 1901.

The wheat market has finally gotten out of the rut as I have predicted for some time, and the advance has come when least expected by traders. Wheat so long in the 60's at Kansas City, will soon be well up into the 70's, which the situation warrants, and wheat is now gaining lots of friends among bull speculators. It has been known for a long time that the exports since July 1 were averaging almost double what they were during the same time a year ago. It was also known that receipts from first hands, while quite large, amounted to only a little more than the exports, and consequently the visible supply has not increased as fast as in former years and is now only a little over 41,000,000 of bushels. The fact is that with average prices considerably less than last year, wheat accumulation and stocks are lower in all positions than last year. For nearly four months wheat as compared with other grain has been on the bargain counter, and the wonder is how the price has been kept down so long. We have raised an insufficient supply of grains. We are short at least 800,000,000 bushels of corn and 200,000,000 bushels of oats, with everything in the line of foodstuffs at fancy prices, except the one item of wheat. The reports from Argentine are, that they will probably not have over 20,000,000 bushels for export, when they have exported over 73,000,000 bushels of last year's crop and 63,392,000 bushels during the year 1899. With the crop of wheat in Germany, France, Russia, and other foreign countries heavily short, and in our own country being fed in place of corn to an extent not now realized, it seems to me conservative people even must consider the price of wheat very low at this time. Another element of strength is the present movement of spring wheat; although large, it is not nearly as large as expected. Duluth and Minneapolis received 4,588 cars of wheat last week, which, of course, were more than the receipts a year ago, which amounted to 3,361 cars, but they were far short of the receipts two years ago, 5,563 cars, and three years ago, 8,341 cars. It is only by comparison with last year's figures that spring wheat receipts seem big. They are so much short of 1899 and 1898 crops, as to suggest that the Northwest crop is much smaller than reported. The strongest feature of the market is the steady decrease of stocks in Europe, even in face of an enormous shipment. On November 1 the amount of wheat and flour in the visible supply of Europe was 6,000,000 less than a year ago. Our exports since July 1 have been 108,000,000 bushels, compared with 64,000,000 bushels shipped during same time last year. These figures give impressive evidence of the enormous European demand and seem to prove that importing countries need nearly 3,000,000 per week more than last year, and have only America with a big supply to draw from, which makes it seem plain that the American wheat holder is justified in holding his wheat for higher prices, since Europe demands of this country for at least three-fourths of its imported wheat.

The corn situation is as strong as it can be. The entire Southwest is needing every bushel raised in its territory and must buy corn largely in the central States to bridge over. Only eastern Nebraska, Iowa, northern Illinois, and northern Indiana have any surplus corn, so that lower prices on corn can not be looked for under these conditions.

Tyndall says 50,000 typhus germs will thrive in the small circumference of a pin-head or visible globule.

The Heart of Montrose.

Alas, that no one knows where—but somewhere, certainly—the heart of valiant James Graham, Marquis of Montrose, awaits the collector of curiosities! Tossed among bits of armor, old china, bric-a-brac, in some old curiosity shop in the north of France; possibly now carried to Paris or London, it may lie in some old lady's lumber attic; or, trampled years ago into the ground of a back garden in Boulogne, Pierre and little Marie may turn it up any day with their spades. "Qu'est-ce que c'est donc," this little, old, beaten, egg-shaped box of steel? Why, Pierre and Marie, it holds, if you only knew it, the dust of a Scottish hero's heart, and the case itself was fashioned out of his good steel sword.

Montrose knew Merchiston Castle, Edinburgh, well; it was, in fact, a second home to him in his boyhood, for his sister Margaret had married Sir Archibald Napier when Montrose was 6 or 7 years old, and he spent much of his time with them. The Napiers had, besides, a town mansion within the precincts of Holyrood House; but to little Montrose, brought up in the country, the old castle, with its barns and out-houses and granges, was no doubt a more attractive holiday home than a dull town house in the fashionable Cannongate. One can fancy the little figure, in its clothes of "green camlet" or "mixed pargone" and "cloak with pasments," wandering with his bow and arrows about the parks, or, maybe, escaped from his watchful "pedagogue," Maister William Forreth, imperiling himself, boy-like, on the battlements of the castle.

But to get to the story of the heart one must leave the life and hasten to the death of Montrose. His sister and brother-in-law had died long before, and the owner of Merchiston in 1650 was Montrose's nephew, the second Lord Napier. A great affection existed between Montrose and his niece by marriage, Lady Napier, and as a mark of it he bequeathed to her his heart—a strange, and, if one must tell the truth, an embarrassing, legacy; but looked upon by the lady herself as a supreme honor and a sacred trust.

Montrose was executed at the Market Cross of Edinburgh on Tuesday, May 21, 1650. The extraordinary composure and gallantry of his bearing are well attested. An unsigned letter in the British Museum, written by a spectator while the execution was actually going on, says: "I never saw a sweeter carriage in a man in all my life. He is just now turning off from the ladder; but his countenance changes not." Another account says: "He stepped along the streets with so great state, so much beauty, majesty, and gravity as amazed the beholders. And many of his enemies did acknowledge him to be the bravest subject in the world, and in him a gallantry that graced all the crowd." Clothed in "fine scarlet richly shammed with golden lace, and linen with fine pearling about, his delicate white gloves in his hand, his stockings of incarnate silk, his shoes with their ribbons on his feet," his dress was "more becoming a bridegroom than a criminal."

"After hanging on the gibbet for three hours, the body was taken down, and the head was affixed to the Tol-booth; the limbs were dispersed to various places throughout the kingdom, and the dismembered trunk was inclosed in a "little short chest" and buried in the Boroughmuir. The Boroughmuir was the usual place of execution and burial for the worst of criminals; it was a place of evil reputation, little sought during the day, and much to be shunned by night.

No wonder, then, that some "adventurous spirits" were required who would steal to that gruesome spot, raise the hastily and none-too-deeply buried body, and cut from it the heart of Montrose. The master of Merchiston was in exile in Holland; it was Lady Napier alone who planned the night excursion and saw it carried out. Did her heart fail her that May night, waiting at the foot of the turret stair until her messengers, returning, put in her hands something not seen, but felt, within the square of linen all "tricked with bloody gules?" That same square of linen and the pair of stockings of "incarnate" silk showing a still darker stain have remained ever since among the treasured possessions of the Napier family.

For a time, then, the heart was safe at Merchiston. It was embalmed and inclosed in a little steel case made of the blade of Montrose's sword; the case was placed in a fine gold filigree box which had belonged to John Napier, the inventor of logarithms; and the box in its turn was deposited in a silver urn.

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Napier dispatched the casket by some faithful hand to the young Marquis of Montrose, who, with Lord Napier and others of the connection, was still living in exile in Holland, and here begins the first part of its adventures, of remains.

For many years the heart was completely lost sight of, and any hope of ever regaining it had long been given up, when a friend of the Napier family recognized the steel case among a collection of curiosities in Holland. He purchased the relic at once, and returned it to Merchiston, at that time the property of Francis, the fifth Lord Napier. There for a second time the heart reposed, but not for long. On the death of the fifth Lord Napier it passed into the keeping of his only surviving daughter, Hester, afterward Mrs. Johnston.

Some years after her marriage Mrs. Johnston was on a voyage to India with her husband, her little son and all their household goods, when their ship, which formed part of the fleet under Commodore Johnston, was attacked by a French frigate and a stiff fight ensued. Mr. Johnston busied himself with four of the guns upon the quarterdeck, while his wife, who had refused to go below, remained beside him, an heroically obstinate figure, holding by the one hand her little boy and in the other a thick velvet reticule, into which she had hurriedly crammed all the things she valued most, including, of course, the heart. In the middle of the fight a splinter struck Mrs. Johnston on the arm, wounding her severely. The velvet reticule gave little protection to its precious contents and the gold filigree box was completely shattered, but the inner steel case remained unharmed. It must have been some consolation to Mrs. Johnston that, when the attacking frigate retired, the English commodore left the flagship and came on board the Indiaman to offer his thanks and congratulations to the lady and her husband who had set the crew so gallant an example.

Arrived in India, it was easy to find a clever goldsmith, who constructed another gold filigree box in place of the one broken, also a silver like the original. On the outside of the urn was engraved in two native dialects a short account of Montrose's life and death. The urn soon came to be regarded by the natives as something uncanny and the report spread that it was a talisman and that its owner would never be wounded or taken prisoner in battle. So one is not surprised to learn that before long the urn and its contents were stolen, and in spite of every effort could not be traced. Mrs. Johnston, however, discovered after some time that it had been sold for a large sum to a powerful chief in the neighborhood of Madura.

It was part of the training of the little boy who stood beside his parents during the attack on the Indiaman to spend four months of every year with a native chief, in order to learn something of the language and native methods of hunting and shooting. While on a sporting expedition the boy distinguished himself in warding off the attack of a wild-hog; whereupon the chief, to show his appreciation of the performance, promised, in true Oriental fashion, to give the lad practically anything he chose to ask. As this chief

was the purchaser of the urn, young Johnston naturally begged that the family property might be handed back to him. The chief made a generous speech in reply, explaining that when he bought the urn and its contents he had no idea that they were stolen goods, and adding that "one brave man should always attend to the wishes of the brave man whose heart was in the urn, and whose wish had been that his heart should be kept by his descendants." Accordingly the boy returned home laden with gifts of all sorts for himself and his mother, and carrying with him the urn and a letter of apology from its late custodian. The death of this liberal-minded chief forms an interesting sequel to this adventure of the heart. Having rebelled against the Nabob of Arcot, he was taken by English troops, and he and many of his family were executed. When the chief was told he would be put to death, he referred to the story of Montrose, and said that as there was something alike in the manner of their dying, so he hoped that after death his attendants would preserve his heart as the heart of Montrose had been preserved, for future generations to honor.

The Johnston family returned to Europe in 1792. Being in France at the time when the Revolutionary Government compelled all persons to give up their gold and silver plate and jewels, Mrs. Johnston intrusted the silver urn, with its inclosures, to an English-woman living at Boulogne, who promised to keep it hidden until it could be safely conveyed to England; but the woman died soon afterward, and from that time nothing has been seen or heard of the heart of Montrose.

There would appear to be little hope yet stranger things have happened, and it may be that after the lapse of a hundred years the heart of the Graham may once again rest on Scottish soil.—Chambers' Journal.

A Buddhist priest, named Shuye Sonoda, is publishing in London a book to the effect that there were Japanese in Mexico in the year 499 A. D., according to a Japanese chronicle. He claims to have found confirmation of this in Mexico, but a well-known American explorer in Mexico to-day finds no certain signs of Buddhist relics or of Christian remains in Mexico before Columbus.

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The Poultry Yard.

Poultry Raising on the Farm.

FARMERS' BULLETIN NO. 141, BY E. D. SALMON, D. V. M., CHIEF OF BUREAU OF ANIMAL INDUSTRY, U. S. DEPARTMENT OF AGRICULTURE.

The barnyard fowls are regarded by most farmers as a very insignificant part of their live stock; and yet, although so often neglected and forced to shift for themselves, the poultry and egg crop constitutes in the aggregate one of the most important and valuable products of American agriculture. The



Fig. 1.—Implement house transformed into poultry house.

conditions in this country are such that the poultry industry is capable of indefinite expansion, and therefore able to meet any demands that may be made upon it either by home or foreign markets.

IMPORTANCE OF HIGH GRADE PRODUCT.

In order to secure a larger consumption of poultry products per capita in the United States, it is of prime importance that there should always be an abundant supply of strictly fresh eggs and of the best grades of table poultry. This condition is also a necessary fac-



Fig. 2.—Implement house transformed into poultry house.

tor in the development of the export trade. When the markets are filled with eggs which have lost their quality and flavor by long keeping, and many of which have acquired an offensive taste; when the broilers and roasters offered to the consumer are thin, tasteless, tough, and altogether unfit for the table, it is not surprising that they are passed by, and beef, mutton, or pork taken in their stead. So, also, when the exporter is buying for consignment to foreign markets he must be able to find at all times a good article of eggs or

develop in proportion to the increase of our population and to the care and intelligence with which the markets are supplied.

INCREASE OF PRODUCT.

There is no stock on the farm that yields a better relative return to the



Fig. 4.—Simple form of poultry house.

food consumed than do the hens, and consequently it is well worth while to consider in what manner their product may be increased without disproportionately increasing expenses. The fowls must have comfortable and healthful quarters, they must have proper food and nesting facilities, but it is not at all necessary that there should be extravagant expenditures in supplying these.

THE KIND OF FOWLS TO KEEP.

The kind of chickens to be kept upon a farm depends almost as much upon the kind of man who manages them as upon any other condition. There are no birds which stand neglect better than the common, mongrel barnyard fowls, for these have lived and developed under unfavorable conditions and are accustomed to shift for themselves. They are generally hardy, vigorous, and yield a fair return in eggs or as table poultry; they respond fairly well to generous treatment, and, if selected with some care, are by no means to be despised, even when their product is compared with that of the standard breeds.

IMPROVEMENT OF BREEDS.

The improvement of the common poultry should begin in most cases by breeding from birds selected for their shape, size, and productiveness, and by bettering the conditions of life under which they are kept. If the owner is willing to go a little further and to bestow somewhat more attention upon his birds, he may cross them with males of a standard breed, or replace them entirely by pure-bred males and females.

CARE OF FOWLS.

The standard breeds have been brought to a higher plane of development by extra care and more skillful management, and if they are to maintain this improvement they must be

highest returns are expected which care and skillful management can obtain, then a breed of fowls should be adopted which has been bred for generations with this object in view.

POPULAR VARIETIES.

The most popular fowls in the United States are the American breeds known as the Plymouth Rocks and Wyandottes. They are of medium size, good as broilers, good as roasters, good egg producers; the hens are good sitters and good mothers, and for these reasons they are known as general-purpose fowls. In the Barred, Buff, and White Plymouth Rocks, and the White, Buff,



Fig. 6.—Poultry house with scratching shed.

Silver, Golden, Black, and Partridge Wyandottes, there is a sufficient range of color to meet almost any taste.

EGG PRODUCTION.

For farmers who desire fowls more particularly for egg production, the Mediterranean breeds, particularly the Leghorns, Minorcas, and Spanish, are to be recommended. The birds of these breeds are smaller, more active, and greater foragers than the Rocks or Wyandottes, and as layers they are unsurpassed. Should it be desirable, on the other hand, to raise heavier birds than the Plymouth Rocks, we should naturally turn to the Asiatic breeds, which include the Brahmans, Cochins, and Langshans.

WEIGHTS.

The standard weights of these different classes are as follows:

Breeds.	Cocks. Lbs.	Hens. Lbs.
Plymouth Rocks.....	9 1/2	7 1/2
Wyandottes.....	8 1/2	6 1/2
Light Brahmans.....	12	9 1/2
Dark Brahmans.....	11	8 1/2
Cochins.....	10 1/2 to 11	8 1/2
Langshans.....	10	7
Minorcas.....	8	6 1/2
Spanish.....	8	6 1/2

The Leghorns are smaller than the Minorcas and Spanish and have not been given standard weights.

The Rhode Island Red is a promising general-purpose breed, resembling in size and form the Plymouth Rock. It has been developed by crossing and se-

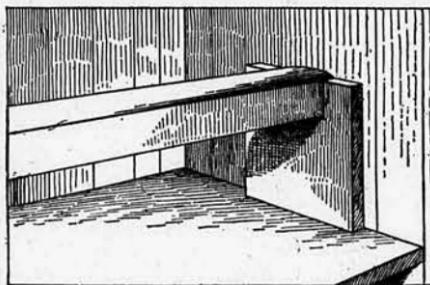


Fig. 8.—Construction of roosts.

lection, but has not yet been admitted as a standard breed.

SELECTION OF STOCK FOR BREEDING.

Having in mind the size and peculiarities of the varieties of fowls to which reference has been made, it would appear to be a not difficult matter to select one which would satisfy the requirements of any farm. In purchasing breeding stock it is important to purchase from reliable breeders only, and to ascertain that the stock is in healthy condition and that it has been bred for early maturity, size, shape, and egg-

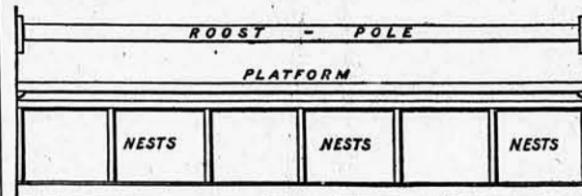


Fig. 9.—Sectional view of platform and nests.

producing qualities rather than for perfection of feathering. For the show room the feathering can not be neglected, as the judges often place it ahead of all other features of the bird's make-up; but for the farm the color and marking of feathers must be held subordinate to the utilitarian qualities. The feathers should not, however, be entirely neglected, as their perfection is an

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It never fails. It acts like magic. Instantaneous relief from pain always follows. It has cured thousands of cases which had been given up as incurable. One trial will convince any sufferer that St. Jacobs Oil

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indication of the purity of blood and carefulness of breeding.

POULTRY HOUSES.

It is very desirable that poultry should be provided with a house somewhat separated from the other farm

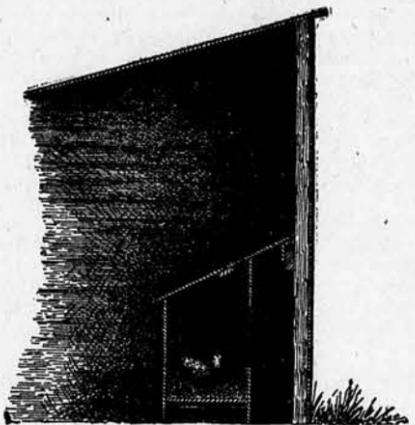


Fig. 10.—Sectional view of concealed or darkened nest.

buildings, but near enough to the barnyard so that they can spend a part of their time in scratching for and gathering up the many seeds and grains which otherwise would not be utilized. On farms where no poultry house is provided the hens are compelled to seek roosting places wherever they can find them—sometimes in fruit trees, sometimes on feed racks, sometimes on the farm machinery, or even the wagons and carriages. The result is not only untidiness, but fruit, feed, implements, and wagons are soiled and injured by the droppings, and sometimes vermin swarm in the roosting places to such a degree that the hens are voted a nuisance rather than a desirable part of the farm stock. If these vermin-infested places are near the horse stable, the mites may attack the horses, causing itching and a mangy condition of the skin, the origin of which is not always suspected.

PREFERABLE CONDITIONS.

Poultry houses need not be elaborate in their fittings or expensive in construction. There are certain conditions, however, which should be insisted upon in all cases. In the first place, the house should be located upon soil which is well drained and dry. A gravelly knoll is best, but, failing this, the site should be raised by the use of the plow and scraper until there is a gentle slope in all directions sufficient to prevent any standing water even at the wettest times. A few inches of sand or gravel on the surface will be very useful in preventing the formation of mud. If the house is sheltered from the north and northwest winds by a group of evergreens, this will be a decided advantage in the colder parts of the country.

UNUSED BUILDINGS.

Sometimes there is already a small building on the farm which has been used for implements or animals and which is no longer required for these purposes. Such a building may be eas-

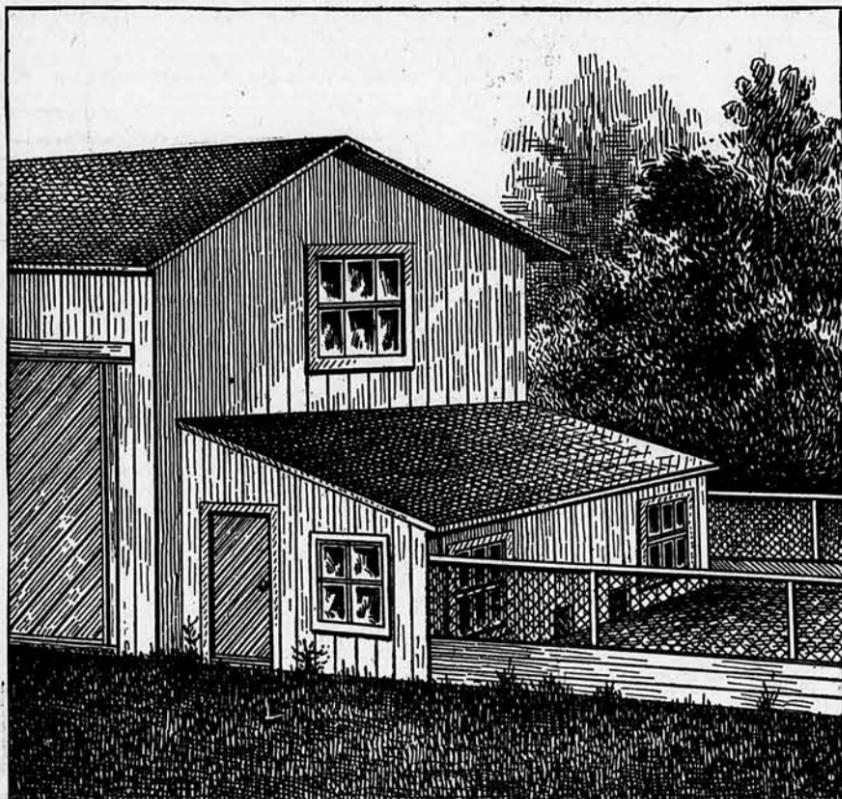


Fig. 3.—A lean-to poultry house.

poultry in sufficient quantity or he can not continue his trade. POSSIBILITY OF INCREASED CONSUMPTION. An increased supply of poultry products of the highest class would unquestionably lead to an increased consumption. There is no more staple and popular article of food, and consequently we may confidently expect the demand to

continued under the conditions which brought it about. They suffer more from neglect and unhealthy surroundings than do the common fowls, because less accustomed to these conditions. The standard breeds, for these reasons, may not always give satisfaction, if their characteristics and requirements are not understood. If, however, the

ily fitted for poultry by cutting a small door in one side and placing roosts and nests in the interior. (figs. 1 and 2.)

INEXPENSIVE STRUCTURES.

In case there is no building suitable for remodeling into a poultry house, an inexpensive lean-to may be built (fig. 3), or a new building constructed. A house for this purpose should be planned with a view to simplicity, economy, and con-

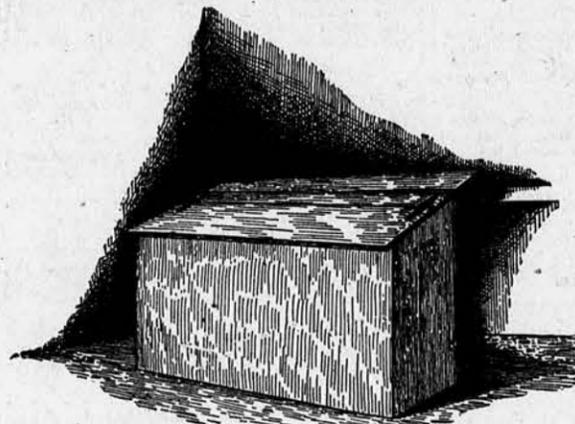


Fig. 11.—Concealed or darkened nest.

venience, while supplying the conditions proper for successful poultry keeping.

One of the simplest forms of poultry house is shown in fig. 4, and ground plan of the same in fig. 5. A scratching shed may be attached to the side of this house, as in figs. 6 and 7, which, if desired, may be inclosed in front with poultry wire, so as to keep the birds confined.

FITTINGS.—ROOSTS.

The details of construction of roosts are seen in fig. 8. The important points are a nearly flat or slightly rounded surface on the upper side and as few cracks and crevices as possible in which vermin may hide. The roosts may be made of 2 by 3 inch scantling and should be so put in that they can



Fig. 12.—Scratching room under poultry house.

easily be removed at any time for cleaning and disinfection. A platform is often placed under the roosts to catch the droppings and the nests are placed under this platform. In a house, such as fig. 9, the manure platform may be dispensed with and the nest boxes placed along the front or sides of the building.

NESTS.

The simplest form of nest is a box placed upon the floor of the poultry house. With heavy fowls, which are apt to break their eggs in fighting away other hens that try to enter their nests when they are laying and thus acquire the habit of egg-eating, a more concealed or dark nest may be necessary. (figs. 10 and 11.)

FLOOR.

One of the most troublesome parts of a poultry house to make satisfactory is the floor. Many use earth floors, but



Fig. 13.—Double poultry house with scratching sheds.

these are often damp, especially in cool weather, and then induce rheumatism, colds, roup, digestive disorders, and various other diseases. Some have put in cement floors, but have found these cold and also more or less damp. Probably a good cement floor, laid on broken stone and covered with a few inches of earth, would be satisfactory, if not too expensive. A board floor, 6 or 8 inches above the earth, with good ventilation under it, is dry but too cold, ex-

cept in the South. A double flooring, laid tightly with building paper between, or a good single flooring covered with a few inches of dry earth, is probably the best. In all cases of board floors there should be sufficient space beneath for ventilation and to guard against the lodgement of rats.

GOOD PLANS.

A good style of poultry house, with scratching room under it, is shown in fig. 12. In case more than one flock is to be kept, the plan shown in figs. 13 and 14 have been found satisfactory and may be multiplied to any extent by adding to the ends. With such houses there may be fenced runs at the back or front, or on both sides, so that the birds may be kept confined.

SPACE TO BE ALLOWED.

The amount of space to be allowed for each bird depends upon the size of the birds, whether a shed is attached to the house or whether the fowls have a free run of the open fields. For

birds in confinement there should be from 6 to 15 square feet for each adult bird in case there is no shed attached to the house; and with a shed this space may be reduced about one-half.



Fig. 14.—Ground plan of double poultry house with scratching sheds.

The yards should be large enough to allow exercise in the open air, and to furnish more grass than the birds will eat. This will vary from 60 to 150 square feet per adult bird. The open shed facing the south, where the birds can be induced to hunt for their food and take exercise in all seasons of the year, and where they can enjoy the pleasure of scratching and dusting themselves in the sunshine, even during the winter months, is of great assistance in maintaining the health and productiveness of the flock. The roosting space allowed should be 6 to 8 inches for the smaller breeds, 8 to 10 inches for the medium breeds, and 10 to 12 inches for the larger breeds.

VENTILATION.

Poultry houses should be well ventilated, but so arranged that drafts of air will not strike the birds. Windows and doors should be provided in such locations that the sun may shine into the building a considerable part of the day. Sunshine is required both to keep the

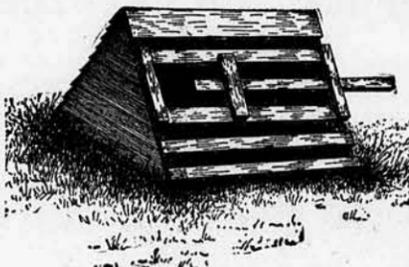


Fig. 15.—Common A-shaped coop with sliding slat.

houses dry and to destroy various forms of infection.

POULTRY COOPS.

A liberal supply of coops should be provided for the confinement of hens with broods of small chicks, and for those hens which insist upon sitting at inconvenient times. A few days in solitary retirement will usually break up the desire to sit, and the hen will soon after resume laying.

The common A-shaped coop is one of the most easily constructed and convenient forms in use. The one disadvantage connected with it is the difficulty of removing the feeding and drinking vessels for cleaning or of catching a bird in it without danger of some of the birds escaping. To obviate this, one of the slats may be made to slide, as shown in fig. 15. The opening made by sliding this slat is sufficient to admit the hand and arm so that any part of the coop may be reached without leaving an avenue of escape unguarded. Other forms of coops for the same purpose are illus-

trated by figs. 16, 17, 18, 19, 20, 21, 22, and 23. For early hatched chicks, which come out when the atmospheric temperature is so low as to be injurious to them, a combination of coop and

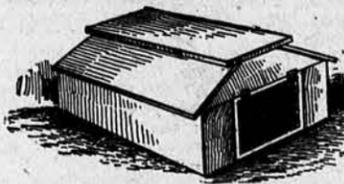


Fig. 16.—A common form of chicken coop.

glass-covered run, as shown in fig. 24, has been found very useful.

FEED TROUGHS AND DRINKING FOUNTAINS.

Two forms of feed troughs are represented in fig. 25. For small chicks the troughs must be very shallow, or for the first few days the feed may be placed upon a square piece of board. Numer-



Fig. 17.—A common form of chicken coop.

ous forms of drinking fountains have been devised, some of which are represented in figs. 26 and 27. A good fountain is easily made by cutting a small aperture in a tin can, as shown in fig. 28, filling the can with water, covering with a shallow pan or vessel of any kind, and then inverting the whole. The shallow vessel will remain filled with water as high as the top of the aperture until the can is exhausted. It is important that fresh pure water should always be accessible to fowls, and the drinking fountains should be cleaned and filled two or three times a day, if possible, and under no circumstances less frequently than once a day.



Fig. 18.—Chicken coop with inclosed and covered run.

RANGING OF FOWLS.

Poultry may be raised with the greatest economy on the large farms of the country, where there is unlimited range, an exhaustless supply of insects and



Fig. 19.—Chicken coop with inclosed run.

worms, and an abundance of seeds and grains going to waste which poultry alone can utilize. Under such circumstances fowls take care of themselves so well and are so energetic in seeking



Fig. 20.—Chicken coop with inclosed and covered run.

their food that they are either forgotten and allowed to shift for themselves when they really need attention or assistance, or they are regarded as a nuisance because they sometimes do a lit-

Continued on page 989.

What does a chimney do to a lamp?

MACBETH'S is the making of it.

My name on every one.

If you'll send your address, I'll send you the Index to Lamps and their Chimneys, to tell you what number to get for your lamp.

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WHITE HOLLAND TURKEYS—Shoemaker and Fisher's strains. Prices cut in two until December 1. Very fine birds. G. D. Willems, Buhler, Kans.

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Belgian hare fry beats chicken, and a good breeding pair of hares will keep you supplied all the year round. I can supply you in the finest breeding stock at \$2.50 per pair; \$5 per trio, until further notice.

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(Reservoir \$4.50 extra) has four 7 in. holes, very substantial—complete. Big Catalog FREE. nicely illustrated and full of bargains. We sell nearly everything—all kinds of wearing apparel, household goods and family supplies. Send for catalogue No. 500. E. H. STAFFORD & BEO. - Chicago.

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MARKET REPORTS.

Kansas City, Nov. 11.—Cattle—Receipts, 1,128; calves, 972. The market was slow and steady to 10 cents lower. Representative sales:

SHIPPING AND DRESSED BEEF STEERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include 'L.E.' and other grades.

WESTERN STEERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include various grades of western steers.

TEXAS AND INDIAN STEERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include various grades of Texas and Indian steers.

(Quarantine Division.)

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include quarantined steers.

OKLAHOMA STEERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include Oklahoma steers.

WESTERN COWS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include various grades of western cows.

TEXAS AND INDIAN COWS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include various grades of Texas and Indian cows.

(Quarantine Division.)

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include quarantined cows.

NATIVE HEIFERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include various grades of native heifers.

NATIVE COWS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include various grades of native cows.

NATIVE FEEDERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include various grades of native feeders.

NATIVE STOCKERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include various grades of native stockers.

STOCK COWS AND HEIFERS.

Table with 4 columns: No., Ave. Price, No., Ave. Price. Rows include various grades of stock cows and heifers.

Hogs—Receipts, 8,579. The market opened barely steady and closed strong. Representative sales:

Table with 4 columns: No., Av. Price, No., Av. Price. Rows include various grades of hogs.

Sheep—Receipts, 2,407. The market was steady. Representative sales:

Table with 4 columns: No., Av. Price, No., Av. Price. Rows include various grades of sheep.

Chicago Live Stock.

Chicago, Nov. 11.—Cattle—Receipts, 22,000. Good to prime steers, \$6.00@6.30; stockers and feeders, \$2.00@4.25; Texas steers, \$3.00@4.00.

Hogs—Receipts, 35,000. Mixed and butchers, \$5.55@6.90; bulk of sales, \$6.60@5.70.

Sheep—Receipts, 34,000. Good to choice wethers, \$3.50@4.15; western sheep, \$3.00@3.60; native lambs, \$2.50@4.60.

St. Louis Live Stock.

St. Louis, Nov. 11.—Cattle—Receipts, 5,500. Beef steers, \$4.50@6.60; stockers and feeders, \$2.40@3.85; Texas steers, \$3.00@4.25.

Hogs—Receipts, 4,000. Pigs and lights, \$5.50@5.60; butchers, \$5.65@6.95.

Sheep—Receipts, 1,000. Native sheep, \$3.00@3.50; Texas sheep, \$3.00@4.50.

Omaha Live Stock.

Omaha, Nov. 11.—Cattle—Receipts, 8,700. Native beef steers, \$4.50@6.50; western steers, \$3.75@5.25; Texas steers, \$3.50@4.40; stockers and feeders, \$2.75@4.30.

Hogs—Receipts, 5,600. Heavy, \$5.70@5.90; bulk of sales, \$5.70@5.75.

Sheep—Receipts, 22,000. Common and stock sheep, \$2.20@3.40; lambs, \$3.50@4.70.

Kansas City Grain.

Kansas City, Nov. 11.—Wheat—Sales by sample on track: Hard—No. 2, 69 3/4@70c; No. 3, 69 1/2@70c.

Soft—No. 2, 70 1/2@72c; No. 3, 69@71c. Mixed Corn—No. 2, 65 1/2@66 1/2c; No. 3, 64 1/2@65 1/2c.

White Corn—No. 2, 67@67 1/2c; No. 3, 67@67 1/2c.

Mixed Oats—No. 2, 41 1/2@42c; No. 3, 40@41c.

White Oats—No. 2, 42@43c; No. 3, 42c.

Rye—No. 2, nominally 59c.

Prairie Hay—\$5.00@13.50; timothy, \$9.00@13.00; clover, \$10.00@12.00; alfalfa, \$9.00@11.00; straw, \$4.50@5.00.

Cotton Seed Meal—\$25.00 ton in car lots. Linseed meal, \$29 per ton.

Chicago Cash Grain.

Chicago, Nov. 11.—Wheat—No. 2 red, 74 3/4@75c; No. 3, 72 3/4@74c; No. 2 hard winter, 72 1/2@73 1/4c; No. 3, 72@72 1/2c; No. 1 northern spring, 74@75c; No. 2, 72 1/2@73 1/4c; No. 3, 69@72 1/2c.

Corn—No. 2, 60 1/2@61c; No. 3, 60@60 1/2c.

Oats—No. 2, 40 1/2@40 3/4c; No. 3, 40 1/4@40 1/2c.

Futures: Wheat—November, 72 1/2c; December, 72 3/4@73c; May, 76 1/4c. Corn—November, 59 1/2c; December, 59 3/4c; May, 62 1/2c. Oats—November, 39 1/2@39 3/4c; December, 39 3/4@39 1/2c; May, 40 1/4c.

St. Louis Cash Grain.

St. Louis, Nov. 11.—Wheat—No. 2 red cash, elevator, 73 1/2c; track, 74 1/2c; No. 3 hard, 72@72 1/2c. Corn—No. 2 cash, 62 1/2c; track, 62 1/2@63c. Oats—No. 2 cash, 41 1/2c; track, 42@43c; No. 3 white, 41 1/4@44 1/4c.

Mention Farmer to advertisers.

Kansas City Produce.

Kansas City, Nov. 11.—Eggs—Fresh, 20c per doz.

Butter—Creamery, extra fancy separator, 20c; firsts, 17c; dairy, fancy, 16c; packing stock, 14 1/2c; cheese, northern full cream, 10c; Missouri and Kansas full cream, 10c.

Poultry—Hens, live, 5 1/2c; roosters, 20c each; springs, 6 1/2c lb.; ducks, young, 6c; turkey hens, 6c; young, weighing over 7 pounds, 6c; young gobblers, 5c; pigeons, 50c doz.; squabs, \$1.25@2.00 doz. Choice scalded dressed poultry 1c above these prices.

Potatoes—\$1.05@1.07 per bushel in small lots; car lots, 97c; sweets, \$2.50@2.75 per barrel.

Fruit—Apples, \$1.00@4.50 per barrel; cranberries, \$7.00 per barrel; California pears, \$2.00@2.25 per box.

Vegetables—Tomatoes, 50@60c half bu.; navy beans, \$2.20 bu.; cabbage, 90c@1.10 per cwt. Onions, 90c@1.35 bushel in job lots.

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.

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REGISTERED SHORTHORN BULL CALVES—Seven months old for sale; also some registered Poland-China boars and gilts. Write me for prices. F. H. McKittrick, McCracken, Kans.

FOR SALE—3 pure Cruickshank-Shorthorn bulls. H. W. McAfee, Topeka, Kans.

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FOR SALE—Five Scotch-topped Shorthorn bulls, from 6 to 16 months old; 2 are from Gallant Knight, and took first and second premiums at the Rice County Fair. J. P. Engel, Alden, Kans.

SHORTHORN CATTLE SALE—I will offer at public sale, 1 1/2 miles south of Marysville, at 2 o'clock p. m., on Tuesday, October 15, 17 registered Shorthorns, 19 high grade Shorthorns, and 3 thoroughbred Jerseys. Lewis Scott, Marysville, Kans.

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FOR SALE—Saddle and harness stallion, has five saddle gait, trots in harness, chestnut, very stylish, 4 years old, weight 1,100 pounds, 16 hands high, will geld if desired, a beauty. Also high-grade Percheron stud colts. F. H. Foster, Mitchell, Kans.

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EMPLOYMENT—People desiring employment of any kind are invited to correspond with the undersigned; employment guaranteed; state kind of work desired. PEOPLE WANTING HIRED HELP for any kind of work should also address People's Employment Agency, 501 Kansas Ave., Topeka, Kans.

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ALFALFA SEED—None better than I have. Buy direct from a grower. Quantities to suit. Write for samples and prices. V. S. Jones, Syracuse, Kans.

WANTED—Alfalfa, millet, cane seed, kafir-corn, milo maize, and pop corn. If any to offer please correspond with us. Kansas Seed House. F. Barteldes & Co., Lawrence, Kans.

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PEDIGREED POLAND-CHINAS—\$5 each; registered Shorthorns cheap. M. C. Hemenway, Hope, Kans.

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Agents Either sex are earning \$4 to \$10 a day selling our 25-cent household necessity. Write us to-day. Domestic Supply Co. DETROIT, MICHIGAN. Show what it will do and it sells itself. Sample Free.

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WE ARE BUYERS OF SHELLED, RICE, AND YELLOW POP CORN. Mail Us Quotations and Samples. LOOSE BROS.' FACTORY, -- Kansas City, Mo.

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The Stray List.

For Week Ending October 31.

Doniphan County—Margaret Schletzbaum, Clerk. STEER—Taken up by James B. Roberts, in Wolf River tp., September 21, 1901, one red steer, with mottled or white face, 18 months old; valued at \$22.

For Week Ending November 7.

Clay County—J. H. Kerby, Clerk. COW—Taken up by Fred Hanson, three miles east and one-half mile south of Clay Center, Clay County, Kansas, one red and white cow, 3 years old, 4 feet and 3 inches high, letter F branded on right hip; valued at \$12.50.

Labette County—E. H. Hughes, Clerk. MULE—Taken up by J. A. Jones, in Mt. Pleasant tp., (P. O. Altamont), October 23, 1901, one black mare mule, 14 1/2 hands high, 2 years old; valued at \$50.

Sumner County—W. E. Wood, Clerk. COW—Taken up by Arthur Scott, (P. O. Caldwell), October 1, 1901, one large red cow, dehorned, star in forehead, white spot on left shoulder, 7 years old.

COW—Taken up by same, one strawberry roan cow, dehorned, unknown brand on left hip, branded F on right hip, 7 years old.

Marion County—Ira S. Sterling, Clerk. MULE—Taken up by Daniel Dell, in Peabody tp., December 1, 1900, one brown horse mule, blind in one eye, 12 or 13 years old, 14 hands high; valued at \$25.

Marion County—Ira S. Sterling, Clerk. HEIFER—Taken up by O. H. Crow, in East Branch tp., one red yearling heifer, has horns and a few white spots on the belly, came to his place about September 10, 1901.

For Week Ending November 14.

Stafford County—J. B. Kay, Clerk. HEIFER—Taken up by Louis Teiperman, in Hayes tp., (P. O. Hudson), October 15, 1901, one red and white spotted heifer, 2 years old; valued at \$14.

Lyon County—H. E. Peach, Clerk. STEER—Taken up in Waterloo tp., October 25, 1901, one steer, 1 year old, white and red neck, blind in right eye, brand on left hip looks like letter L.

Montgomery County—D. S. James, Clerk. HORSE—Taken up by A. Hildebrand, whose residence is one-half mile south of Caney, in Caney tp., October 19, 1901, one dark bay, sorrel gelding, 10 years old, weight 1,000 pounds, thin in flesh, white spot in forehead.

HORSE—Taken up by same, one black gelding, 8 years old, weight 1,000 pounds, branded J on right shoulder, 15 hands high, white stripe in forehead, white hind foot, in good flesh.

Rush County—W. J. Hayes, Clerk. CALF—Taken up by Adam Kirch, whose residence is 2 1/2 miles southwest of La Crosse, October 5, 1901, one red heifer calf, coming 2 years old, scratch on left hip; valued at \$15.

Notice of Final Settlement. The State of Kansas, Shawnee County, ss. In the Probate Court in and for said County. In the matter of the estate of John S. Firey deceased. Creditors and all other persons interested in the aforesaid estate are hereby notified that I shall apply to the Probate Court, in and for said County, sitting at the court house, in Topeka, county of Shawnee, State of Kansas, on the 3rd day of December, A. D. 1901, for a full and final settlement of said estate.

J. B. McAFEE, Administrator of the estate of John S. Firey, Deceased. October 26, 1901, A. D.

Notice of Final Settlement. The State of Kansas, Shawnee County, ss. In the Probate Court in and for said County. In the matter of the estate of William Firey, deceased. Creditors and all other persons interested in the aforesaid estate are hereby notified that I shall apply to the Probate Court, in and for said County, sitting at the court house, in Topeka, county of Shawnee, State of Kansas, on the 3rd day of December, A. D. 1901, for a full and final settlement of said estate.

J. B. McAFEE, Administrator of the estate of William Firey, deceased. October 26, 1901, A. D.

Notice of Final Settlement. The State of Kansas, Shawnee County, ss. In the Probate Court in and for said County. In the matter of the estate of William Firey, deceased. Creditors and all other persons interested in the aforesaid estate are hereby notified that I shall apply to the Probate Court, in and for said County, sitting at the court house, in Topeka, county of Shawnee, State of Kansas, on the 3rd day of December, A. D. 1901, for a full and final settlement of said estate.

J. B. McAFEE, Administrator of the estate of William Firey, deceased. October 26, 1901, A. D.

CHOICE GALLOWAY CATTLE. I have registered Galloway bulls for sale. O. E. MATSON, Furley, Sedgwick Co. Kans.

FREE GUN CATALOGUE. SEND TO-DAY—DON'T DELAY. WHOLESALE PRICES TO YOU. WE SAVE YOU MONEY—WHAT DO YOU WANT—WE SELL MOST EVERYTHING. FURNITURE STOVES SEWING MACHINES WIND MILLS HARDWARE PUMPS MUSICAL GOODS TANKS, PIPE | Stimson & Co Station "A", Kans. City, Mo

Draft Stallions. PERCHERONS, SHIRES, and GLYDES. We have a selection that are sure to suit you. As grand a lot of young stallions, of serviceable age, as can be found in the country. We do not claim to have every color or kind of a stallion, you or anybody may want, but what we claim you will find true if you pay us a visit. All of our selections are made by a member of our firm, who has been at this line of work the early part of February, before any of the shows and to-day are ready for sale. Write us, or come and see us, if you or your community are in need of the best to be found. KEISER BROS., Keota, Keokuk County, Iowa.

BURLINGAME, KANSAS, ...SEED HOUSE... SHREDDED CORN FODDER and BALED HAY ...IN CAR LOTS A SPECIALTY... All kinds of Feed, Coal, Grain, Field and Garden Seeds, and Implements—wholesale and retail. Quotations by wire. Write for prices. L. G. HEPWORTH

the damage. When fenced away from the gardens and flower beds, fowls do little damage and cause scarcely any annoyance on a farm. On the other hand, they do an immense amount of good in



Fig. 21.—Chicken coop with inclosed and partly covered run.

the protection of crops by the destruction of injurious insects, larvæ, and worms.

COLONIES.

Sometimes it is advisable to divide the farm flock into colonies and place

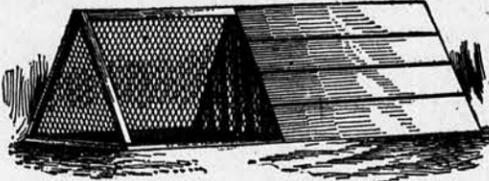


Fig. 22.—Chicken coop with inclosed run.

these at different points upon the farm in order to secure additional range, to remove the birds temporarily to a distance from certain crops, or for other purposes. In this case cheap, light, and

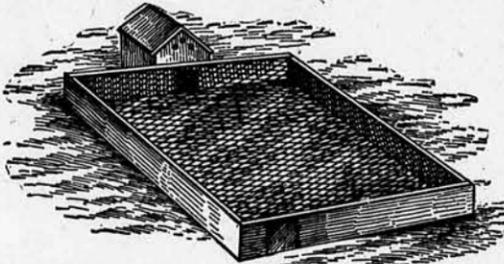


Fig. 23.—Chicken coop with large and inclosed hawk-proof and cat-proof run.

easily handled colony houses (figs. 29, 30, and 31) may be constructed and placed where the fowls are desired to range. After being confined in these houses a few nights the birds will adopt

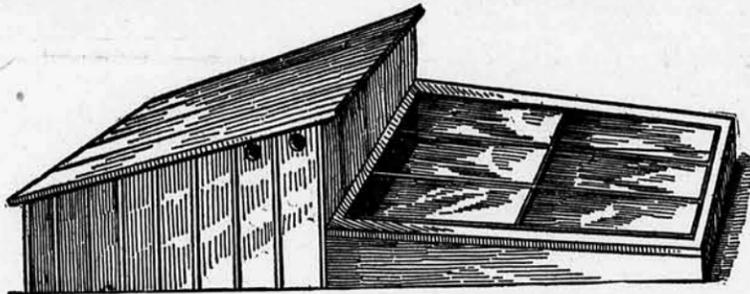


Fig. 24.—Coop with glass-covered run.

them as their habitations and return to them.

POULTRY IN COMBINATION WITH SPECIALTIES IN FARMING.

There are certain special lines of agricultural operations with which poultry

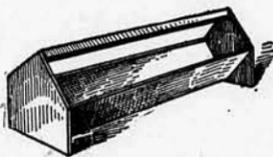
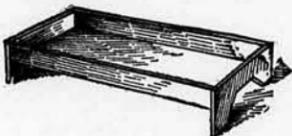


Fig. 25.—Two forms of feed troughs

raising may be advantageously connected. In dairying there is usually a large quantity of skim-milk or butter-milk which may be utilized to furnish a considerable part of the poultry ration. There is also much food to be gathered by the fowls about the stables, manure piles, and pastures which would otherwise go to waste.



Fig. 26.—A form of drinking fountain.

ADVANTAGES ON FRUIT FARMS

Upon the fruit farm fowls are also of advantage. They keep down the insect pests, and they may have a free range the greater part of the season without the possibility of doing any damage. Plum growers have found poultry especially helpful in keeping down the curculio, and even apples



Fig. 27.—A form of drinking fountain.

have been considerably benefited. If small fruits are injured, they may, of course, be protected by confining the fowls for the limited season when the fruit is ripening. The waste fruits, either in winter or summer, are a welcome and valuable addition to the poultry ration.

POULTRY AND THE MARKET GARDEN.

The market garden also furnishes a large amount of waste products which may be utilized for poultry feed. There is the waste lettuce, the small heads of cabbage, the unsold beets, carrots, and potatoes, the peas, and corn which can not be marketed for any reason, the waste of the small fruits, etc. If properly cared for, the hens will bring a steady and reliable income during the winter months. Dried clover and other green feed, roots, and tubers should be saved for them during the summer. These should be steamed and fed with the mash, or cabbages and beets may be fed raw. A catch crop of buckwheat or oats and peas will furnish much food at little expense. Bran, meat, meal, wheat screenings, and oats purchased for poultry will bring good returns in eggs and will also add materially to the fertilizer supply.

OPPORTUNITIES AFFORDED BY THE DAIRY.

Dairymen who have town or city milk routes, and market gardeners who retail their produce, have exceptional opportunities for marketing fresh eggs and poultry at the highest prices. They become well acquainted with many of their customers by their daily visits, and they are looked upon as a direct channel of communication between the country and the city. They should by all means make the most of this advantage, for any class of agricultural producers who can reach the consumer without the intervention of the middleman is indeed fortunate.

Fattening Turkeys for Market.

It seems strange that so many pay so little attention to fattening their turkeys before sending them to market.

We have seen turkeys come in to market that were almost too poor to stand alone. After handling them a few hours they became so weak they reeled and staggered as if intoxicated. The seller was of course compelled to stand a heavy loss on such stock. Dressed turkeys have come in that were very poor, skin dark and unsightly. The prospective buyer would pass them by and choose something plump and round, well fattened, of good appearance. By all means fatten your turkeys, says the writer in National Stockman. Do not send them to market half fat as so many do. You can have your turkeys in fine market condition with but little extra trouble. Get them up about ten days before you expect to market them and

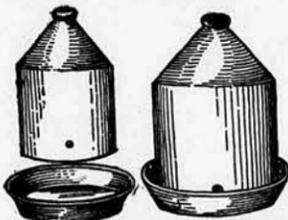


Fig. 28.—A drinking fountain made of a can.

confine them to a small yard. To fatten them quickly we find no better ration than sweet potatoes and corn-meal. One can use the small and unsalable potatoes in this way to great advantage. Cook them and just before removing them from the fire add the corn-meal, feeding the mess when it is cold, two pounds of meal to one peck of potatoes. If the mess is mixed with skimmed milk instead of water it will produce a superior flavor. Do not fail to give plenty of fresh water and feed four times per day. Grit should always be placed where the turkeys can have free access to it. Another good fattening

ration for turkeys may consist of a mixture of corn-meal three parts, ground oats one part, shorts scalded, with all the corn and wheat that can be eaten up clean at night. In fattening turkeys we find that to scorch corn well in the stove oven and feed to them occasion-

ing advantage of the latest and most improved method of marketing their stock. Let us try to still improve our method of fattening and marketing our poultry. There is nothing that will take the place of a well fattened turkey for Thanksgiving and the holidays, and we

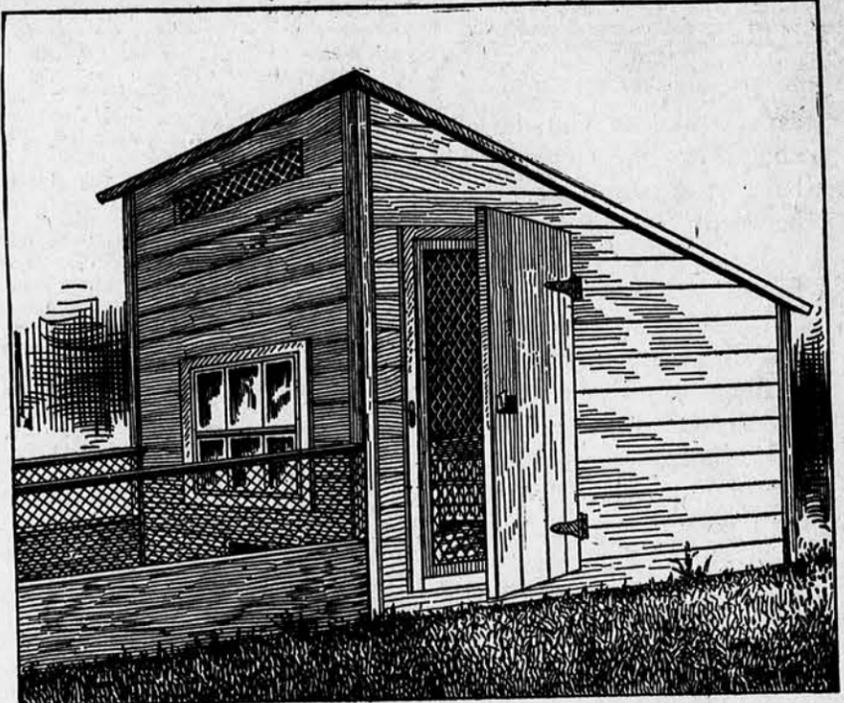


Fig. 29.—Colony house.

ally seems to satisfy them the same as salt does sheep, cattle and other domestic animals. Give the turkeys special attention for at least ten days before marketing, and you will get the highest market price. After sending your poultry a few seasons in good condition the buyers will watch for you and

should all make a strong effort to meet this demand.
Washington Co., Ind. J. C. CLIPP.

The Retort Courteous.

Mrs. Arethusa (to whom Podgers has just been introduced)—I've so often heard of you, Mr. Podgers, but have not

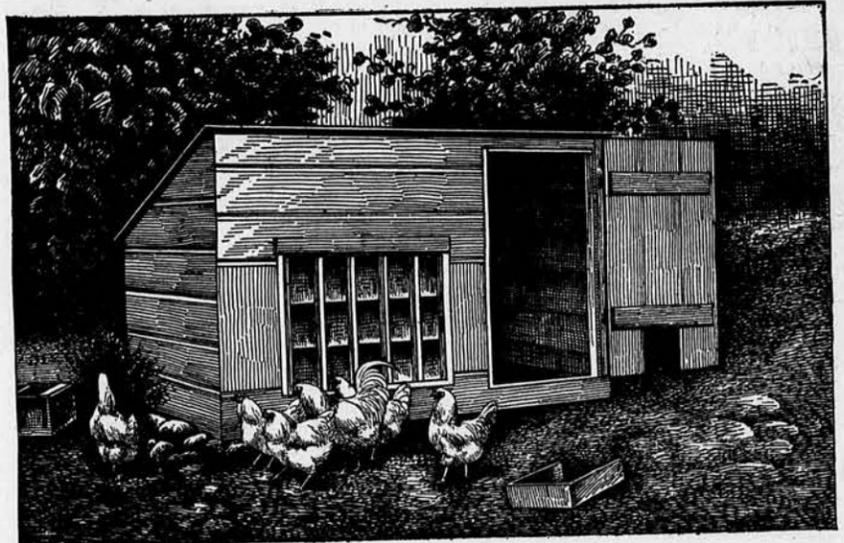


Fig. 30.—Colony house.

pretty soon will hunt you up, drive out and pick your turkeys up, weigh them up right on your own premises, saving you the trouble of carting them off to market. Only a few days ago a commission man was after our turkeys, offering us a good round price for the whole of them. Every one of our

had the pleasure of meeting you before. Podgers (delightedly)—May I say I have been equally fortunate.—London King.

An Indifference Center.

Percy—"I don't see how you keep so blamed cheerful and contented.

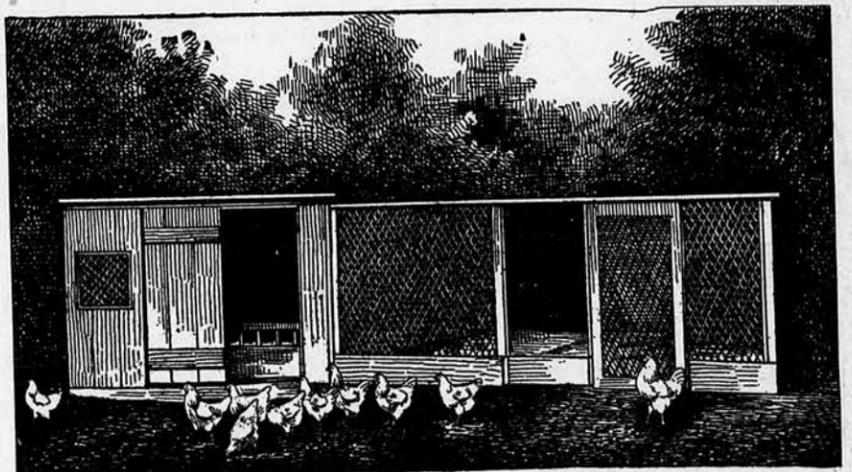


Fig. 31.—Colony house.

turkeys that goes to market will be fat and those that are not will stay on the farm until they are in marketable shape. The New York Produce Review says the quality of poultry received in the market shows much improvement over the stock shipped a few years ago, which shows that poultrymen are tak-

Guy—"Easy enough; I don't waste time or vitality thinking about the people who have more of this world's favors than I have."

You should take advantage of our "Two for One" offer. It is the best offer we ever made.

Your Christmas Expenses

You can be as generous as you like at Christmas, and all it will cost you will be a little systematic work between now and then.

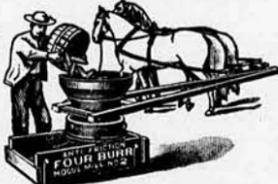
Write to THE LADIES' HOME JOURNAL and THE SATURDAY EVENING POST, Philadelphia, and find out all about it.

After Christmas you can work some more, and a trip to Europe or \$500 is not too much to expect.

No luck about it. It depends upon you, and the work is easy.

The Curtis Publishing Company
Philadelphia

THE OLD RELIABLE ANTI-FRICTION 4-BURR MOGUL MILL.



No gearing; no friction; thousands in use. Four-horse mill grinds 60 to 80 bushels per hour; two-horse mill grinds 30 to 50 bushels per hour. We make a full line of Feed Mills, best ever sold, including the Famous Iowa Mill No. 2, for \$12.50. Also Feed Steamers, Farm Boilers, and Tank Heaters. Send for free catalogue. Manufactured and sold by the IOWA GRINDER & STEAMER WORKS, Waterloo, Iowa.

BOWSER FEED MILLS

(Sold with or without Elevator.) Grind corn with shucks, Kaffir corn in the head and all kinds small grain. **LIGHTEST RUNNING** Handy to operate. 7 sizes—2 to 25 h.p. One size for windwheel use. C. N. P. BOWSER CO., So. Bend, Ind.



Steel Range at 1/2 agents' prices. Guaranteed for 5 years. Send for free catalogue (4 styles) also catalogue of Sewing Machines and Buggies and Harness in color. 1000 things you want. Reference this paper. Address Haggood Mfg. Co., Box 400, Alton, Ill. The only manufacturing company in their line selling direct to the consumer.

WROUGHT IRON PIPE

Good condition, used short time only; new threads and couplings; for Steam, Gas or Water; sizes from 1/2 to 12 inch diameter. Our price per foot on 1/2 inch is 3c; on 1 inch 3 1/2c. Write for free catalogue No. 61 CHICAGO HOUSE WRECKING CO., W. 35th and Iron Sts., CHICAGO.

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SKUNK KILL THEM and send their skins to us. Also ship all other kinds of raw FURS.

Highest market price paid. Farmers will get 50 cents to \$2.00 more by shipping to us their... Cattle and Horse Hides than they can by selling same to the local butcher. Prompt CASH RETURNS at highest market price guaranteed. Write for price list and shipping tags. ANDERSCH BROS., Dept. 10, 412-415-419 Main St., Minneapolis, Minn.

A Husband's Cooking.

Mr. T. B. Terry tells the following good stories in a recent number of the Practical Farmer:

At the Minnesota Institutes Mrs. B. D. Laws often talked to us about plain cooking, and gave many little details of how to do and why. When the writer got home in the spring he wanted to air some of his knowledge, naturally, so he said to his wife one day, "Do you know how to cook prunes?"

"Well, I think I do," she said, and there was just a tinge of tartness in the tone. But he wasn't to be shut off so easily and continued: "May I cook some once?" The reply, still more tart, was: "Yes, if you will eat them."

Well, I got some prunes and put them soaking in water, after washing them. Mrs. Laws said soak them twelve hours, but I couldn't afford to take any chances, and I soaked them twenty-four hours. By that time they were swelled up about as plump as the original fresh fruit had been. Then they were put on the oil stove and boiled slowly, covered up tightly to keep flavor in, and without any sweetening. They were boiled in the same water they were soaked in, of course, as some of the virtue of the prunes soaks out into the water. Well, they were delicious. My wife had to acknowledge it, too. Before that I had always rather stuck my nose up at stewed prunes, but ate lots of them when they were cooked in this way. You couldn't blame the cook for being a little sour over my success, so she insists on sweetening her prunes some. I prefer them without. That soaking business helps wonderfully about making them good. As Mrs. Laws said, there isn't anything inviting about hard prunes rattling around in some colored water, as we often find them on hotel tables.

You want to be a little careful, friends, in ever hinting that your wife doesn't know all there is about cooking. I determined to be in my next experiment. I started the good woman off for a visit of a week or so. She left me a lot of nice things cooked up, but some way they disappeared. Then I went to the market and bought a cheap, tough piece of lean meat. It came from the shoulder and I think cost about 8 cents a pound. We had been in the habit of buying the best cuts. Mrs. Laws told us that a cheap piece properly cooked would be just as tender and more nutritious. I dared not go to Mrs. Terry with any such story as that; no, no. Now, friends, I had never cooked a piece of beef before in all my life. I knew nothing about it, only to do as Mrs. Laws said. First I got an iron kettle and put in water enough to cover the meat. When it was boiling hard the meat was laid in and turned over. The boiling water closed up the pores on the surface (coagulated the albumen) so the juices of the meat would not readily come out into the water. Next I turned the fire so low that there was scarcely any blaze, just as low as possible and not have it go out (it did go out once). Even then I had to set the kettle off to one side so the heat just touched one edge. The orders were to keep the water just about simmering hot, not boiling, until meat was done, which was four or five hours. But it took precious little oil, and coming into the room you would not have noticed there was any fire. Well, Mrs. Terry, to my surprise, came home before she was expected, and just in time to help me eat that meat. She had told me if I wanted any cooked that I could take it up and get Carrie to do it. After she had eaten some of the beef she remarked very pleasantly: "This meat is real nice; so tender and juicy; who cooked it?" I very gravely informed her that Mrs. B. D. Laws, of Minnesota, did the cooking. She "caught on" at once, and quicker than a flash said: "I am real glad to hear that you did not cook it. The next time you see Mrs. Laws please tell her for me that she forgot to salt that meat when it was cooking."

At the Kansas City Market.

There is probably no live stock commission firm that does business at the Kansas City Stock Yards that can give you better service in the way of selling or purchasing stock than the Union Live Stock Commission Company. This company has a corps of competent men in all of the departments of the live stock trade. It furnishes this paper and market reports free upon application.

Directors: M. S. Peters, Jerry Simpson, F. E. Rowles, W. K. Greene, Henry O'Neill, Geo. W. Williams, L. C. Boyle.

Little Ethel: "Mamma, I know why it isn't safe to count your chickens before they're hatched." Mother: "Why, dear?" Little Ethel: "Coz sum of 'em might be ducks."—Ohio State Journal.

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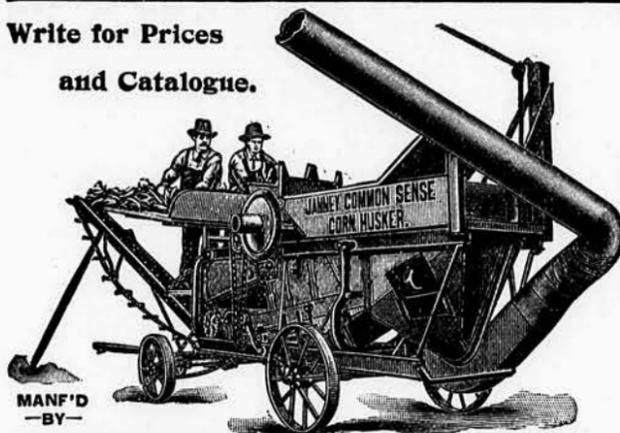
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Virus for Destroying

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FERGUSON IMPLEMENT CO.,

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Of steel construction, of correct principle, has great capacity, is light draft, two men can feed 150 bushels of corn through large size machine in one hour. Husks the corn well and shreds the fodder into

CORN HAY It is a money-maker. Admitted to be the best and only up-to-date corn husker on the market.

A Sure Preventive of Blackleg

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

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

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... BULL-STRONG ...
 With our Duplex Automatic Ball Bearing Woven Wire Fence Machine, any farmer can make 100 styles, and from 50 to 70 rods a day of the best and most practical fence on earth at a cost for the wire to make it of from 20 to 30c. per rod. We sell Ornamental Fence and Gates, Farm Fence and Gates, Plain, Barbed and Coiled Spring Wire direct to the farmer at wholesale prices. Catalogue free.
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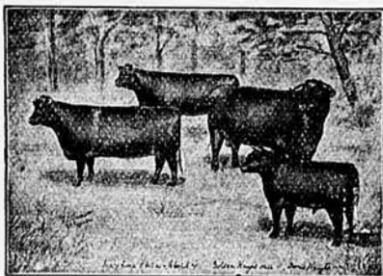
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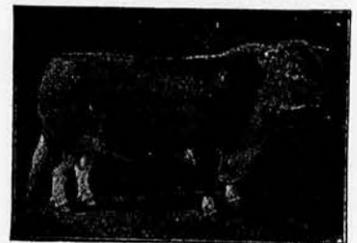
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