

KANSAS FARMER

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NO. 36.

TOPEKA, KANSAS, THURSDAY, SEPTEMBER 5, 1901.

ESTABLISHED IN 1863
\$1.00 A YEAR.

Breeders' Directory

SWINE.

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

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

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

Duroc-Jerseys.

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

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

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

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

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

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

DUROC-JERSEY SWINE—REGISTERED. Write for prices on choice spring pigs; 100 to select from.
NEWTON BROTHERS, Whiting, Kansas.

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

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

CHERRY GROVE FARM DUROCS, From best prize-winners. One spring boar, also fall and winter pigs for sale.
WARE & POOKE, Station B, St. Joseph, Mo.

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.

A FEW POLAND-CHINA PIGS FOR SALE.

Fine individuals. "Chief I Know" and "Look Me Over" strains. **R. J. CONNEWAY**, Edna, Kans.

D. L. BUTTON, North Topeka, Kans., Breeder of Improved Chester Whites. Stock for sale. Farm is two miles northwest of Reform School.

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

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.

LOCH AERIE... STOCK FARM.

W. S. POWELL, Moline, Elk County, Kansas. For Sale: A few boars and gilts farrowed in January, sired by Perfection 24535, and out of the dams: Lady Sanders, Lady Hadley Sanders, and Lady Alice Sanders. Price very low. Will also sell recorded Scotch Collie pups.

SWINE.

STANDARD HERD OF Registered Duroc-Jerseys

PETER BLOCHER, Richland, Shawnee Co., Kans. Herd headed by Big Joe 7363, and others. Write for prices on what you want. S. C. B. Leghorns.

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.

RIDGEVIEW FARM HERD OF LARGE ENGLISH BERKSHIRES

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

Verdigris Valley Herd POLAND-CHINAS.

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

High-Class Poland-China Hogs

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

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.)

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 2841, Black Joe 2868, 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.

CATTLE.

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

MEADOW BROOK SHORTHORNS—Ten fine young bulls for sale—all red. Red Laird, out of Laird of Linwood, at head of herd.
F. C. KINGSLEY, Dover, Shawnee Co., Kans.

E. S. COWEE, Eskridge, Kans., R. R. 2, Breeder of PURE-BRED HEREFORD CATTLE
Kids' Duke 96637 at head of herd. Young bulls and heifers for sale.

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.

CLOVER CLIFF FARM, REGISTERED GALLOWAY CATTLE.

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

CATTLE.

ALFALFA MEADOW STOCK FARM

1,900 acres. Pure-bred stock only. Herefords, Poland-Chinas, Light Brahmas and Belgian hares. Stock of all kinds for sale. Pedigreed hares, \$2.
O. B. WEITAKER, Proprietor, Shady Bend, Kansas.

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

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

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. Kas. 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.

Silver Creek Shorthorns.

The Scotch bull, Gwendoline's Prince 130913, in service. Also the imported Scotch Mistle bull, Aylesbury Duke. 100 head of the best Scotch, Bates, and American families. High class Duroc-Jersey swine for sale.
J. F. STODDER, Burden, Cowley Co., Kans.

SYCAMORE SPRINGS STOCK FARM. SHORTHORNS.

H. M. Hill, Prop., La Fontaine, Kans. No Shorthorns for sale at present, but will have a few young things in the spring. Personal inspection of our herd invited.
CORRESPONDENCE SOLICITED.

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

BREEDER OF PERCHERON HORSES And HOLSTEIN FRIESIAN CATTLE.

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

125 RAVENWOOD SHORTHORNS, C. E. LEONARD, BELLAIR, MO.

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

ALLENDALE HERD OF Aberdeen-Angus Cattle

The Oldest and Largest in the United States
Splendid recently imported bulls at head of herd. Registered animals on hand for sale at reasonable prices at all times. Inspect herd at Allendale, near Iola and La Harpe, Allen Co., Kans., and address **Thos. S. Anderson**, Manager, there; or **ANDERSON & FINDLAY**, Prop's, Lake Forest, Ill.

CATTLE.

Rocky Hill Shorthorns

25 Choice Young Bulls For Sale.
J. F. TRUE & SON, - - Proprietors. P. O. Perry, Kans. R. R. Station, Newman, Kans.

MT. PLEASANT HERD OF SHORTHORNS.

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

A. M. ASHRAFT, Atchison, Kans. Inquire at E. F. D. No. 3, Ashraft & Sage Livery Barn, Main Street.

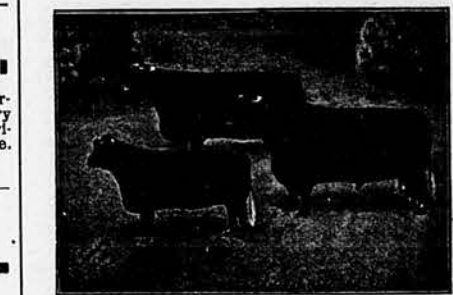
East Lynn Herefords.

Special Offering: Eleven cows and heifers, from 8 months to 8 years old. Cows bred to Java of East Lynn; all regular breeders and registered; also 10 registered bulls, from 8 to 20 months old. These bulls are large and bred right. If you want a bargain, write me or come and see them.
WILL H. RHODES, Tampa, Marion Co., Kans.

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

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

ANDREW PRINGLE, Rural Route 2, Eskridge, Kans



GLENDALE SHORTHORNS, OTTAWA, KANS.

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. Twenty bulls for sale.
C. F. WOLFE & SON, Proprietors.

PALO DURO STOCK FARM

Imported and American Bred SCOTCH SHORTHORN CATTLE, AND

...REGISTERED PERCHERON HORSES.

The Property of **HANNA & CO.**, Howard, Kansas.

Bulls in Service: **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 Collynie and Uppermill. For Sale—10 bulls—herd headers—of choicest Scotch and Cruickshank breeding. No females for sale at present.
Registered Percherons (Brilliant) in Service. **DIRECT 18889** (by Bendago by Brilliant, dam Fenelon by Fenelon by Brilliant.) Bendago's dam the famous prize-winner Julia by Le Ferte. For Sale—Three 2-year-old stallions by Direct

CATTLE.

D. P. NORTON'S SHORTHORNS,
Dunlap, Morris Co., Kansas.
Breeder of PURE-BRED SHORT-HORN CATTLE,
Herd Bull, Imported British Lion, 133692.
YOUNG - STOCK - FOR - SALE.

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

H. R. LITTLE,
HOPE, DICKINSON CO., KANS.
BREEDS ONLY
The Best, Pure-Bred
SHORTHORN CATTLE.
Herd numbers 185, headed by ROYAL
Owens 125698, a pure Cruickshank, as-
sisted by Sharon Lavender 148002.
FOR SALE JUST NOW 16 BULLS
of serviceable age, and 12 bull
calves. Farm 1 1/2 miles from town.
Can ship on Mo. Pac., R. I., or Santa
Fe. Foundation stock selected from
three of the great herds of Ohio.

SHEEP.

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

CHEVIOT SHEEP, AND POLLED DURHAM CATTLE.
Some fine rams for sale. The Cheviots are rustlers
smooth, clean face, allowing clear vision to approach-
ing danger. Write for prices and circulars.
A. E. Burleigh, Knox City, Knox Co., Mo.

SHROPSHIRE RAMS

Ram lambs, yearling, and 2-year-olds. Grand
quality at drouth prices. Wet or dry we are
always headquarters for Shropshires.
Write your wants.

KIRKPATRICK & SON, - - Wolcott, Kansas.

VARICOCELE A safe, painless, per-
manent cure guaranteed.
Twenty-five
years' experience. No money accepted until pa-
tient is well. Consultation and Book Free, by mail
or at office. Write to **DOCTOR C. M. COE,**
915 Walnut Street, KANSAS CITY, MO.

HORSES AND MULES.

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

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

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-
sistent with quality. Address, or come and see at
Wakefield, 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.



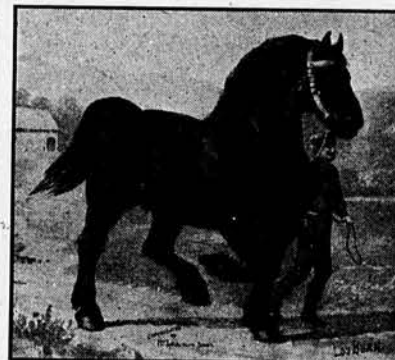
H. W. McAFEE, Topeka, Kansas,
Breeder of
**OLYDESDALE HORSES, AND
SHORTHORN OATTLE.**
For Sale—25 Clydesdales, including 3 registered
stallions of serviceable age, and 13 mares.
Inspection and correspondence invited.

RIVERSIDE STOCK FARM.

O. L. THISLER, Chapman, Dickinson Co., Kans., Importer and Breeder of
Percheron, and French Coach Horses, and Shorthorn Oattle.
For Sale—A few Shorthorn heifers, and Percheron stallions; also a Special Bargain on 9
Registered Hereford Bulls, 2 years old, and a few Full-blood Percheron Mares.

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 2 years. 2 Mammoth Jacks.



**AMERICA'S LEADING
HORSE IMPORTERS!**

EVERY FIRST PRIZE; except one, at the Uni-
versal Exposition, Paris in 1900.
NINETEEN MEDALS at the Great Percheron
Show at Nogent-le-Rotrou in 1901.
THIRTY-FIVE MEDALS at the Great Annual
Show of France at Nantes and other shows
throughout the Draft Horse Breeding Districts
of that country.
THE LARGEST SINGLE IMPORTATION ever made
by ANY FIRM now in business just received at
our stables.

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

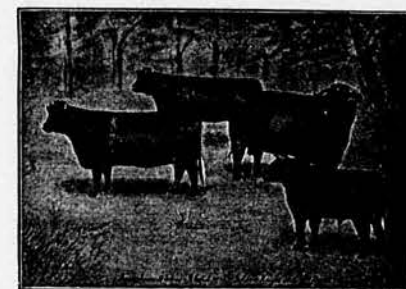
SCOTT & MARCH,

BREEDERS OF PURE BRED

HEREFORDS,

BELTON, CASS COUNTY, MO.

BULLS in service, HESIOD 29th 66304, Imp. RODERICK 80155, MONITOR
58375, EXPANSION 93663, FRISCOE 93674, FULTON ADAMS 11th 83731, HESIOD 29th 66304
Twenty-five miles south of Kansas City on Frisco, Fort Scott & Memphis, and K. C., P. & G. Railroads



PEARL SHORTHORNS

HERD BULLS:
BARON URY 2d 124970. LAFITTE 119915.

Inspection Invited

C. W. TAYLOR, Pearl, Kans

STEELE BROS., Belvoir, Douglas Co., Kansas.

Breeders of SELECT

HEREFORD CATTLE.

Young Stock For Sale Inspection or Correspondence Invited

T. K. Tomson & Sons,

Proprietors of

Elderlawn Herd of Shorthorns.

DOVER, SHAWNEE COUNTY, KANSAS.

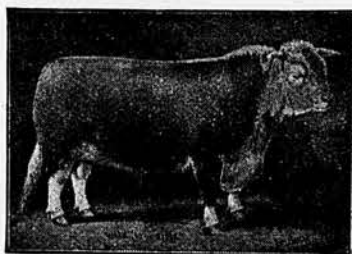
GALLANT KNIGHT 124468 in service. How would you like a cow in calf to, or a bull sired by, Gallant
Knight 124468? He got won 14 prizes at the National Cattle Show held at Kansas City last October. 100 head
in herd. Correspondence and inspection invited.

Sunny Slope Herefords

...290 HEAD FOR SALE...

Consisting of 200 bulls, from 8 months to 4 years old,
and 90 yearling heifers. I will make very low prices
on bulls, as I desire to sell all of them before May 1.
Write me, or come at once if you want a bargain.

C. A. STANNARD, Emporia, Kansas.



GUDGELL & SIMPSON,

INDEPENDENCE, MO.,

BREEDERS AND IMPORTERS OF

Herefords

One of the Oldest and Largest Herds
in America.

ANXIETY 4th Blood and Type Prevail.

BOTH SEXES, IN LARGE OR SMALL LOTS ALWAYS FOR SALE.

VALLEY GROVE SHORTHORNS

THE SCOTCH BRED BULLS

LORD MAYOR 112727, AND LAIRD OF LINWOOD 127149,
HEAD OF THE HERD.

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

Address T. P. BABST, Proprietor, Dover, Shawnee Co., Kans

Tebo Lawn Herd of Shorthorns.

HERD BULLS ARE—

IMPORTED COLLYNIE 135022 bred by Wm. Duthie,
IMPORTED BLYTHE VICTOR 140609 bred by W. S. Marr.
IMPORTED BAPTON MARQUIS bred by J. Deane Willis.
ADMIRAL GODOY 133872 bred by Chas. E. Leonard

FEMALES are the best CRUICKSHANK families topped from the leading importations and Ameri-
can herds. These added to the long established herd of the "Casey Mixture," of my own breeding,
and distinguished for individual merit, constitute a breeding herd to which we are pleased to in-
vite the attention of the public. Inspection and correspondence solicited. Address all correspondence
to manager.

E. M. Williams,
Manager.

G. M. CASEY, Owner,
Shawnee Mound, Henry County, Mo.

GALLOWAYS.

Largest Herd of Registered Galloways in Kansas.

Young bulls, cows, and heifers for sale.

E. W. Thrall, Eureka, Kansas

WHEN WRITING ADVERTISERS MENTION KANSAS FARMER.



Agricultural Matters.

Plant-Breeding.

FROM THE NORTH-WEST FARMER.

The art, science and mystery of evolving new varieties of plants and animals has within the last 100 years had many theoretical and practical elucidators. In our issue for October 5, 1900, we quoted from the Quarterly Journal of Agriculture for March, 1832, what was then set forth by Mr. Gorrie. "On the means of obtaining new varieties of agricultural seeds by impregnation." The writer of that paper had evidently got hold of the very same idea which has since been so successfully followed out by our modern plant breeders, and which is justly designated by Prof. McAlpine as "one of the greatest scientific discoveries of the century."

This most valuable discovery has now got beyond the pioneer stage and one of its most capable exponents all through has been Willett M. Hays, professor of agriculture in the State Agricultural College of Minnesota. It is now some fifteen years since we made the acquaintance of Professor Hays and a partial knowledge of the kind of work which he has done so much, both scientifically and experimentally to advance this his favorite study towards perfection. Professor Hays has the faculty of blending science and felicitous theorizing with careful and continuous practical experimentation, and we were therefore pleased to learn that the U. S. Department of Agriculture had requested him to furnish for publication an up-to-date account of the present position of the question of plant-breeding. An early copy of this paper is before us as we write, and it is not flattering but plain fact to say that this paper is the very best we have seen from his pen. It covers 72 octavo pages, besides several illustrative plates. Within this moderate compass Professor Hays has summarized the best points of previous workers in the same field, at home and abroad, followed by carefully detailed descriptions and illustrations of the methods on which he has worked for the last ten years doing his own full share in the development of agricultural plant-breeding. All that is said and so well said in this ably written bulletin on plant-breeding is well worth the careful reading of all students, and we trust many of our readers may be reckoned among that class. Meantime we give as a specimen of Mr. Hays' style and matter some parts of his very attractive paper.

Man has been slow to recognize that plant life is in a wonderful manner subject to his control. The results of breeding and the science of breeding have come forward slowly and unobtrusively. Many of the facts are not only of great interest, but of great value to the breeder. The known facts of animal and plant-breeding, as wrought out in extensive practice and the visible results of the work are for the present time of paramount economic importance. In many of its lines public money invested in experimental work may be made to yield to the country a hundred or a thousand fold. The plant improvements of most prominence are recent, and the men who have done the best work have written but little. They have worked more with plants than with theories about them, and the facts now known give greater encouragement for far-reaching results than outsiders have any idea of. Individual investigators can seldom give all the time and care necessary to attain reliable results, and it therefore becomes the duty of the State to take up the work. Special varieties will often be found adapted to limited areas, and that part of the work must also have proper attention.

Besides being of great economic importance, plant-breeding is also a most fascinating study. But students are tempted to go over and work for seed firms, who often offer greater immediate reward than does the government. Germany devotes great time and capital to the work of seed production, going far beyond America in this line.

Some amateurs have made a good deal of money by producing specialties and selling them at good prices, and many discoveries may be expected in this way. The great system of American experiment stations has well begun the work, and from them in the future much valuable work may reasonably be expected.

The economic results of some things already done are most encouraging. In ten years the Minnesota station has by careful breeding and selection produced a new variety of wheat which yielded nearly 25 per cent more grain on the university farm than its parent

variety, Bluestem, which is the best generally grown in the State. In the five years from 1895 to 1899, both inclusive, the new variety, Minnesota No. 169, has made an average annual yield of 28.5 bushels against an average for the same years by the parent variety of 23.2. If by breeding new and suitable varieties we can increase the yield only 1 bushel per acre, we would still have an increased value for the world's crop of \$100,000,000. One-tenth of 1 per cent of that sum spent on skilled breeding would be more than sufficient to produce a much greater increase than 1 bushel per acre. It may take a good many years before we can realize what it is possible to improve on the one item of wheat in the way of increased production by the results of skilled breeding, but from what we already know such prospects are not at all illusory.

Corn is much more open to natural fertilization than wheat, and by careful selection in the field as well as by greater attention to skilled breeding results equally satisfying may confidently be looked for. The percentage of sugar in beets has been nearly doubled by careful and scientific breeding in which Vilmorin was the most conspicuous figure.

Cow-Peas.

EDITOR KANSAS FARMER:—In your issue of August 22, O. Miles asks for information concerning cow-peas. For the benefit of those desiring to try this valuable legume I will give dates of planting and condition of the present crop, notwithstanding the drought we have had, (and it is still dry). On June 11, it was so dry that we could scarcely keep a walking plow in the ground, yet we plowed and planted rye stubble ground to cow-peas. We had a shower a few days before cutting the rye so we could merely skim off the stubble and turn it under. The peas came up in four or five days, and now cover the ground and have full sized pods. The mottled brown peas were sown. From June 14 to 22 we planted about 6 acres in a young orchard, and on June 29 we drilled a corn field to cow-peas (white blackeye). Some of the peas of this planting are now ripe. On July 19 and August 2, I again planted cow-peas and the vines are now 10 and 6 inches high respectively, and are growing rapidly. A field of cow-peas (white blackeye), planted June 1, has furnished ripe peas for turkey pasture for the past two weeks. For this purpose plant this variety as they pop out of the pod as soon as they are ripe. The brown variety will hold the peas until late in the fall and winter and is the kind to plant for pasture, etc. Plant the corn field to cow-peas as soon as the corn is laid by, shuck out the corn and turn the cattle onto the peas. There is no danger of cattle having black-leg as long as they have plenty of cow-peas. You can plant on oat or wheat stubble land and pasture off in time to sow wheat for next year's crop. Cow-peas plowed under are worth several dollars an acre as a fertilizer. The hay is as good as red clover or alfalfa.

J. T. SMITH.

Big Spring Farm, Coffeyville, Kans.

Corn Hay.

"Corn Hay," or "Shredded Fodder" is of much more worth than generally supposed.

After tests at the experiment station of the Maryland State Agricultural College the following statement is given out:

"After giving a table of the digestible matter of the different parts of the corn plant they give the total digestible matter in ears 1,530 pounds, the total digestible matter in fodder 1,642 pounds. Then you will notice that the fodder really has more nutriment in it than the ears. Now the question then naturally arises, how to put the fodder into such shape as to be easily fed and eaten by the stock. This is done by shredders."

Then the article in question goes on to state: "In considering the results shown by the tables, it must be remembered that the totals represent absolutely dry matter, and not the yield of a field-cured crop. Field-cured fodder may contain from 25 to 40 per cent of water, or even more.

"We see from the tables that an ordinary corn crop, such as grown on our rotation plots for the past three years, will produce about 2½ tons of dry matter—1¼ tons of it being in the fodder and a little more than one-half ton of it being digestible, the fodder furnishing 1,642 pounds of digestible matter.

"For the sake of comparison we have calculated the total dry matter and digestible matter produced per acre, by a crop of 2 tons of clover hay, and one

of 2 tons of timothy hay. These are considered good average yields—in fact, there is more land in Maryland that will produce more corn than we have reported, than will produce 2 tons or more hay.

"In this analysis we find that an ordinary corn crop produced more dry matter and more digestible matter than a good crop of either clover or timothy hay. In fact, the digestible matter in the fodder alone about equals the digestible matter in 2 tons of either clover or timothy hay.

"Coming to the question of the distribution of the digestible matter in the different parts of the fodder, we find that three-fifths of the digestible matter is contained in the stubble and husks, parts which are almost entirely wasted, and that the blades, the only part which represents any economical treatment in preservation and feeding, contains but one-ninth of the digestible substance existing in the corn plant. Surely the farmer should appreciate the enormity of these figures, and the great loss of food annually taking place on the farms, will immediately take some step toward the economical saving and feeding of these parts which are now going to waste.

"Again when we consider that the corn fodder from 1 acre contains as much digestible matter as the corn ears from 1 acre, we can no longer regard corn fodder as a worthless material, and treat it with so much disregard, but we must realize the fact that it is worthy of careful consideration and intelligent care, both in saving it and in securing its complete consumption by cattle."

The Theory of Seven-Year Cycles.

EDITOR KANSAS FARMER:—I have been reading many suggestions from our learned men on how to tide ourselves and stock over the effects of the worst of all known droughts of this country, but not a word of warning to be on the lookout for them. Our professors and men of science remind me very much of our christian missionaries, who talk and work for the poor heathen in foreign countries, but who can not see the squalid poor in our own door yard. So it is with these learned men, they can figure to a fraction on the return a hundred years hence on Smith's or James' comet. They can tell to a second when an eclipse of sun or moon will come, and they can give the distance to the moon to the fraction of an inch, but, like Mr. Missionary, when they come home to mother earth they can not even tell what kind of weather we are to expect. Now these dry spells have been predicted to a certainty and that too by the common plodding farmer. Myself and other farmers in this western part of the country have said that this was going to be a very dry year and furthermore that next year, 1902, will be a drought year, possibly not so bad as the past summer, but nevertheless dry. Now your many readers, especially my brother farmers, will want to know how we can tell. Simply in the same way that the learned professors tell the coming of the comet or eclipse. The moon and the comets have their cycles, so do the seasons. Please don't smile. We are simply up against the question, gentlemen, and our theory of the seven year cycles of the seasons has proven correct in every case for the fifty years, commencing with 1853, 1860, 1867, 1874, 1881, 1888, 1895 and now comes 1902. But how about 1901 being so dry? I will answer that question by simply calling attention to the years 1860, '74, and '88. These seasons were much drier than '67, '81 and '95, and the two seasons before these dates were much drier than the preceding seasons, for instance, '86 and '87 were both dry. The latter part of 1900 was dry, 1901 is still drier and 1902 will be very dry, if the wheel of time revolves as it has in the past fifty years. Of course you can all laugh as some of my neighbors did last spring when I told them of the coming drought. It was then so wet that the seed corn was rotting in the ground. Right here I wish to tell you of an incident that took place in 1888 about 3 miles south-west of where the town of Newkirk, the county seat of Kay county, Oklahoma, now stands. At this place the government had a troop of United States cavalry stationed to keep the boomers out of the Cherokee strip. As the men were required to practice at target they built a pen of logs 8x10 feet square and filled it with dirt. They kept up this practice at regular intervals all summer. As I said before that summer was very dry, so that the grass would burn during the months of July and August all over the country except a small spot 3 miles across, the camp being in the center. Then at the

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camp so much rain fell that the ropes that the troops had their horses tied to had to be moved to keep the horses out of the mud. This can be proven by several men who were then in the strip holding stock. Of course this sounds fishy, so do liquid air and wireless telegraphy. Facts are sometimes hard nuts to crack but no less true.

Querry. What caused the rain to fall so plentifully on the troops camp and no where else? Will some one of our many learned professors please answer this question?

J. C. WEATHERS.

Howard, Kans.

Breeding New Wheats in Minnesota.

W. S. Harward in a recent article on breeding new wheats, tells of the results accomplished at the Minnesota State Experiment Station. He says:

"It seems fair to say that the increase of the new wheat over all old varieties will be at least 2 bushels per acre. In the 3 States of Minnesota, North Dakota and South Dakota, there are on an average about 15,000,000 acres of land planted to wheat. When the new wheat is in use over all this region, an increase of only 2 bushels per acre will make a crop at least 30,000,000 bushels larger than the old varieties would have yielded. At an average price of 75 cents per bushel the increase in wealth in the region will be \$22,500,000 a year.

"The new wheat which has been grown under the direction of Professor Willett M. Hays, of the Minnesota school of agriculture, will be given a much wider field trial among the farmers this summer. Those who planted the wheat last season, have, in addition to their own seed supply, about 4,000 bushels to sell to other farmers, and the new wheat, it is expected, will have quite an appreciable effect upon the harvest of 1901.

"The wheat known as Minnesota No. 163 has yielded as high as 42.7 bushels per acre, while none of the 8 new wheats during the six years' trial has ever run behind 19.5 bushels. The average for each new wheat for a period of six consecutive years, from 1895 to 1900, inclusive, is in no case less than 27 bushels per acre, while the average of all the averages of the new wheats is 28.1 bushels per acre. The general average of the standard varieties in the region on the farms is from 13 to 15 bushels per acre, so that, while making due allowance for superior farming at the station, the allowance of an increase of 2 bushels per acre when the new wheat passes into complete sway in the Northwestern wheat fields, seems far too low. On a number of farms of the higher type it showed more than 2 bushels increase in last season's harvest."

Agriculture at the St. Louis World's Fair.

Interest in the Agricultural Department of the World's Fair at St. Louis in 1903, is spreading rapidly to all parts of the world.

That there will be many novel and striking exhibits in this department of the largest and highest class international exposition ever held there can be no doubt.

This result will be reached by reason of two facts: First, that the exposition at St. Louis is to commemorate the centennial of the acquisition to the domain of the Great American Republic of an area of land which, through the richness of its soil, and its climatic advantages, make it the best agricultural, and stock growing territory on the face of the earth; the other is that the agricultural scientists from every clime and

from all civilized governments on the globe are taking an especial interest in the development of the department to the highest state of perfection.

The World's Fair held with the Louisiana Purchase territory will set the trans-Mississippi country before the rest of the world in a new light. There is no longer a "Great American Desert" in the geographies, but there is a faint realization of what has taken the place of that desert. The last United States census reports show that the 14 States and Territories carved out of this country that Napoleon sold to Thomas Jefferson for \$15,000,000 has now a taxable wealth of \$6,616,642,829. The figures are almost beyond comprehension.

In the Louisiana Purchase territory there are now under cultivation 165,878,336 acres. The value of these is \$3,193,461,200. This means an average valuation for this mighty domain in cultivation of \$20 an acre.

The farm products, including the live stock within the limits of this territory, make a total of \$1,876,184,431.

The agricultural committee of the Louisiana Purchase Exposition Company went early to work to inform the various interests over which that department has control, including besides agriculture proper, the departments of horticulture, floriculture, forestry, dairy, live stock and farm machinery, and implements, that they intended to make the agricultural department at the St. Louis World's Fair a record-breaker when compared with everything that had heretofore been attempted in that line.

With one accord a mighty chorus of "we'll help you do it" comes from every quarter as a response to the notification of the committee's intention.

Suggestions from the brightest minds among the skilled agriculturalists, horticulturalists, dairymen, and stock breeders as to what is best to do to succeed are plentiful, and out of them, or rather upon them as a foundation, the committee will rear the agricultural exhibit superstructure of the World's Fair that is to dazzle the eyes of the whole world.

From Roswell, N. Mex., Mr. Earle writes to Secretary Aull of the Committee on Agriculture advancing some highly interesting and pertinent ideas. "An important display in the line of grapes," says Mr. Earle, "should be by planting in the spring of 1902 a complete exhibit of all known varieties of American grapes—some 300 to 400 varieties—in well prepared ground in the open air, planting model vines which will make a strong growth in the summer of 1902, and be in full fruitage in the summer of 1903. The same method should be followed with the European class of grapes, only these should be grown in a suitable conservatory. Very large vines should be procured from California, which will show the peculiar training of this class. Something like 100 varieties of this class should be planted. This combined display of grapes can be made more complete and instructive than anything heretofore attempted."

Continuing Mr. Earle says, "Our people are familiar with orchard trees and an attempt at an exhibit of bearing trees of these species would not have sufficient novelty to justify the cost, but the display of fruits should be larger, and from more countries and climates than has been made before. I suggest that the fruit products from all the territory embraced in the Louisiana Purchase should be shown together and alongside the exhibits from the old States. But to still further show the comparative values of the old and the new parts of the United States, and the values of both compared with the same classes and varieties grown in all other parts of the world, extensive exhibits should be drawn from all countries. With the more perishable fruits this last will not be practicable, but apples and pears can be brought from all the nations of Europe, from China and Japan, from South Africa, New Zealand, New South Wales, Tasmania, etc. From every clime where the apple tree grows I would bring the harvest.

"This pomological exhibit from all

around the world would be exceedingly attractive, impressive, and instructive, and would be one of the most notable events of the great fair.

"Why not do something better and bigger than has heretofore been attempted? It is entirely practicable."

"I would secure bearing trees of oranges, lemons, limes, Shaddocks, pomelos, etc. These would all have to have glass protection. They should all be planted in the spring of 1902 and so cared for as to be in luxuriant growth and fruitage during the entire term of the fair. In this connection certain other tropical and sub-tropical trees should be secured, such as the camphor, the nutmeg, the cinnamon and other spice trees of commerce, the rubber and other trees whose products have great value, and a great variety of trees whose woods are of greatest commercial and artistic value. This display can be made very complete."

The most magnificent attraction of the fair can be brought together under the head of "palms;" cocoanut palms 40 feet high in full fruit; date palms carrying their clusters; the royal palms of Mexico with their wonderful grace, these and a hundred others can be assembled in a magnificent palm house. With a wealth of beauty, surpassing all previous shows, is here possible!

"It is in your power to create a grander exposition of the arts and industries of our civilization than has been organized in any country. I greatly mistake the wisdom and energy of your management if this is not accomplished. Among all the noble things you will do none will give so much pleasure to the millions who will come to see your work and read your lessons as to what can be done in this supreme department of beauty and grace—in the domain of horticulture."

"The Committee on Agriculture," says Secretary Aull, "is determined at any cost to make the live stock exhibit the most complete and comprehensive display of domestic animals the world has ever seen. The premium lists will show more money to be paid in premiums than were ever before offered for live stock exhibits, and what is more important still no domestic animal will be omitted from the list. The accommodations for stockmen and their animals will be spacious, and the judges who will award the premiums in this department will be men of undisputed integrity and ability."

"The dairy cow and the products of the dairy will be worth seeing, for the dairy department is to be something more elaborate than has heretofore been attempted in this line. In the agricultural department every promise will be fulfilled. The World's Fair at St. Louis will bring people from all parts of the United States and from every quarter of the globe, and will show them, as in no other way they could be shown, the magnificent territory which Napoleon transferred. The millions who will visit the exposition and will see gathered there the exhibits from all parts of the purchase, will travel North, West and South over every part of the Louisiana Purchase, visiting the grain fields, the cattle ranges, the mining regions. Then they will learn something."

Even to the people of the purchase, the World's Fair will be a revelation. How many inhabitants of the Louisiana territory appreciate the fact that within its limits grows one-half of the cotton raised in the United States? A billion bushels of corn is no longer an extraordinary crop for the belt that lies within these States and Territories. The wheat which goes to all parts of the world from another belt stretching from northern Texas to the British line, ranges in value between \$100,000,000 and \$200,000,000. On the meadows of the Louisiana Purchase is gathered a hay crop which reaches \$150,000,000. The horses and mules and cattle upon the ranges are valued at \$1,000,000,000.

Soft Versus Hard Wheat.

EDITOR KANSAS FARMER:—In the columns of various agricultural journals we have recently noticed articles on the relative merits of hard and soft wheats as profit makers, and as we have had a good deal of costly experience in experimenting with various varieties of wheat, we venture to offer our ideas on this much mooted question.

Our ranch consists of over 35,000 acres, located on the Santa Fe railway about 40 miles south of Winfield, Kans. We have about 8,000 acres in wheat, 4,000 acres in corn and other crops, and the balance in pasture. As we have a large number of cattle, our aim has been to find the wheat that will furnish the best paying yield and at the same time make the best winter pasturage for fattening stock. We have tried the

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Russian, Turkish Red, and various other kinds of hard wheats, always with the object in view of developing the best joint profit maker. We do not hesitate to state that, as a result of all our tests, we pin our faith to the soft varieties. Our experience has been that they yield more wheat to the acre, the wheat brings a much better price on the market and there is no comparison as to amount of pasturage furnished. In every item that goes to make profit, we find that they lead. One variety that we plant very extensively, the Frost Proof May, would be, in the item of pasturage alone, a good paying crop, if not harvested at all, but it also yields more fine grained wheat than any variety of hard wheat we have ever grown. The main objection to soft wheat has been that it does not stand the winter as well as hard wheat, but this certainly does not apply to this variety, for we grazed it all through the winter and it made as fine a yield as any wheat we have grown, and we are confident it will do as well from Nebraska to Texas. When a wheat yields more bushels per acre, makes more pasturage, and brings a higher price on the market it seems to us it should be the wheat to grow. Any information we can give on this subject will be gladly furnished on application.

J. C. MILLER,
Supt. Ranch 101.

Bliss, O. T.

Farm Notes.

N. J. SHEPHERD, ELDON, MO.

Teach the colts to eat while suckling the dam.

No bad tempered sire should be used to perpetuate his kind.

The man who never makes mistakes seldom makes anything.

The value of milk is determined by what it will make in butter and cheese.

Farmers should study to increase the value of the manure made on the farm.

Good growth is profit in anything, on any kind of business.

Careful feeding produces good growth and healthy condition.

The surest way to make the farm profitable is to keep the land and animals in a vigorous condition.

Do not stimulate with too much feed or too strong fertilizers.

Fruit over crowded on the plant is never of the highest quality.

With all stock filthiness and uncleanness in food tend toward disease.

Nothing will purify and keep a stable so free from odors as the free use of dry earth.

As a general rule manure should not be plowed under deeply.

Too many farmers discard their breeding boars before they reach their most valuable age.

A clean healthy ration may be much lessened in value by feeding in a filthy manner.

No single grain ration meets the entire wants of the young growing or fattening animal.

So far as is possible discard all cows that develop objectionable habits naturally.

A dust blanket in a dry time prevents the moisture brought up by capillarity from being evaporated.

If possible begin saving one pasture for late feeding, keeping off all stock until late fall.

More than is usually the case it will be an item to keep the stock on pastures as late as possible this fall.

It is always a good plan to store a supply of bedding under shelter in good season.

In nearly all cases it is the early sown wheat and grasses that will give the best results.

Get a good lot of the fodder under shelter as soon as sufficiently dry. It will make better feed.

With all stock and products whenever the best profit can be realized on them is the time to sell.

One of the best ways of applying commercial fertilizers to wheat is when the seed is sown in the fall.

Use all reasonable care to get the stock in good thrifty condition now before cold, stormy weather sets in.

While it is an item to allow the stock that is to be kept through the winter to run out as late as possible they should not be exposed to storms.

With wheat and grass it is an important item to have the soil in a good tilth before sowing the seed.

If the wheat straw is cut fine and mixed with ground grain a better ration can be supplied than if they are fed separate and whole.

Bran and oil-meal, as midlings mixed with cut wheat or oat straw, makes a first-class ration for sheep or growing cattle.

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SEED WHEAT

Better drop the old, worn-out varieties which produce ordinary or average crops; it don't pay to grow them. If you desire to make farming profitable for the coming year begin now by buying seed wheat of the improved pedigreed sorts which have yielded

45 to 60 Bushels Per Acre.

Unequalled in hardness, stooling, and rust proof qualities, productiveness, strength of straw, and quality of grain and flour. We had a big crop this year and offer it at low prices. Ask for our new Descriptive Catalogue and special quotations in quantity. Also SEED RYE which should be sown now for fall pasture.

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The Stock Interest.

THOROUGHBRED STOCK SALES.

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

October 8-10, 1901—American Berkshire Association Sale at Kansas City.

November 21, 1901—Ernst Bros., Shorthorns, Tecumseh, Neb.

November 20-22, 1901—National Hereford Exchange, E. St. Louis, Ill. (Sotham management.)

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

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

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

February 25-27, 1902—C. C. Stannard and others, at Kansas City, Mo., 200 Herefords.

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

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

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

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

Successful Horse Breeding.

Successful horse-breeding is much more difficult than any other of the animal industries. This is so, because the perfect horse possesses so many more attributes. In this the horse equals, if he does not excel, man, except in intellectuality. Beauty, utility, endurance, docility, and grace of necessity belong to and are essential to the horse, while with animals raised for food products pounds are the things that count.

True, a certain amount of breeding and uniformity has its commercial value even in meat animals, but it is a very rare thing to see a bunch of hogs discriminated against, to any great degree, while in case of the serviceable sound horses, of equal size and age, it is no uncommon thing for one to sell for ten, fifty, a hundred, five hundred, or even a thousand times more than the other, and this other not considered so very cheap, say a hundred dollars.

Herein lies the opportunity of the horse breeder. Some will say that these high priced horses are sporting horses and are dominated largely by the element of chance. This is true, but there are plenty of men who are ready and willing to take the chances. The writer does not advise any one except a millionaire to take these chances, and would counsel all others to stay away from them, but there is a medium ground between these extremes where the elements of chance are largely eliminated and where the careful, thoughtful, intelligent breeder can find his reward. I refer to the production of the utility horse, and the horses for pleasure, especially the latter. The last number of the Breeders' Gazette contains the following statement:

"Mr. Hamilton McK. Twombly has refused an offer of \$20,000 for his four-hand team of pedigreed hackneys. A New York dealer some weeks ago offered him \$15,000 for the team, and the tender was later advanced to \$20,000 by a would-be purchaser."

There is just enough of the element of chance in this line of horse-breeding to make it fascinating and quite enough of assurance to make it highly profitable to the right man. But which ever class a person breeds, whether roadsters, saddlers, draft, coach, or carriage, he must apply the same thoughtful care as the successful manufacturer or merchant does to his business, if he expects to succeed. In the first place, he must have a clear ideal in his mind of the class or type which he wishes to produce, and also a good knowledge of the laws of heredity. To illustrate, suppose we want to produce the fine saddle or carriage horse, which by the way are the most handsome, highest finished and best mannered of any horses in the world, we must have as our ideal a horse with a fine muzzle, thin, firm lips, a straight face, broad forehead, a large, full, but mild eye, a rather long thin pointed ear, a long arched neck, high thin withers, sloping shoulders, a short back, strong but smooth coupling, a high croup, and well set tail, the nearer on a line with the back bone the better. Long, strong quarters, fat, cordy legs, with enough angularity in the hocks and pastures to give proper elasticity. Fine, thick, silky coat of hair, color bay, brown, chestnut or black, in the order named. Size, 15½ to 16 hands, and weight, 1,000 to 1,250 pounds.

As to heredity. If a person expects that kind of a horse to come from small, bull necked, thick shouldered, long-backed, goose-rumped, and crooked legged horses, he will surely be mistaken.

In this connection it might be well to suggest that the chances for success are greatly increased by a careful inspection of the get of the sire, as well as his conformation. Quite often rather plain looking horses are great sires.

Especially if this plainness is the result of a strong masculine makeup. While on the other hand, many very fine looking horses are complete failures as stock horses. They seem to lack the power of transmitting their individuality.

The question naturally arises as to where we will get our stock to produce this class of high quality horses. The answer is that since we have no well established breeds of coach and carriage horses that exactly fill the bill, we must use the best material in sight. Some of the largest and finest specimens of our trotting-bred horses have some of the elements of the carriage horse or saddle. Now if we use suitable mares of this breeding, with a typical saddle stallion for saddlers, or French or German coach or hackney for coach and carriage horse, we will not fall much short of the mark. We may not get many \$10,000 teams on the first effort, neither will we produce any failures. We are almost sure of a high-class horse that will pay a handsome profit on his raising, even if he does not have the fine finish that brings the long prices. Such breeding stock is by no means expensive, and the chances for a strictly fine horse are many. The same rule applies to the productions of the roadster and draft horses, as to the coach, carriage, and saddle, only in a less degree. They are a much plainer and cheaper class of horses and can be produced with less effort.

N. J. HARRIS.
Des Moines, Iowa.

Pasturing Sorghum.

EDITOR KANSAS FARMER:—The farmers of this neighborhood have been discussing the question of pasturing sorghum or Kaffir-corn. Some are of the opinion that there is poison on the blades, others that it is a small louse that causes death, while others think it is imaginary and that the cattle get something else to eat which causes their death. In my experience I have had cattle break the fence and get at both the first and the second crops of sorghum, and I have never yet lost an animal from this cause. During the past dry spell, just before the rain, one of my neighbors had 58 head of cattle pastured on 160 acres of grass. This grass became so short that the cattle were almost starved. They broke through my fence and filled themselves up on my cane. The next morning they were found lying down in my field in cane 3 or 4 feet high, and not one of them was hurt at all. They continued to break through my fence for about two weeks whenever they got hungry and he did not lose a head.

Dwight, Kans. J. F. LEE.

The Cattle Situation.

WILLIAM PENN ANDERSON, ST. JOSEPH, MO.

"The recent congestion of cattle on the public markets was not caused by lack of immediate use of corn. The present corn crop would not under any circumstances be available for cattle feeding for four months, nor was the future of the corn crop the incentive to any very great extent which caused the marketing of immature cattle. The live stock journals on the markets, on the occasion of the excessive cattle receipts through the personal interviews with the owners, established the fact that it was a shortage of 'stock water' and the 'arrested growth' of the tame or 'blue grass' pastures. The shortage in stock water in Kansas and Missouri was caused by the surface water drying up, which during the past few years was so abundant as to become a permanent dependency, especially in districts where the under drain is from tiles. In such localities the water stopped flowing from the tiling, but regular wells of regulation depth were complained of but little. The arrested growth of the blue grass, started into life again by the generous rains, will keep it from seeding for at least a month longer than usual, thus insuring better and later fall pasture of this kind, while all over the West where native grass holds sway in the pastures and on the open range it has been an ideal season, and the cattle as a whole have acquired more fat and young cattle better growth than for years.

"The prospects for a forage crop on the plains and in Kansas, such as Kaffir-corn, milo maize, sorghum, etc., with the greatest acreage ever known, an extra proportion of corn fodder, carrying imperfect ears already in the shock, with a fair prospect for a full corn crop of the late planting, but without the latter promising as great a supply for roughing young cattle through the winter as ever before, with a special stock cattle rate now in force for the favorable distribution of such, give the owners of the surplus young cattle of

Texas eligible to the open market peculiar advantages.

In the opinion of those most familiar with the cattle trade, there is an actual shortage in aged steers suitable for the preparation of the ripest beef, three-year-olds and upward.

There are as many in proportion in the Panhandle as elsewhere. There are about 50,000 head of three-year-old steers and upward in the Panhandle of Texas and eastern New Mexico.

It has been an open secret for upwards of a year that the fall of 1901 would show a shortage in aged cattle for the "feed lots." The extraordinary condition of the Montana and other northwestern range cattle fitting the larger proportion of them for shipment direct to the shambles, will still further curtail the shortage of available three-year-old steers.

Infectious Ophthalmia in Cattle.

PURDUE UNIVERSITY AGRICULTURAL EXPERIMENT STATION PRESS BULLETIN.

Since early in the spring reports have been received from stockmen to the effect that a strange eye disease was affecting the cattle. These reports have been received from widely separated localities, showing that the disease has a quite general distribution. In some places the cattle simply have sore eyes and in others the affection is more serious and a greater or less number go blind. The loss is not so much from the number that are blinded, as to the unthriftiness occasioned, and to the diminished milk flow in dairy cattle.

This disease is infectious and when started in a herd is likely to attack a large per cent of them before running its course. It occasionally affects sheep, but rarely horses. It has been attributed to a variety of causes as the pollen from some plants, and to dust. The disease does usually occur at a season of the year when both pollination and dust are at their most irritating stage, but we are inclined to believe that these are only secondary causes. The germs that have been found are pus producers. This station regards the disease as one produced by a special organism. The disease is not new, having made its appearance in this State ten years ago, and remained ever since.

The symptoms are local and general. The body temperature is raised, the appetite interfered with, and rumination checked. In the mild cases these symptoms are not marked. When first affected one or both eyes are held nearly closed, the lids swell, and tears pour over the face. A whitish film forms over the eyes which may become dense. The cornea may bulge forward owing to the pressure of the abscess from within. Yellow spots from the size of a pinhead to that of a grain of corn form and from the margin will radiate reddish lines. These are abscesses and when they heal whitish scars will take their places. One eye may be attacked and then the other. The course will last from three to six weeks, but it rarely happens that there is complete blindness in both eyes.

The treatment is comparatively simple. Keep the badly affected cattle in the shade of a woods, or in the barn if necessary, during the middle of the day, to prevent aggravation. Locally, apply equal parts of finely powdered boracic acid and calomel, by means of a small insect powder blower. This can be done quickly with little restraint and is preferable to an eye wash for the cow.

The Care of Sheep.

A flock of sheep can not be handled or fattened successfully without a close observance of their habits and peculiarities. There are a great many little things that enter into the attention and management by a successful shepherd that may seem trivial, yet they have much to do with the comfort, thrift, and profit of the flock. The axiom that "The eye of the master fattens" is nowhere more applicable than in the sheepfold. The competent feeder acquires a trained eye, that detects at a glance any evidence of disorder that will be manifest if a single animal is off of feed or out of condition. To the unobserving or inexperienced feeder sheep all look alike, but when rightly studied no class of stock presents more marked individual peculiarities or so clearly manifest evidence of thrift and

SILENCE!

The instinct of modesty natural to every woman is often a great hindrance to the cure of womanly diseases. Women shrink from the personal questions of the local physician which seem indelicate. The thought of examination is abhorrent to them, and so they endure in silence a condition of disease which surely progresses from bad to worse.

It has been Dr. Pierce's privilege to cure a great many women who have found a refuge for modesty in his offer of free consultation by letter. All correspondence is held as strictly private and sacredly confidential. Address Doctor R. V. Pierce, Buffalo, N. Y.

Dr. Pierce's Favorite Prescription establishes regularity, dries weakening drains, heals inflammation and ulceration, and cures female weakness.

"Having used Dr. Pierce's Favorite Prescription and 'Golden Medical Discovery' during the past year," writes Mrs. Mattie Long, of Pfouts Valley, Perry Co., Pa., "I can truthfully recommend these medicines for all female weaknesses. I have used several bottles of 'Favorite Prescription,' which I consider a great blessing to weak women. I was so nervous and discouraged that I hardly knew what to do. Your kind advice for home treatment helped me wonderfully. Thanks to Dr. Pierce."

Biliousness is cured by the use of Dr. Pierce's Pleasant Pellets.



DIP MOORE'S HOG REMEDY
and cure Mange and Canker, kill Lice and Fever Germs, remove Worms and PREVENT CHOLERA, at a cost of
FEED Five Cents Per Hog Per Year.
A postal gets particulars and book on "CARE OF HOGS." Address
MOORE CHEMICAL CO.,
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NO SPAVINS
The worst possible spavin can be cured in 45 minutes. Curbs, splints and ringbones just as quick. Not painful and never has failed. Detailed information about this new method sent free to horse owners. Write today. Ask for pamphlet No. 12.
FLEMING BROS., Union Stock Yards, Chicago, Ill.

WORK THE HORSE IF NECESSARY
BALMOLINE
NATURE'S WONDERFUL HEALING SALVE.
CURES SORE SHOULDERS, COLLAR GALLS, SCRATCHES, CRACKED HEELS, SITFASTS, CHAFES, ROPE BURNS, WIRE CUTS, SORE TEATS, OLD STANDING SORES AND ALL FLESH WOUNDS OF
MAN OR BEAST
PREVENTS FLIES, MARGOTS, SCREW WORMS AND PROUD FLESH. - ALL DEALERS
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SEND 4c FOR TRIAL SIZE TO
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ENDORSED BY HORSEMEN EVERYWHERE

SPRINGFIELD, MO., Jan. 10, '98.
As your Balmoline was so successful in curing other wounds on both man and beast on my farm, I concluded to try it for CORN HUSKERS' chapped and bleeding hands. Two nightly applications were sufficient to heal and soften the rough skin as it had not been for years, and now with Balmoline on hand, corn husking has no terrors for me.
J. T. FREIGHT.

WE PAY \$4 a day for men with rig to introduce our goods in the country. Good seller. Send stamp. **Kansas Food Co., Dept. 5, Kansas City, Mo.**

Our Spot Cash Guarantee Reads--

Security Gail Cure will cure all galls from saddle or collar while horse is working. Sore Shoulders made well by use of Security Gail Cure. This is the truth. Try it now—your horses need it to-day. We assume all risk and will immediately refund money if you are not satisfied. Ask your dealer for a box or send us twenty-five cents.

SECURITY STOCK FOOD CO., MINNEAPOLIS, MINN.

well-doing or the reverse. Attention to these little details, accompanied by regular habits and a quiet manner, constitutes the keynote of successful sheep feeding. Nothing contributes more to good results than contentment and quiet surroundings. The feeder who disturbs the quiet and comfort of the flock every time he goes about it should quit the sheep business at once. Rough manners and harsh treatment absolutely disqualify any man for success in this work. The natural timidity and nervous temperament of the sheep necessitates gentle treatment. Their dainty habits about eating and drinking must also be indulged as fully as practicable. No animal naturally selects a wider variety of feed, particularly of rough forage and vegetation; but two essentials are always exacted, viz., cleanliness and palatability. Never give a sheep any stale or undesirable feed, nor expect it to eat any feed left over from a previous meal. The ration should be always wholesome and tempting to the appetite. The barn or stabling quarters should never be without a fresh, pure atmosphere and an ample supply of dry bedding. Sheep rarely suffer from cold if kept dry and protected from direct drafts. The open air is better than a poorly kept shed or barn.—Prof. C. F. Curtis in *Nor-west Farmer*.

The Chicago Exposition.

EDITOR KANSAS FARMER:—The breeding associations, feeders and farmers of this country, and the live stock interests of Chicago, created the International Live Stock Exposition, for the purpose of improving the live stock of the farmers throughout this country. The interest awakened by the International Live Stock Exposition has been phenomenal. The Union Stock Yard Co., of Chicago, in addition to inaugurating the exposition, are using every means at their command, with the assistance of the railroads, to encourage the production of a higher quality of live stock, and increase the productions. The room for this increased production is apparent, as the demand is far in excess of the supply of every character of a high class of live stock at the present time.

This work should have the cooperation of every breeder in the country, and to this end we are endeavoring to bring about as many combination sales of pure-bred stock as possible, to be held in Chicago. The facilities for holding any number of these sales in Chicago are greater than at any other point in the world. The concentration of the business means greater attendance of buyers.

All the railroads that traverse the corn belt radiate from Chicago, and we are, through the railroads, doing everything possible to encourage prospective breeders to attend the sales conducted in this manner. We would, therefore, urge upon you, if you intend selling and have not enough stock of your own for the day's sale, to notify us of what you have and when you would like to sell, and we will endeavor to bring about a one, two or three days sale, as the occasion will warrant and merit.

I sincerely trust that you will take hold of the matter and cooperate with me.
W. E. SKINNER,
General Agent.

Cutting Corn Fodder for Cattle.

EDITOR KANSAS FARMER:—Sometime ago there appeared in your columns some inquiries in regard to cutting fodder for cattle, I have had some experience along that line, and wish to say that it is in favor of cutting. I fed two bunches of cattle and all the fodder was run through a Ross cutter and cut from a quarter to a half inch in length. The first lot numbered 118 head—18 yearlings and the balance two-year-olds. I fed cut fodder and Kaffir-corn and mixed corn-meal with the cut fodder, increasing the meal until I had them on full feed. I kept them on this ration with a little oil-cake towards the last. The average gain was 298½ pounds including the yearlings. We could cut enough Kaffir-corn in one day to last a week and could run a good load through the cutter in fifteen or twenty minutes. I think the cutter preferable to the shredder as it is speedy and cuts or breaks the shell of the stalk. It also knocks off the dust, or if bugs are in it they are scattered. This feed has to be fed in troughs, and all kinds of stock relish it. I have a ten horse power machine, but four horses are ample to run it. I built a bin of rough boards 16x16 and 10 feet high; can put 20 loads in that at a time. If any one desires further information I will gladly give it.
Solomon, Kans. WM. RAMSEY.

Soaked Corn vs. Soaked Corn-Meal.

At the West Virginia Experiment Station the following experiment was made to determine whether soaking corn in water affects in any way its food value. Poland-China-Durco-Jersey and Poland-China-Berkshire cross-bred pigs were used in the experiment. They were divided into two lots similar in respect to size, breed, and sex. From a carload sufficient was procured for the experiment. A portion of this was ground into meal and the remaining shelled corn was soaked in water, as needed, until the grains were soft. The meal was mixed with water before being fed. No attempt was made to feed the same quantities of meal and soaked corn, but each lot was fed all that it would eat up clean.

The lot fed soaked corn consumed 2,138 pounds of corn and gained in weight 555 pounds. For 100 pounds in live weight they consequently required 385 pounds of corn. The lot fed on corn-meal required 410 pounds of meal for 100 pounds gain, therefore the soaked corn produced the more economical gain, to say nothing about the extra expense of grinding the corn.

As very few experiments have ever been performed to determine the effect of soaking grain upon its digestibility the subject requires further study.

Great Public Sale of Shorthorns.

Hon. Frank Weinschenk, former president of the Board of Live Stock Sanitary Commission, owing to his extensive business in other lines, advertises a sale of his immense herd of Shorthorns for September 25th, to be continued on the 26th, if all are not sold on the 25th. Beyond question, this is one of the best herds in the central part of the State and it has taken many years to build it up. The herd was founded in 1895 and the dams were secured by Mr. Weinschenk making a personal visit to different parts of the State and purchasing cows and heifers which are eligible, but whose registration had been neglected. His sires were the best that money would buy. Some were from the herd of a famous Iowa importer and breeder; others from the noted cattle of J. F. True & Son, of Shawnee county, and some from the excellent bunch owned by J. F. Stoddard at Burden, Kans. There has been no inbreeding but every thing carried on in an up-to-date, first-class manner. The herd offered consists of cows, heifers and calves, also a number of pure bred bulls of all ages and will be a grand opportunity for people who take advantage of it to build up and strengthen their herds. The sale will be held under an immense pavillion and provisions made for the comfort of purchasers away from home. Mr. Weinschenk's ranch is 5 miles from Zenda, a station on the Mulvane extension in Kingman county. Trains will be met and you will be transported free from the station to the ranch. Liberal terms on approved security will be given and everybody treated right. We advise our readers who are needing cattle to attend this great sale, as a better opportunity for securing a bunch of the Famous Shorthorns has never been offered in the Southwest.

Alfalfa at Rossville.

Hon. H. D. Howard, of Rossville, Shawnee county, gives his experience in raising alfalfa in his locality for the benefit of his fellow men. Many are asking his experience and he gives it through the proper channel as follows:

"If the weeds can be kept down by disking that is sufficient to stir the ground for sowing. Sow any time from August 20 to September 25. The earth should be moist enough so that root will not dry out. There is not nearly so much danger of its drying out after disking as after plowing.

"The amount to sow to the acre is from 20 to 23 pounds.

"When the alfalfa gets a good start in August it will make from one-half to three-fourths more to the acre the following spring than that started in September.

"The time to sow the vacant spots and have success is from February 10 to March 20, disking the ground and harrowing it with a smoothing harrow. The above has been learned by experience."

A few years ago the bacon hog was in the lead and many of us were made to believe no other need apply. Since lard has become profitable to both feeder and packer comparatively little has been heard of the aforesaid hog—the bacon variety. Good hogs have commanded a premium at most markets for a long time. The bacon hog can hardly become popular in the corn belt. Outside of that belt there is a big field for it.—*Drovers Journal*.

Easy Harness
All harness, old or new, is made pliable and easy—will look better and wear longer—by the use of
Eureka Harness Oil
The finest preservative for leather ever discovered. Saves many times its cost by improved appearance and in the cost of repairs. Sold everywhere in cans—all sizes.
Made by STANDARD OIL CO.

The Veterinarian.

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the *Kansas Farmer*. Give age, color, and sex of animal, stating symptoms accurately, of how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. In order to receive a prompt reply, all letters for this department should give the enquirer's postoffice, should be signed with his full name, and should be addressed to the Veterinary Department, *Kansas Farmer*, Topeka, Kans.

Ergotism.—My cows are stiff in legs and back, and can hardly walk. When they do walk they brace their front feet forward and hang their heads down toward the ground, and hump up their backs. They get thin as the disease progresses. The disease seems to be running through the herd. Can you advise me what to do for them?
Burlington, Kans. MILO SCHAAF.

Answer.—The disease is caused by ergot in the grass. Change the feed if possible to new corn and fodder, or to old corn soaked for twenty-four hours and tame pasture. It is not contagious.

Rheumatic Arthritis.—I have a mare about fourteen years old that became lame in her front foot some time last spring, and she has been lame ever since. She has always had shoes on her front feet, and I took them off and had her feet examined, but could not find anything wrong so I put them on again until I turned her into the pasture, when I took them off. She has not been so lame that you would notice it when she was walking, but as soon as she began to trot you could see it plainly. A few days ago she became so lame in one of her hind legs that she can hardly use it. When she goes faster than a walk she carries it clear off the ground. She has never been worked, always been used as a road horse and has never been abused. I have not been doing anything for her except to apply liniment, but it does not help her. Any information you can give me will be thankfully received.
Pontiac, Kans. F. H. COUR.

Answer.—Take off the shoes and poultice the lame front foot with linseed poultice kept hot for twenty-four hours. The poultice can be kept hot by putting the foot with the poultice on in a bucket of hot water every hour, for ten minutes. Give 6 ounces of nitrate of potash, and 3 ounces of sodium salicylate. Mix and divide into 24 powders and give one twice a day in dry bran.

Brick Track Roads.

Experiments have been made at the Buffalo Exposition with a brick track road. That it is proving satisfactory is evidenced by the following statement from Hon. Martin Dodge, director of public road inquiries of the Department of Agriculture. In a communication dated August 15 he says:

"I am pleased to say that the brick track road between the United States Department of Agricultural buildings and Twelfth street, constructed in May, 1900, indicates that this system of road

has many advantages over the methods heretofore employed.

"The tracks are so nearly smooth that a greater load can be hauled on them with less power than on any other form of road or street pavement, outside of steel rails.

"This plan can be used to great advantage in cities by placing these tracks in old cobble stone pavements and macadamized streets, affording a smoother as well as a quieter, and in many respects a superior, street for less than 10 per cent of the cost of new stone or brick pavements.

"The cost in locations where paving brick can be had at \$15.00 per thousand, should not exceed \$1200 to \$1500 per mile, exclusive of the cost of grading, while the average cost of Macadam roads in the Eastern States is from \$3,000 to \$10,000 per mile.

"This road should last for many years, with very little or no expense for repairs, while the usual expense for repairing stone and earth roads ranges from \$50 to \$100 or more per mile each year.

"This plan is particularly attractive in view of the practicability of using long term convicts to make the brick and other materials and short term convicts to construct the roads, in which case these ideal roads should cost the tax payer nothing except freight on materials, as many of these convicts are now maintained at a great expense to the people without any benefit in return.

"This road would also make the rural free delivery of mails possible to every part of the country, without aid from the National Treasury, instead of which it is costing an indirect mud tax of \$3,000,000,000 a year to reach a very few of our people with the benefits of free mail delivery."

Grasshoppers in Utah.

"The grasshoppers are dying off in almost carload lots," said W. D. Rees, of Wales, Utah, to a Salt Lake Tribune man. "There is a small brown bug that gets under their wings and burrows into their bodies, which kills them. The lady hoppers are now putting in their spare time laying eggs, and the eggs seem to be about 1,000 to each hopper. Why, one of my neighbors picked up a whole handful of them the other day in just one swoop of his hand. I am out 30 acres of wheat on account of these critters. Where the grain is young they devour the whole thing, but where it is more advanced, the leaves and kernel coverings are eaten, leaving the grain to shrivel up. Frost will kill off all the hoppers, but the frost is a long way off."

\$13.00 to Buffalo Pan-American and Return \$13.00

via the Nickel Plate Road, daily, with limit if 15 days; 20 day tickets at \$16.00 and 30 day tickets at \$21.00 for the round trip. Through service to New York and Boston and lowest available rates. For particulars and Pan-American folder of buildings and grounds, write John Y. Calahan, General Agent, 111 Adams St., Chicago. (22)

To Colorado and Utah

VIA SANTA FE,

At Rates Lower Than Ever Before.

On Sale August 1 to 10 Inclusive, September 1 to 10 Inclusive.

Denver, Colorado Springs, and Pueblo and return, . . . \$15.00
Glenwood Springs and return, \$25.00
Salt Lake City and Ogden, and return, \$30.00

July 10 to 31, and August 11 to 31, round trip tickets to same points as named above will be sold at one fare plus \$2 for the round trip.

A Pullman Observation Sleeper runs between Kansas City and Colorado Springs on Santa Fe trains Nos. 5 and 6. The observation end is for free use of all Pullman passengers.

For further particulars, rates and other dates or to other places, or for free copy of "A Colorado Summer," write to, or call on.....

T. L. KING,
Agent, the Atchison, Topeka & Santa Fe Railway. TOPEKA, KANSAS.

The Russian Crops.

A Moscow dispatch, dated August 16, to the London Standard, says:

"Russia is on the eve of another famine. Nearly one-third the number of provinces of European Russia are officially declared to have produced an 'insufficient' crop of cereals, and many others are officially pronounced 'sufficient,' while others again are put down as 'under average.' Only 2 provinces out of 70 odd have had really good harvests; and among the 'insufficient' are the best corn-growing [grain-growing] districts of the Empire in Europe. Experience has taught us that what the official figures estimate as 'sufficient' is already a great dearth, little as the wants of the Russian muzhik are, while 'insufficient' mean utter starvation. So it has ever been in former cases. But the number of provinces gives but a poor conception to the outer world of what is meant by a dearth in Russia. The famine-stricken area exceeds half a million square miles—twice the size of France—and is about the same as that which suffered in the great famine of 1891. The population of these provinces is over 43,000,000, or more than that of Austria-Hungary together. The causes of the ruin of the hopes founded on the reports of a couple of months ago are mainly the intense heat which has swept over all Russia and a great part of Europe, the entire absence of rain when rain was absolutely needed, the torrential downpours and storms of hail which destroyed crops where the heat had somewhat spared them, and, as is always the case in years of abnormal heat, the appearance of innumerable pests, which completed the work of destruction where hope might still have lingered. As the harvest is now in progress, these are the final reports, and they have not been so black since the days of the great famine. In very many cases the crops have been cut down to feed the cattle for the grass crops have also, of course, suffered with the heat.

"It might be supposed that Russia would still be able to make an attempt by drawing upon the vast resources of Central Siberia. But matters have not gone altogether well there either, though figures are not finally issued for these districts. Moreover, were there even a bumping crop in the grain-growing provinces of Siberia, it would avail little. Russia has no roads but railroads, and of the hundreds of thousands who have perished directly or indirectly (by typhoid and other epidemics induced by starvation), in previous famines, a great majority were within 100, or at most 200, miles of some railroad. But, partly owing to Russia's system of managing railroads, though chiefly owing to want of metal roads for horse traffic, the grain could not and can not be got to the starving mouths. Russian grain goes in a stream to the ports for the benefit of the outer world. It can not be got over the wild country, with nothing in the shape of a road save the ruts marked out upon mother earth, neither levelling nor ditching, to say nothing of any attempt at paving of any kind whatever. In Russia a road in the country is the way in which a man and beast get from one place to another, and has, absolutely, no other practical significance. Thus, it is easy to see how men may die of starvation within a day's journey of a railway. The horses, never too numerous, and never too well fed, are themselves wasted by the parching heat that has dried up their pastures, and the muzhik must die if he has not his breadstuff to his hand. Russia is a huge country, sparsely populated, and it may be news to many that to this day she possesses twice as many miles of railroad as she does of metal roads, or even hedged and ditched roads, without any sort of paving, and the railroads run to the strategic points of defense of the Empire. There lies the entire secret of the Russian famines within reach of ample food supplies."

Plant-Breeding Conference, 1902.

EDITOR KANSAS FARMER:—The following preliminary program of subjects for the proposed International Conference on plant-breeding and hybridization, to be held in the fall of 1902, is announced by the Horticultural Society of New York. The exact dates for the meetings are not yet decided upon, and the program as given is subject to alteration:

1. "Results of Hybridization and Plant-Breeding in Canada." (Illustrated by specimens), William Saunders, director of the Central Experimental Farm, Ottawa, Canada.
2. "Notes on Plant-Breeding in California," E. J. Wickson, horticulturist, Agricultural Experiment Station, University of California.
3. "Plant-Breeding in New Jersey," (Illustrated by specimens), B. D. Hal-

sted, professor of botany in Rutgers College, New Brunswick, N. J.

4. "Hybrid Plums," F. A. Waugh, horticulturist, Vermont Agricultural Experiment Station.

5. "Variations in Hybrids Not Appearing in the First Generation, but Later," E. S. Goff, horticulturist, Agricultural Experiment Station, University of Wisconsin.

6. "Results in the Breeding of Species of Ricinus," E. Mead Milcox, botanist, Oklahoma Agricultural Experiment Station.

7. "On Orchid Hybrids," (Illustrated by specimens of the parents and progeny), Oakes Ames, Ames Botanical Laboratory, North Easton, Mass.

8. "The Wild Hybrids of the North American Flora," (Illustrated by specimens of the parents and progeny), David George, museum aid, New York Botanical Garden.

9. "Hybrid Beans," R. A. Emerson, horticulturist, Agricultural Experiment Station, University of Nebraska.

10. "Cytological Aspects of Hybrids," W. A. Cannon, Columbia University, New York City.

11. "Correlation Between the Fruit and Other Parts of the Plant in Form, Color, and Other Characteristics," (Illustrated by specimens), S. A. Beach, horticulturist, New York State Experiment Station, Geneva, N. Y.

Other papers, the titles of which have not yet been communicated, are also promised from the following:

Delegates representing the Royal Horticultural Society of England; Luther Burbanks, Santa Rosa, Calif.; J. Craig, Cornell University, Ithaca, N. Y.; K. C. Davis, West Virginia Agricultural Experiment Station; S. B. Green, Agricultural Experiment Station, University of Minnesota; H. C. Price, Iowa Agricultural Experiment Station; W. van Fleet, M. D., Little Silver, N. J.; J. C. Whitten, Agricultural Experiment Station, Columbia, Mo.; C. W. Ward, Queens, N. Y.; H. J. Webber, and others representing the United States Department of Agriculture.

The cooperation of the following institutions has been promised:

Bureau of Plant Industry, United States Department of Agriculture; Department of Agriculture, Dominion of Canada; Royal Horticultural Society of England; Massachusetts Horticultural Society, Society of American Florists, American Institute of the City of New York, New York Botanical Garden, School of Practical Agriculture and Horticulture, American Pharmacological Society, Torrey Botanical Club, Colleges and Experiment Stations of the United States.

Further particulars will be made public as arrangements are concluded. For information relative to the conference address all correspondence to the secretary.

N. L. BRITTON,
Chairman of the Council.
LEONARD BARRON, Secretary.
136 Liberty Street, New York,
August 24, 1901.

Agriculture at the Connecticut Agricultural College.

This time it is the Connecticut Agricultural College that is in the throes of a revolution. President Flint has called for the resignation of four of the faculty and probably additional members will be deposed. We have been watching the course of this insurrection for some time past, believing that none other in the East possessed so many opportunities for placing itself fairly and squarely for agriculture as did the Connecticut Agricultural College at Storrs. Surrounded by great classical and scientific institutions there seemed no reason for the Storrs school to undertake to enter the already crowded field of so-called "cultural education," but rather the way was open to become a real agricultural college—the pride of the farmers of the State. Apparently President Flint had set his heart upon an institution to be modeled somewhat after his own line of educational effort previous to joining the college. There is no bond between himself and the farmers of the State. We believe that President Flint is playing a losing game—that the farmers of Connecticut who wrenched the agricultural land grant fund from Yale College despite all of the powerful influences of that deep-rooted institution will not long permit the Storrs College, which is so peculiarly their own, to remain in the hands of one who is not in sympathy with the great calling of agriculture. If the farmers of Connecticut are wise they will stop this nonsense at once instead of allowing it to run from bad to worse. Let President Flint go with his own and let some man whose heart and soul is with the farmer and who believes in agriculture take charge of the institution at Storrs.—Breder's Gazette.

The Cincinnati Price Current Figures on Kansas Farmer Acreage Estimates.

EDITOR KANSAS FARMER:—I have used the figures given on page 746 of the KANSAS FARMER to determine what proportion of the total wheat and corn area of Kansas for 1901 belongs to the different sections of the State. Perhaps some of your readers will be interested in the result. The State was divided into 9 sections,—counties classified in the 9 sections in the same manner as they are given in the "Postal Guide." Following is the percentages of the whole area in each section:

	Wheat. Per cent.	Corn. Per cent.
1. Northwestern.....	5.9	7.0
2. West central.....	5.1	.6
3. Southwestern.....	1.7	.4
4. North central.....	16.2	17.7
5. Central.....	31.2	7.4
6. South Central.....	27.2	11.7
7. Northeastern.....	4.1	16.9
8. East central.....	2.3	18.5
9. Southeastern.....	6.3	19.8
Total.....	100.0	100.0

These figures show at a glance that the central counties are by far the most important wheat counties, while the eastern third of the State though in less degree, is the important corn section. The western third is shown to be of little significance, especially in regard to corn production. Dividing the State into eastern, central, and western thirds we have:

	Wheat. Per cent.	Corn. Per cent.
Eastern.....	12.7	55.2
Central.....	74.6	36.8
Western.....	12.7	8.0
Total.....	100.0	100.0

Dividing the State into northern, central, and southern thirds we have:

	Wheat. Per cent.	Corn. Per cent.
Northern.....	26.2	41.5
Central.....	38.6	26.5
Southern.....	35.2	31.9
Total.....	100.0	100.0

NAT C. MURRAY.
Cincinnati, Sept. 1, 1901.

To Get Rid of a Hedge.

EDITOR KANSAS FARMER:—It is a dreadful job to dig up a hedge-row, and there is a better way, as well as an easier one. I had a hedge that I killed in this way; I cut it down in the fall, just before frost, then I went to each stump and stuck the axe in the stump just at the ground, so that I could throw salt into these gashes in the stumps, then I poured on coal-oil. The going down of the sap at that season of the year, carried the salt and coal-oil down into the roots, so that they did not sprout, as they are likely to do, when simply dug up.

A hedge-row takes a great deal of room, and it takes the strength out of the ground for two rods more, so that nothing will grow. That strip of ground will produce enough each year to buy wire to make wire fence.

HENRY FELLOWS.
Wichita, Kans.

Adam Scott had out 12 acres of alfalfa this year, from which he harvested 3 crops of hay. The last, or seed crop, which he threshed last Monday, yielded him 103 bushels of fine seed. The hay and seed taken from that land this year will amount to about \$70.00 per acre.—Westmoreland Signal.

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Brain 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., September 3, 1901.

Owing to the fact that Saturday and Monday were holidays, the market centers of the country closed their exchanges and no business of any kind was transacted.

Primary receipts in the Northwest are steadily increasing, while foreign demand has been somewhat reduced during this time.

The visible supply of wheat increased 1,783,000 bushels last week, and is now something over 27,000,000 bushels, a little over one-half as much as last year at this time. The receipts in the Northwest were enormous to-day. They were 1,251 cars in Minneapolis against 883 cars this day a year ago. Duluth's receipts were 879 cars to-day against 260 cars this day a year ago. Under these conditions we must expect a sagging market.

On the other hand receipts in the Southwest are decreasing. Kansas City receipts are 586 cars against 1,241 cars a year ago to-day.

Exports are still large and were 1,122,000 bushels to-day.

Markets closed as follows:
Chicago.—No. 2 red wheat, 69½ to 70c; No. 2 hard wheat, 68½ to 69c; No. 2 corn, 54½c.
Kansas City.—No. 2 hard wheat, 65½ to 65½c; No. 2 corn, 55c.

Are Your Kidney's Weak?

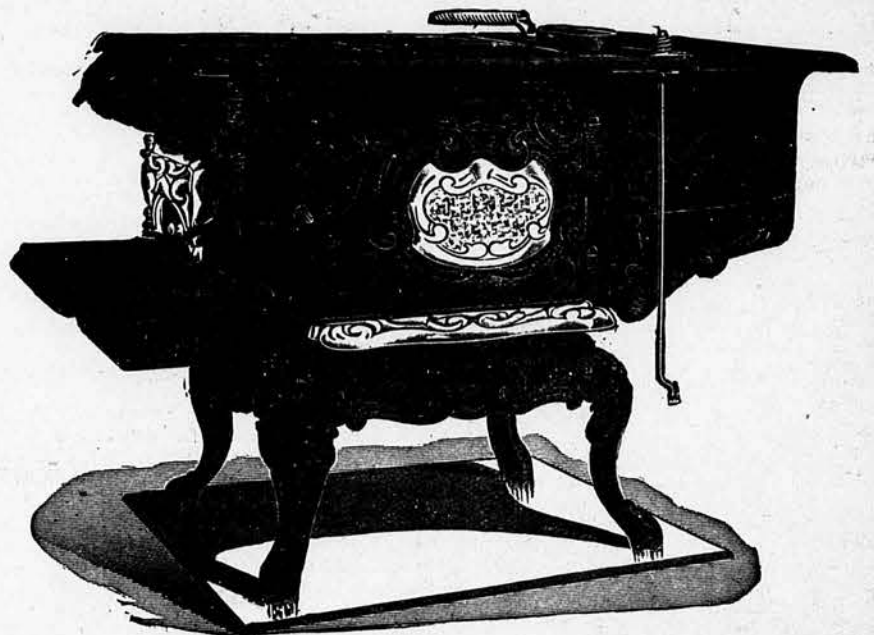
Mr. A. S. Hitchcock, East Hampton, Conn. (the clothier) says if any sufferer from kidney, bladder or kindred diseases will write him he will tell them what he used. He is not a dealer in medicine and has nothing to sell or give, just directs you to a simple home cure that does the work.

In an early issue of The Saturday Evening Post, Doctor Nansen, the eminent Arctic explorer, will describe the various pole-seeking expeditions of the year. The importance of this paper lies in the author's comments, and his predictions as to the success of the different parties.

Hot days followed by cool nights will breed malaria in the body that is bilious or costive. Prickly Ash Bitters is very valuable at this time for keeping the stomach, liver and bowels well regulated.

Buffalo Pan-American

15 day tickets for \$13.00 via Nickel Plate Road. 20 day tickets \$16.00. Lowest rates to all eastern points. John Y. Calahan, General Agent, 111 Adams St., Chicago. City Ticket Office, 111 Adams St., Chicago. (24)



We here show large illustration of the guaranteed Empire Sultan Cook that is offered to our readers by the Empire Stove Mfg. Co., of Minneapolis, Minnesota, whose advertisement appears on page 774. This firm is perfectly reliable and the prices at which they offer stoves will save purchasers from 30 to 40 per cent.

The Home Circle.

LET ME BEGIN ANEW.

Lord God, Thou lettest the green things start

A new life every year;
Out of their sunken selves they rise,
Erect and sweet and clear;
Behold the lily's pure, white leaves,
Unfolding by each mere.

Again the sap mounts in the fir
Through every swelling vein;
Again the clover stirs and thrills,
Responsive to the rain;
Again the tender grass makes green
The lone breast of the plain.

Hear the new, golden flood of song
The lark pours forth to the blue!
Behold the strong, undaunted shoot
Pushing its brave front through
The fallen tree. Lord God, Lord God,
Let me begin anew.
Out of my own self let me rise,
For, God, if it can be
A new and noble growth may spring
From yon decaying tree—
Surely a strong, pure life may mount
Out of this life of me.

—Ella Higginson.

Deserters' Remarkable Feats.

To desert from either the army or the navy is not the easiest thing in the world, and even when accomplished the culprit lives in daily fear of being recaptured and sentenced to a heavy term of imprisonment. Therefore, the devices employed by some deserters are as ingenious as they are exciting, although they can not be said to be always crowned with success. For sheer audacity the case of an Irish soldier who deserted in a south coast town some years ago would be hard to beat. Just at that time a number of desertions had occurred in the neighborhood, and the authorities were therefore unusually sharp to prevent further offenses of this nature. But the man in question was dissatisfied with soldiering, and having a number of friends in the town who were disposed to help him, and being possessed of an unusually large modicum of pluck, resolved to delay his return to civil life no longer. One morning early he slipped out of barracks and made his way to a friend's house without being seen. Arriving there he shaved off his mustache, and, donning a policeman's uniform, boldly promenaded the main streets of the town. He was, of course, missed in barracks, and knew that the surrounding country was being scoured in the hopes of finding him. On one occasion his sergeant came up to him and asked him if he had seen or heard anything of the missing man, and he, of course, replied that he had not, but he would keep his eyes open! For more than a fortnight he preserved his disguise, without it being penetrated even by the police themselves, and he then calmly left the town when the hue and cry had subsided somewhat. Nevertheless, his enterprise came to naught, for he was arrested trying to work his passage back to Ireland.

Scarcely less audacious was the ruse employed by another dissatisfied son of Mars, and in this case, likewise, it proved futile. He happened to know that a certain publican in the town was in anything but affluent circumstances, for he visited the house regularly, and from remarks dropped at odd times he discovered that the publican was heavily in debt to a Scotch spirit merchant. One morning, as soon as the publican opened his doors, the soldier arrived, after having first disguised himself with a beard and wig and donned civilian attire. With him came a friend, who agreed to act as a representative of the law, and he promptly told the astonished publican that he had orders to leave a man in possession unless the sum owing to the Scotch spirit merchant was paid to him then and there. The publican, of course, could not pay, so the deserter was quartered upon him and lived in his house and at his expense for more than a week before the deception was discovered. Perhaps the most successful deserter—for a time—was William Conrad. Through one of his comrades he heard of a man whose son had gone to Australia gold mining, and had apparently disappeared, for nothing more had been heard of him, though his parent still believed he would see him again. Conrad therefore hit upon the ingenious idea of leaving the army by stealth, and, going to the man, informing him that he was the missing son. As his knowledge of Australia was considerable, he lost no time in putting his plan into execution, and the parent, believing in him despite the supposed alteration in his appearance, provided him with a home and money galore, a commodity he confessed he lacked. But, unfortunately for him, at the end of eighteen months the real son turned up, and what followed can better be imagined than described.—The Regiment.

Largest Fort in America.

Work was begun here this week on what is intended to be the most formidable fortification in the western hemisphere. For a number of years the British government has been strengthening the defenses of Halifax, land and sea. The armament of the garrison, which had become antiquated, was renewed with modern guns of high power, and the British North American squadron, whose summer rendezvous is at Halifax, has been increased from year to year, until it includes some of the finest warships in King Edward's navy.

Within a few years after the completion of the Canadian Pacific Railway, often spoken of as Britain's military highway from ocean to ocean, Esquimaux, on the Pacific coast, was fortified, too, and a garrison was established there. This awakening to the tactical value of these two widely distant points in the Canadian dominion has aroused much interest on both sides of the border, but no explanation of it has been vouchsafed, other than the general one of the increasing importance of Canada as an integral part of the British empire.

The active beginning of construction work has renewed public curiosity as to the details of the plans for the new fortification, but, as usual, the authorities are reticent, and only a general outline of what is to be done has been made public so far. But now some additional particulars have been ascertained in an unofficial way, and these serve to heighten the interest in the great project. The site selected is three miles west of Herring Cove, on the neck of land that runs out on the west side of the harbor into the Atlantic ocean and terminates in Cape Sambro.

It was at first proposed to build the fort on the shore, and have it rise sheer above the sea after the fashion formerly adopted by most European countries, but this suggestion has been put aside, and the fort will be located a short distance inland, and will be hewn out of the solid rock. The imperial authorities selected a large granite cliff which has a hollow in the center. The main part of the fort will be located in this hollow, with works to be constructed of cement, giving the appearance of a solid cliff.

It is said that in general form the fort will follow the design of the armored turret of a modern battleship, and there will be other features of the work that will follow out this analogy with a warship.

The main armament will consist of 16 guns, the authorities say, but their exact caliber they decline to tell.

These guns will be fired by instructions from a conning tower, and the men handling them will not be exposed. They will work the guns from below, getting the sight and other directions from the conning tower, much as the mortar batteries at Sandy Hook, N. J., are worked. The guns will, of course, be of the disappearing type.—New York Sun.

The Setting of Our Constitution.

It is a truism of political science that constitutions are not made; they grow. There is, of course, a sense in which this can not be said of the "paper constitutions" of which the last century was so productive. But the English constitution was never made even in the sense that the constitution of several continental nations have been made. Our own constitution of the United States was written out in the convention at Philadelphia in the year 1787, but it was far from having been "struck off from the human brain at a given instant" according to the famous aphorism of Mr. Gladstone. The setting of our constitution down in black and white was possible only because our constitution had been building a thousand years and because the political experiences of the colonies in particular had brought together all the



A Rat

in the coffee bin—not a pleasant thought, yet when coffees are kept open in bulk who knows what different "things" come climbing and floating in?

Lion Coffee

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necessary elements. It does not detract from the honor of the constitutional fathers to say that they had not half so much to do with the "making" of our constitution as had the great body of the English people from Hengist and Cerdic to Samuel Adams and William Pitt.—Frederick Austin Ogg, in Modern Culture for September.

The World's Great Men.

We are accustomed to the assertion, often repeated, that poverty is the greatest stimulant to human energy; that the fear of becoming poor calls forth the latent powers of the individual, and that the best work in the world is accomplished through the desire of gain. This idea is due, no doubt, in a great measure to the natural prominence given to any one, who, though handicapped by poverty and lack of opportunity, by sheer persistence has made his way to the front ranks of the world's elect. Napoleon, Shakespeare, and Lincoln are perhaps the highest representatives of this class. Is there not a probability, however, that these men, magnificent as they undoubtedly were, each in his own way, might have achieved even greater results had they been surrounded with early advantages?

At any rate the great men who come from the very poor are few and far between. It is only occasionally that we come across men like Dickens, Poe, and Whittier, while there is almost an interminable list of those who have achieved a high place in the history of the world that were carefully nurtured in youth. Dante, for instance, was the son of a well-to-do citizen; Aristotle's father was a scientist; Matthew Arnold was the son of a man of great wealth; James Matthew Barrie was the son of a physician who was able to give the boy a college education; the father of Edmund Burke was a successful attorney; Frances Hodgson Burnett came from a comfortable English home; Robert Browning was surrounded with moderate prosperity, while Sir Richard Burton belonged to the nobility. Lord Byron was a nobleman; Ruskin inherited a fortune; the boyhood of Tennyson was passed in an atmosphere of music and poetry; Shelley was the son of a gentleman who had inherited a large estate; Adam Smith was the son of a lawyer; Goethe was an aristocrat; Heine, the son of a wealthy merchant; Victor Hugo's father was an official of large means; Schopenhauer's father was a merchant in prosperous circumstances; the father of Isben was a successful business man; Tolstoy, the son of a wealthy prince; Tuergenief's father was a wealthy land owner. Lowell, Longfellow, Wendell Phillips, Oliver Wendell Holmes were from families in favorable conditions.—Cincinnati Times.

The Oldest Church.

"The oldest Protestant church in the United States is St. Luke's, at Smithfield, Va.," says the letter of a recent correspondent. "St. Luke's was erected in 1632 and was restored in 1894 as nearly as possible to its original condition and appearance. It is a beautiful old structure of early English Gothic, with mullioned windows and a stately tower, and has been used for public worship almost continuously for two centuries and a half. The original church erected on Jamestown Island by the first English colonists in North America under Capt. John Smith—the church in which Pocahontas was baptized and married—has all disappeared except a picturesque ivy-clad tower of brick, surrounded by a grove of trees. It was allowed to lie in ruins until Mrs. Barney, of Dayton, Ohio, bought the island, cleared away the rubbish and underbrush and presented the site and the ruins of the first white settlement in North America to Virginia Antiquities. The place is now carefully protected. It was there that the seat of the Colonial Government was established and maintained until the Bacon rebellion, which is so graphically described in a recent novel. When Jamestown was destroyed the Governor moved up to Williamsburg, or 'William-Cittie,' with his court.

"St. Luke's at Smithfield was erected a few years after the original church at Jamestown, and, being in an isolated situation, has not suffered from the ravages of war, the touch of time or other means of destruction.

"The old church stands among most picturesque surroundings and is a favorite study for artists. In the chancel are two tombs upon which the inscriptions are almost obliterated. The epitaph of one reads:

"Here lies ye late Great Minister of State,
That Royal Virtue had and Royal Fate
To Charles His counsels did such Honour bring,
His own Express fetched Him to Attend ye King."

—Baltimore Sun.

There is more Catarrh in this section of the country than all other diseases put together, and until the last few years was supposed to be incurable. For a great many years doctors pronounced it a local disease, and prescribed local remedies, and by constantly failing to cure with local treatment, pronounced it incurable. Science has proven catarrh to be a constitutional disease, and, therefore, requires constitutional treatment. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, Ohio, is the only constitutional cure on the market. It is taken internally in doses from 10 drops to a teaspoonful. It acts directly on the blood and mucous surfaces of the system. They offer one hundred dollars for any case it fails to cure. Send for circulars and testimonials. Address:

F. J. CHENEY & CO., Toledo, O.
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Hall's Family Pills are the best.

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The Young Folks.

THE SUN.

Great is the sun, and wide he goes
Through empty heaven without repose,
And in the blue and glowing days
More thick than rain he showers his rays.

Though closer still the blinds we pull
To keep the shady parlor cool,
Yet he will find a chink or two
To slip his golden fingers through.

The dusty attic—spider-clad—
He through the keyhole maketh glad,
And through the broken edge of tiles
Into the laddered hayloft smiles.

Meantime his golden face around
He bares to all the garden ground,
And sheds a warm and lingering look
Among the ivy's inmost nook.

Above the hills, along the blue,
Round the bright air with footing true,
To please the child, to paint the rose,
The gardener of the world, he goes.
—Robert Louis Stevenson.

Stackpole's Stump Fence.

"I don't see but what you will have to submit, Cyrus," said Colonel Bowker. "The law seems to be pretty clear on the subject. When the State grants a railroad a charter and a town grants it the right of way the railroad company can take, at a fair appraised value, any property lying in the line of its survey, provided the owner refuses to sell at an agreed price. That covers the facts in this case. You refuse to sell the company a strip on the south side of your orchard. The State says to the company, 'We give you the right to appropriate that land at our appraisal.' It's no use for the owner to protest. The law can do nothing for him. If there was a ghost of a chance to fight, Cyrus, I'd be glad to do what I could for you. But a lawyer can't do anything when there's no law on his side."

Colonel Bowker tipped his chair back and threw one leg over the corner of his littered table. An old man, trembling with impotent rage, sat in a rickety armchair on the other side of the table. His chin quivering and his thin lips kept opening and shutting as the senior village lawyer spoke.

"Then, ef the law can't do anything for me, I'll do it for myself!" cried the old man, bringing his withered fist down on the arm of the chair. "I'll see ef a man kin be robbed of what's his'n for fifty year, and been in the family for more'n a hundred!"

"I hope you won't do anything rash, Cyrus," said the Colonel, blandly. "It's a case where the welfare of the many overrides the welfare of the individual, you see. The law provides no recourse for the individual in such a case."

"I got done with the law, I tell ye!" shouted the old man, fiercely. "I'm dependin' on myself now. I said ef the law couldn't help me, I'd help myself. I'll see ef they kin run their consarned trains through my orchard without my permission. A man's proputty's his own. Th' ain't no law that kin knock that fact out o' the Ten Commandments."

Colonel Bowker accompanied his irate client to the door. "Better be cautious, Cyrus," he said, as the old man plunged down the steps. "Don't do anything in a hurry. Take time to think it over. And remember that I am always ready to advise you on any point that may come up."

Cyrus Stackpole drove home in a blind rage. He was one of those old men who are as set as the everlasting hills, and the fact that everything seemed to be arrayed against his will in this instance only served to make his resolve the stronger. He was bound and determined that the new railroad should not pass through his orchard. There was no particular reason why it should be denied this right of way, except that Cyrus had taken a notion not to allow it. The trees in the orchard had been set out by his father's father, and their knotted and wrinkled trunks and limbs had long since passed the age of fruit bearing. They only served to cumber the ground. But Cyrus would not cut them down and plant new ones. They were a part of the old order of things, and Cyrus was a conservative of the conservatives. A peck of bitter, worm-eaten windfalls from the old trees was more to his liking than a bushel of sound and toothsome fruit from younger and more vigorous stock. That the pert modern railroad should desecrate his venerable orchard was not to be endured. It went against the old man's grain, and that grain was exceedingly tough.

As it happened, however, Cyrus Stackpole fell into the clutches of a severe attack of inflammatory rheumatism soon after his visit to Colonel Bowker's law office, and about the time when the railroad men came to grade

and prepare the roadbed across his orchard. The work was all done while the old man was groaning and fuming in bed; and by the time he got about again the ties and rails were laid through his orchard. Then the first train came along, roaring triumphantly, and vomiting black smoke over what remained of the ancient apple-trees.

Upon this Cyrus bestirred himself, though physical exertion still sent excruciating pains through his joints. The regular passenger train schedule had been in operation just a day, when he began to do for himself what the law could not, or would not, do for him. At 3 o'clock on a Tuesday afternoon, his wife having driven to the village, Cyrus hitched up a yoke of oxen and began to drag stumps from the stump fence on the north side of the orchard to the railroad bed. He chose the largest and soundest and toughest stumps he could find, and by 6 o'clock had a formidable fence built across the railroad on the exact boundary of his orchard. The roots of the stumps birstled in the direction from which the next train would approach—the train from Wilmington—due to pass at 8 o'clock in the evening. Should the locomotive strike those formidable roots the butt of the stump would only be driven firmer into the ground. Something would have to stop, or smash, and Cyrus felt confident that it would not be the stump.

It was several minutes past 6 when the horn blew for supper. Cyrus was glad of the extra time and glad that his field of operations was hidden from the house by a rise of land. When he came slowly up from the orchard with the tired oxen his wife met him at the back door.

"Here's a letter for you," she said. "Supper's a little mite late, but the old mare limps so I couldn't git home as soon 's I planned. Better read the letter 'fore ye set down to eat, hadn't ye?"

"No," answered Cyrus, limping to the barn with the oxen. "It'll keep until arter I've had a cup o' tea, I reckon."

Cyrus Stackpole ate his supper deliberately and then sank into the old padded rocker by the window and opened his letter. Hardly had he commenced to read it when, with a startling cry, he sprang to his feet again and ran stumbling to the barn. Her husband's cry and sudden leap caused Mrs. Stackpole to drop a lot of plates she was carrying to the sink; but not even the terrific crash of broken crockery elicited the slightest attention from Cyrus. The letter had fluttered from the old man's hand to the floor as he ran and Mrs. Stackpole stooped and picked it up with shaking fingers. Something in that letter, she knew, had caused her husband's sudden dismay.

She turned first to the signature. It was from Frank—their own dear boy, from whom they had not heard for two years and whom they had about given up for dead, since he disappeared in the Alaskan gold fields.

"Dear Father and Mother," he wrote, "I am coming home at last—a rich man! Have been out of the world, practically, since I wrote you last—living in a hut 200 miles beyond civilization. Will tell you all when I see you. Look for me next Tuesday evening. I learn that you have a new railroad now and I can reach you by train the same evening I get to Wilmington. God bless you both! Lovingly,
"FRANK."

What was there in that blessed letter that could have caused her husband such distress? Mrs. Stackpole wiped the tears of joy from her eyes and sped out to the barn.

"Cyrus!" she cried. "What on airth air you doing?"

Cyrus was hurriedly replacing the yoke on the necks of the weary oxen. His hands trembled. His face was over-spread with an ashen pallor.

"Git out of the way!" he shouted, as he lashed the oxen from the barn, the long chain that dangled from the yoke clattering behind. He caught a lantern from a nail and hurried after the startled and bewildered beasts.

"Where air you going, Cyrus?" demanded his wife, following the distracted old man, as he led the oxen over the crest of the hill to the orchard bars. Cyrus made no reply, and his wife followed him. Then she saw the bristling stump fence across the railroad, and the whole dreadful truth flashed upon her. Cyrus had built a fence to stop or wreck the next train, and that was the very train that Frank had written he should take from Wilmington!

The village station was a mile beyond the Stackpole farm. The train would not have even begun to slow down when it passed through the orchard. It was already getting dusk. It would

be pitch dark by the time the train came along—in just an hour.

Cyrus Stackpole never looked at his wife, but worked with feverish haste; and she did not interrupt him, for she knew that every moment was precious. The oxen strained mightily at the great stumps, but they were so crowded together and interlocked that it was hard to get them off the track. Cyrus had performed his defiant task unfortunately well.

"Light the lantern!" cried the panting old man at last. His wife took the match he flung her and kindled the slight flame in the dusty globe. Cyrus bent and adjusted the chain anew by the candle's feeble light. Then the oxen strained together once more, but the biggest stump of all would not move. The long, tough roots were wedged between and under the rails.

"God!" groaned the old man. It was the shortest of prayers, but it was a prayer and not an imprecation.

"Hark!" cried the trembling old wife. From far off through the darkness came a faint rumbling sound. It was the evening train from Wilmington!

"Cyrus!" exclaimed the woman. "Red light 'll stop 'em—I've heard so. Hain't we got anything to make a red light with? Quick."

Cyrus disgorged the contents of all his pockets at one sweep. Among them was an old-fashioned red bandanna handkerchief. His wife seized it with a cry of joy, and, catching up the lantern, hastened down the track toward the approaching train. She turned up the wick of the lantern until it smoked furiously. Then she wrapped the red handkerchief around the globe, held the lantern up in both hands and slowly swayed it to and fro.

The train was almost upon her before the engineer saw the faint red signal. But the air-brakes did their magic work, and the engine stopped within 20 feet of the last huge bristling stump of Cyrus Stackpole's fence across the railroad. Frank Stackpole was one of the first passengers to leap from the intercepted train.

"What in thunder—why! Father's old orchard!" he exclaimed. "And here—mother!" He caught a tottering, gray-haired figure in his strong arms. Mrs. Stackpole, like all heroines, had first accomplished her deed, and then fainted away.

The railroad company did not enter a complaint against Cyrus Stackpole. His big, black-bearded, healthy son may have had something to do with that, and he may not. Very likely, the unrestricted and undisputed right of way through the old man's orchard was an inducement. At any rate, the matter was dropped, and Cyrus Stackpole proved to be so subdued in spirit that, only two days after his stump fence disappeared from the track, he rode through his own orchard on one of the detested trains, on his way to Wilmington with his son, to buy a brand-new suit of clothes and "see the sights."—James Buckham, in the New York Evening Post.

Prize Watermelon.

When Squire Hayward went out to pluck the prize watermelon of the patch he was chagrined to find that a thief had been there before him. Scattered portions of well-gnawed rind and a shower of seeds told eloquently of the feast.

The squire's quick eyes also saw foot-prints in the moist loam leading away from the spot and he followed them until he came within sight of Rufus Chalk-eye's cabin. Rufus was a deacon of the only colored church in the neighborhood. That same afternoon, as Squire

Hayward was walking into the vilage, he met Rufus.

"Good morning, Rufus," he said amiably.

"Mornin', Mistah Hayward."

"Rufus," went on the squire, "I had the biggest watermelon stolen out of my patch last night; you have no idea who took it?"

"Law me, Mistah Hayward! Is dat so? Dun tuk de melyon right outen de patch! Now what low down niggah dun do dat, yo' reckon?"

"Hard to tell, Rufus, unless it was you; I followed the tracks which led right up to your cabin."

"Fo' de Lawd's sake, Mistah Hayward! De tracks dun led right up to de doah! Now ain't dat cur'us! Lucky t'ing I didn't happen t' be seatin' out dah in front ob de cabin; monstrous lucky t'ing for dat mizzable niggah who tuk dat melyun, kase Rufus wud ob had him exchanged f'um de church, sah!"

"What is that on your coat, Rufus?" went on the squire. "By George it's melon juice, you black rascal!"

"Deed it ain't, Mistah Hayward! Dat's nuffin' but possum gravy; dat possum gravy has been on mah coat evah sence last wintah, sah; yes, sah!"

When the squire moved on Rufus looked after him quizzically for a time and as he shuffled forward muttered to himself:

"Clar tuh goodness dat man dun tahk'd laik he suspishun'd me."—Ohio State Journal.

When He Dropped In.

Katharine—I detest that Mr. Tiffington.

Margaret—Why, Katharine? Katharine—Oh, he's the kind of man who always calls when you are expecting somebody else who doesn't come.—Life.

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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, and no single subscription will be entered for less than this price, every old subscriber is authorized to send his own renewal for one year and one new subscription for one year with one dollar to pay for both. In like manner two new subscribers will be entered both for one year for one dollar. Address, Kansas Farmer Company, Topeka, Kans.

Chairman Campbell, of the Kansas Live-Stock Sanitary Board, reports several cases of Texas fever on the ranch of J. C. Leman at Kechi, Sedgwick county. The range has been quarantined.

Probably the largest single contract ever made for the transportation of freight was that of the Wabash railroad with the Carnegie Steel company for carrying out of Pittsburg 4,000,000 tons annually of iron and steel products.

The Illinois College of Agriculture has instituted a special course in corn judging, thus placing it on a par with stock judging. Along with this work instruction will be given in the principles of corn-growing and corn-breeding.

Since potatoes have gone soaring off into the regions of extraordinary prices the question has been raised whether they are of much value for food anyhow. One hundred pounds of potatoes contain on the average 78.9 pounds of water and 21.1 pounds of dry matter. Of this dry matter 17.3 pounds are digestible. The digestible matter consists chiefly of starch, which is just about the least valuable of all vegetable digestible nutrients. The water in the potato is neither more nor less nutritious than that taken from the well. For nutritive purposes a pound of wheat is worth in dollars and cents almost seven times as much as a pound of potato. The physiological effects of the potato are thought to be good. Doubtless this and other fresh vegetable substances have their uses. But persons who find potatoes too costly for general use may congratulate themselves on the fact that for repairing the waste of the body and for giving strength the potato amounts to very little anyway. For these purposes rice is worth more than 4 1/2 times as much.

A WARNING FROM THE DESERT.

Down on the Rio Grande river on the Texas side, cut by 99th meridian west longitude and country of Zapata. Reports indicate that the drouth has

been singularly severe in this country. It is occupied chiefly by Mexicans engaged in the cattle business. The cattle long ago ate all grass, grass roots, and leaves of the mesquite. Next they ate the prickly pear and are now starving in large numbers. The people are reported to be on the verge of starvation. They are being assisted by the people of Galveston, San Antonio, and other cities of Texas.

This is but an instance of the pressure of population beyond the lines dividing fertility from aridity. To make any considerable enlargement of present productive areas in the United States, it will be necessary to provide means of irrigation on a scale as yet little realized in this country. The greening of the desert under conditions of unusual precipitation tempts people beyond the areas of reasonably sure production, and too often results in such catastrophes as have overtaken the inhabitants of Zapata County, Texas. Doubtless a safer plan is to intensify the cultivation of more favored lands. The warnings of these disasters of the desert are not likely to cease with the present season.

THE VALUES OF SOME FEEDS.

"The farmers in this vicinity would like to know something about the value of certain kinds of feed for all kinds of stock so as to get the best returns at the least expense. What we would like to know is: What is the best and cheapest feed for pigs from weaning time to marketing? The feeds we have at hand are corn at 50 cents, oats at 30 cents, and rye at 40 cents per bushel. These are the three principal grain feeds in this locality. If these feeds are to be combined, please give the proportion of each; whether it should be fed ground, soaked, or dry for best results. The pigs to be fed are to be sold on the general market and all agree that the sooner they go to market the greater the profit."

This inquiry was cut from an Iowa paper. It affords a text for a brief discussion of economical feeding which may be helpful in Kansas as well as in Iowa.

The enquirer would have been much assisted in solving the problem for himself had he possessed a copy of the discussion of "Feeding Stuffs," published in the KANSAS FARMER of February 21, 1901. (This was later reprinted in pamphlet form and is sent to any address on request enclosing 2 cents to pay for postage and mailing.) In an extended table given in connection with this discussion approximate relative values of 141 feeding stuffs are given. These are computed to correspond with corn at 28 cents a bushel. Corn is a tolerably safe basis for comparison, being in more universal use than any other feed. It does not supply a balanced ration, but contains an excess of heat and fat-producing materials as compared with those which produce blood, milk, and muscles, and other tissues. A computation of relative values under abnormal conditions of production may give results not entirely in harmony with those of normal years, but unless there is considerable variation in the relative amounts produced of the several nutritive constituents it will be reasonably accurate to assume that the values of the several nutritive constituents vary in about the same ratio. Thus a pound of protein is worth about 10.5 times as much as a pound of carbohydrates when usual prices prevail, and we shall not be far wrong in assuming that when prices have doubled a pound of protein is still worth about 10.5 times as much as a pound of carbohydrates. This ratio would not hold if a very large proportion of the feeds produced were alfalfa or some other plant which contains a large percentage of protein and which produces almost as well in such a season as the present as in a normal season. In that case the market value of protein would not in general be so greatly in excess of that of carbohydrates and would not advance as much on account of a dry season. The relation of values of protein and carbohydrates may likewise be slightly disarranged this season on account of the liberal supply of bran as compared with corn and other carbonaceous feeds.

Notwithstanding the causes which may cause slight variations from the usual relation of values of nutritive constituents it is believed that for practical purposes the values given in the table referred to may be taken as relatively correct. This being assumed it is a mere matter of arithmetic to determine from the tables which feeds are cheaper when the market prices are given.

It will be convenient to express the values in cents per 100 pounds rather than in cents per bushel. We shall then

have from the figures given by the correspondent of the Iowa paper:

PRICES IN IOWA AS GIVEN BY THE CORRESPONDENT.

	Cents per bu.	Cents per 100 lbs.
Corn	50	89
Oats	30	94
Rye	40	72

From the table of relative values of feeding stuffs in the pamphlet referred to we may find the values of each of these feeds when shelled corn is worth 28 cents a bushel or 50 cents a hundred, and from these values it is easy to compute their values when corn is 50 cents a bushel or 89 cents a hundred, or 1.78 times as much as the basing price in the table. Such calculation will give:

FEEDING VALUES WHEN CORN IS 50 CENTS A BUSHEL.

	Cents per 100 lbs.
Corn	89
Oats	84
Rye	99
Wheat	102

It will be seen by comparison of the last columns in these two tables that the correspondent can not afford to feed oats very liberally at the prices, but that rye, which costs him 72 cents a hundred, is worth 99 cents when corn at 50 cents a bushel is taken as the standard.

The question of grinding the feeds is not here considered. Doubtless the rye, especially, ought to be crushed, and this may add to the cost the full amount saved on the price.

Either oats or rye is more nearly than corn a "balanced ration" for any kind of stock.

In the table last above given the feeding value of wheat compared with corn at 50 cents a bushel is given. This corresponds with about 61 cents a bushel for wheat. It is not likely that the Iowa man can afford to feed wheat. But many Kansas farmers are using wheat with advantage. If crushed and dampened and fed with the roughage to cattle, it is brought up and remasticated with the cud. It is then well digested and constitutes an economical feed at a cost corresponding to its theoretical value.

The KANSAS FARMER will gladly assist in solving the feeding problem as it is met this year for any of its readers who care to send in a statement of the situation.

THE HESSIAN FLY.

Reports from the Kansas wheat belt indicate that the largest acreage ever sowed in the State will go into the ground during the next four weeks. Much will be sowed very early to secure the greatest possible amount of pasturage. Apprehension of danger from the Hessian Fly will have little effect when the farmer can figure out a good profit from the use of the wheat for green forage alone with a chance for a profitable grain crop if the fly can be circumvented, and a chance to plow and plant the wheat land in corn after other forage shall have grown in the spring, in case the flies shall have appeared in sufficient numbers to seriously endanger the wheat crop.

It has been repeatedly stated by Kansas farmers and stockmen that pasturing the wheat, especially spring pasturing destroys the Hessian flies. Some entomologists have doubted the correctness of the belief that pasturing had much to do with the immunity of the pastured fields from the fly. It has been stated that the eggs and the pupae of the flies are found close to the root at or beneath the surface of the soil.

The subject of the Hessian fly in its relation to the wheat crop was given careful attention this season by the New York Experiment Station. In a bulletin just published Prof. M. V. Slingerland, of that station, says:

THE EGGS.

"The minute, slender, pale red eggs are usually laid in regular rows of 3 to 5 or more on the upper surface of the leaves of the young wheat plant. A single female may lay from 100 to 150 eggs, and in the case of the spring brood they are sometimes thrust beneath the sheath of the leaf on the lower joints.

WHERE THE MAGGOTS WORK.

"The minute greenish-white maggots hatch in from 3 to 5 days and crawl down the leaf to the base of the sheath, embedding themselves between the sheath and the stem, and develop on the substance of the wheat stem, causing more or less distortion and bulbous enlargement at the point of attack. In the fall the maggots work close to the root, at or beneath the surface of the soil. But the spring brood of maggots usually works just above the first or sometimes the second joint (as the eggs

are usually laid on the leaves above the first joint), and occasionally they attack the plant just at the surface of the ground, like the fall brood. The maggots continue to feed upon the wheat stem for about twenty days, when they contract and their outer skin forms a hard brown sheath called a puparium.

THE "FLAXSEED" STAGE.

"From the resemblance to a "flaxseed, the puparium just mentioned has long been familiar to farmers as the "flaxseed" stage of the Hessian fly. Where the insect occurs in considerable numbers these "flaxseeds" are easily discovered in the same places on the plants where the maggots worked, as described above, and every farmer should familiarize himself with this stage of the pest.

"In normal seasons most of the maggots have passed into the "flaxseed" stage before zero weather occurs in the fall, and the winter is passed in this stage. In the case of the spring brood, the insect remains in the "flaxseed" stage in the stubble during mid-summer, the length of time depending much on the moisture conditions.

WHEN THE FLIES APPEAR.

"Within this brown 'flaxseed' or puparium the maggot turns completely around so that its head points upward and then it undergoes its wonderful transformations through the tender pupa stage into the winged fly which emerges by pushing off the end of the 'flaxseed.'

"The spring brood of flies emerges from the over-wintered 'flaxseeds' mostly in May, some earlier and some later. These lay eggs from which the spring generation of maggots develop. The time of emergence of the flies from mid-summer 'flaxseeds' usually extends through the last days of August and much of September; if it is unusually dry in August, the flies will not emerge so early."

The information given in these quotations from Professor Slingerland is most encouraging since it makes it reasonable to suppose that pasturing the wheat diminishes the number of flies by destroying the eggs. While, as has been stated by other entomologists, the maggots of the fall brood work close to the root, at or beneath the surface of the soil, we are informed by Professor Slingerland that the eggs are laid on the leaves. On this position they may be taken by the grazing animals at any time during the 3 to 5 days before they hatch and the resulting worms crawl down the leaves to the bases of the sheath.

Possibly the grazing animals may have a double chance at the spring brood of flies—the ones that do most of the damage to the wheat. The flies of the spring generation appear to be at least as high minded as their immediate progenitors of the fall brood, and they usually lay their eggs on the leaves above the first joint and the maggots work above the first or sometimes above the second joint. It is not usual to pasture wheat much after it begins to joint but close pasturing up to the time of jointing may get the eggs of the earliest hatched flies.

While the information given by the New York bulletin does not make it certain that pasturing is a remedy for the Hessian fly it does harmonize with the experience of those Kansas farmers who have found pasturing beneficial, although it appears that Professor Slingerland was not aware of any benefits to be derived from pasturing for later he says:

"There is no way of getting at the spring brood of the insect except to destroy the crop by plowing or cutting for fodder. And the use of insecticides of any kind would be impracticable in a wheat field even if one could thus poison or otherwise kill any stage of the insect, which is very doubtful."

The following is the summary of conclusions stated in Professor Slingerland's bulletin:

CONCLUSIONS.

- (1). That wheat raising need not be abandoned but the number of acres should be reduced until by reason of such reduction every acre sowed will be raised under superior conditions.
- (2). That the soil must be so well fitted and so fertile that a strong healthy growth will be secured in the fall though the sowing of the seed be delayed ten to fifteen days beyond the usual time. Such preparation of the soil will also help the wheat to recover from any winter injury.
- (3). That the Hessian fly injures the wheat more on dryish and poor land than on moist but well drained, rich soils.
- (4). That thick seeding and vigorous growth tend to ward off the fly.

(5). That the resisting power of varieties varies greatly. Those with large, coarse, strong straw are less liable to injury than weak-stawed and slow-growing varieties.

(6). That there were at least six varieties grown in the State this season that were not appreciably affected by the fly, though numerous other varieties in the same neighborhoods were much injured. Of course only Dawson's Golden Chaff has been tested at the station and this has been found to be a superior wheat for general culture. The other resistant varieties are Prosperity, No. 8, Democrat, Red Russian, and White Chaff Mediterranean.

(7). That farmers in this State can not be induced to cut and burn stubbles with a view to destroying the insect, since the practice of seeding to grass and clover is almost universal and burning the stubble, if possible to do so, would destroy the young meadow plants. Work is too pressing also in midsummer to justify destroying the volunteer wheat that comes from the harvest shatterings. Much may be done, however, by sowing early in August, one or more strips on the side or sides of the field. The plants on these strips come on early and form ideal conditions for the laying of the eggs of the fly. Later, after the remainder of the field has been sowed the strips are plowed deeply (using a skim or jointer attachment to the plow) fitted and sowed. This preventive measure is about the only one which is worth considering in addition to the late sowing of hardy varieties on well fitted, naturally fertile soil or soil made fertile by the liberal application of farm manures and commercial fertilizers.

"A Beautiful Park."

GEO. W. TINCHER, TOPEKA, KANS.

The campus grounds belonging to the Kansas Hospital for the Insane at Topeka come nearer to being an ideal park than anything of like nature in this part of the State. Twenty-five years ago the 60 acres of rolling prairie was entirely bare of trees or shrubs. The highest point is just south of the administrator's building, gently sloping to the east and south, the lowest point being the east side. There is a large draw forming south of the center from east to west, and making its exit on the south side. This draw has been planted to forest trees, and with proper care it will be one of the prettiest spots on the entire ground. The buildings all have a south frontage on the campus, which gives a beautiful view as well as fresh air and sunshine.

DRIVES.

The main drive enters near the southeast corner, and runs in a northwesterly direction. Near the main office the drive divides, one leading to the office and the other turns to the front of the east building, thence along the east side of the grounds to the place of beginning. There is a good supply of walks, all of which run to the place intended, with gently regular curves. All the drives and walks are free from short reverse curves and are pleasing to the eye. They are well made from coal cinders furnished by the institution.

FIRST PLANTING.

It was about twenty-five years ago when the first planting began, consisting of elms, box elders, cottonwoods, catalpas (bignoidies), soft maple, and a few other sorts. They were planted in clusters, with little attention to straight lines. Nearly all these early trees have grown nicely, but some have been neglected, as their present condition plainly shows this.

SECOND PLANTING.

I would judge from the growth of the trees and shrubs, that a general planting took place about sixteen years ago. Through the grounds can be found many groves, which give shade and pleasure to the inmates of the institution. The grounds have many open places, consisting of one to a dozen acres. One of these larger open spaces is used for a base ball park, and many a hotly contested game has been played there. The entire ground is nicely seeded to blue grass and clover.

TREES.

Of the deciduous trees the native elm has been used quite freely. These lines are written in the shade of one of the larger trees, with a top spreading fully 50 feet. Scattered here and there through the grounds may be found a goodly number of the following sorts: Hackberry, honey locust, cottonwood, soft and hard maple. There are 3 species of the catalpa, Russian mulberry, weeping mulberry, linden, sycamore, white birch, and perhaps others. Of the evergreens the Austrian pine seems to

have given the best results. I find many fine specimens of red cedar, white and Norway spruce, and dwarf mountain pine. The Scotch and white pine show the effect of the blistering heat of June and July. All these trees have been planted to give the best possible results. I noticed many of the trees have been cultivated by removing the sod from around the trunk. This should have been done ten years ago, but it is not too late now, and the trees will quickly respond to the treatment.

SHRUBS AND FLOWERS.

The shrubs are represented by all the hardier sorts. They have been well distributed throughout the grounds. In favorable seasons the bedding plants are by far the finest in the city. The rock garden at the division of the main drive, near the office building, is indeed a fine piece of work. It is by far the prettiest thing of the kind in the State, and shows itself to be the work of an expert.

CONCLUSIONS.

It seems to me the evergreens could be greatly improved by a severe pruning, many of them, owing to the prevailing south wind, have been blown to the north. This can be overcome by trimming the tree on the top and the north side. All the openings can be closed by drawing the remaining limbs together and tying with soft twine. All evergreens should be symmetrical in form. I find this can be accomplished very quickly by top pruning.

I would remove all the cottonwoods save one or two specimens on the lowest ground. All the forest trees should be thinned, and during the next few years at least one-half should be removed. The remaining trees should be trimmed up to a good height, so as to allow plenty of room under the lowest limbs. This is especially true of the forest grove situated in the draw just south of the main building.

I would remove all the catalpa (bignoidies), from the exposed situations. The beauty of this tree is the full flowers in early summer, the leaves being so large the wind should not have free access to the tree. White birch should also be planted in sheltered locations, hardy weeping mulberries, flowering crab, and many other sorts could be used to good advantage.

White, burr, and red oaks should be grown in large numbers, as they would add great beauty to the grounds. A red oak fifteen years from the acorn will make a fine tree, which should be more than 20 feet high with a trunk at least 6 inches in diameter. A State institution is to stand for all time, and I would like to see more of the really beautiful trees on the campus grounds.

Regeneration of the Corn Plant.

J. C. SUFFERN, VOORHIES, ILL.

The writer, while recently engaged in "roguing" (destroying nature's weaklings), his corn crop, during the time of the unseasonably hot weather of last July, had occasion to note the great difference in the effect of the scorching hot rays of "Old Sol" in fields of degenerate and in fields of well-bred varieties of corn. According to his own observation, and also that of many reliable farmers throughout the great corn belt, there is but a very small per cent of barren stalks in well-bred corn in comparison with the large proportion so affected in the numerous fields of degenerate corn.

During twenty-nine years that the writer has been engaged as a cereal breeder he has often noted that imperfect pollenization of the corn crop is as often due to unseasonably cold as to severely hot summer weather during the blooming period.

But also during these years he has talked with many farmers in widely separated localities in the great corn belt who had but little conception of the mission of the silk on the shoot, or the pollen in the tassel of a stock of growing corn. Yet there are many farmers who partially understand the great importance of the offices of the pollen and silk as concerned in the productiveness and general well-being of the variety.

Many tassels in most fields of ordinary low-bred corn throughout the corn belt, owing to sexual impotency due to barrenness and its attendant degeneracy, are sterile or non-fertilizing, even when being grown under the most favorable weather conditions. Consequently the innate weakness and impotence of the insufficient quantity of pollen which they commonly produce is in condition to be still further weakened or entirely killed by unseasonably hot or cold weather during the blooming period. Therefore it is very poorly fitted for vigorous grain producing fertilization.

Naturalists agree that throughout the entire vegetable kingdom the produc-

tiveness of fruit and grain plants depends entirely on vigorous and progressive pollenization.

The writer believes that the barrenness and indolence which so thoroughly pervades all degenerate vegetable life is continually operating to reduce its productiveness, as well as its breeding standard, through the medium of imperfect and degenerate pollenization; indeed, the one term embraces the other. There is no question in the writer's mind that such impotent pollenization operates in various ways for the reduction of both quantity and quality of the product.

During years when weather conditions are very favorable the tendency to barrenness is not so manifest. But during seasons like the present one, or during unseasonably cold summers, the innate barren tendencies gain such supremacy that he who runs may read. Especially does such condition of the corn crop prevail throughout the corn belt at the present time, for late reports from farmers, which are almost daily reaching the writer, say that the per cent of barren stalks in various fields ranges from 7 to 73 per cent, depending on the degree of degeneracy of the variety of corn. But in the writer's own fields he has been able to discover only a fraction more than 5 per cent of barren stalks.

The greater or less perfect growth of an ear of corn, without doubt, depends on the degree of vigor and profusion of its silk and pollen, and also on the same conditions of the pollen in no less than 100 neighboring stalks.

The silk on the shoots in such a field of corn is also of the same impotent and abortive nature as is the pollen, and according to the writer's opinion is responsible, even to a greater degree, for yield depreciation, owing to unseasonable weather conditions, than is the pollen.

In fact, when the silk of a shoot is killed, its yield is irreparably damaged; while if, say, 50 per cent of the tassels are killed, on the same principle that one male chicken is sufficient for one dozen females, so is one vigorous corn tassel sufficient to properly fertilize the silk on one dozen shoots, provided the shoots are not abortive or killed. On the other hand, a field of well-bred corn, by reason of its very profuse and continued growth of vigorous, progressive, grain-producing pollen and silk, is always in condition to, and undoubtedly does, resist periods of unseasonably hot or cold weather during the blooming period.

Any observant person who may take time for careful examination of the organic progress of a corn which is being bred up, will note that as the tendency toward barrenness decreases the stalks yield a much larger quantity of pollen and silk than do the stalks in a field of degenerate corn.

During the writer's experience he has often noted that in a field of well-bred corn nature provides a much superfluous quantity of pollen, and as pollen contains much nitrogen and phosphorus (the 2 most precious of all the elements for the fruitful growth of plants), such excessive growth of vigorous pollen finds its way into the soil and serves as rich manure for tissue building. Any particular field of corn which has had its tassel and silk badly unburned, denotes that a large per cent of all the individual plants, owing to the continued absence of well directed breeding pressure, possess a greatly lessened degree of constitutional vigor. In fact, they are weak in every organ, and most especially so in their sexual organs, and do not fail to make very unsatisfactory yields, even during favorable crop years.

During the past three or four years large numbers of enterprising corn farmers are seeking means for the reduction of the barrenness in their cereal crops. During the writer's experimentation to secure means for the accomplishment of such a desirable end he has demonstrated to his own mind that the shortest cut for such accomplishment consists in judicious crossing of similar varieties which have had very careful field roguing during a series of years, the cross (if successful), to be followed up by a series of years of well-directed breeding pressure, or until the new creation becomes cosmopolitan (at home anywhere), in character, with subsequent removal of the seed to many divers soils and climates.

Russia Prepares for Famine.

A statement from St. Petersburg dated August 15, says:

"The day on which the first fruits of the harvest were blessed in the churches, which was celebrated throughout Russia this week, was a day of mourning in many provinces. The outlook has grown worse almost every week

during the last four. Even vegetables, including potatoes, have been largely burned by the scorching heat in some districts. The approaching winter will be one of the gloomiest Russia has ever known.

"The government already has begun preparations for the feeding of the population in districts where starvation is threatening. By a law adopted some time ago, the Zemstvos, or district assemblies, are relieved of all responsibility in the matter, the famine relief funds now being turned over to the central government. Agents of the ministry of the interior are engaged in buying grain, though the Russian press is forbidden to mention the matter. The precise object of this prohibition is difficult to divine. It can not be possible that the government thinks the grain speculators can be taken unawares, and the secrecy with which the prices and the localities of purchases are invested can hardly be conducive to economy.

"The latest trustworthy reports show the crop condition about August 1. Excessive heat and aridity prevailed during the preceding six weeks. This cut off the development of the grain and unduly hastened maturity. Sufficient rainfall was observed only in the western and Baltic provinces."

English Banking Customs.

Bankers adopt various systems of marking dishonored checks, but it is done in such a manner that the person to whom they are returned may excusably protest that the banker's answer is unintelligible to him. R. D. (refer to drawer) are the letters which are most often written upon a dishonored check by a banker, and their meaning is that the drawer has not the money standing to his credit to meet the check he has given.

N. S. (not sufficient) implies that the drawer has some money standing to his credit, but not enough to meet the check which the banker has thus marked. A banker never states the amount of the deficiency, nor will he, if asked by the presenter, give any idea of what sum is standing to his customer's credit, as the payee, were he supplied with this information, could pay in the sum wanted, and then re-present the dishonored check, when the banker would be bound to honor it.

In Scotland the presentation of a check entitles the payee or holder to a lien upon any smaller sum that may be standing to the drawer's credit.

In the eye of the law your banker is liable upon any forged check which he may have debited to your account. For forged endorsements, however, the paying banker is not liable, and it is therefore most important that you should receive an acknowledgement of all checks dispatched by you through the post from the persons to whom you send them. In sending checks through the post it is always well to remember that a bona-fide holder who gives value for a stolen check, provided it is not tainted with forgery, can sue you, whereas, if the words "not negotiable" be written across the check, he can not.

Many people have somewhat hazy notions about out-of-date checks, yet the matter is quite simple. The drawer does not cease to be liable upon the instrument until six years after the date thereupon, though most bankers would probably decline to pay a check that had been outstanding more than six months. The drawer may claim damages from the payee if he can prove that he has suffered loss through his delay.

If a banker return a customer's check when his account in reality is in funds the customer can bring an action against his banker for damages, and, adds Mr. Warren, the banker generally prefers to settle such a case privately.

The question is often asked: "What balance should a customer keep with a bank in order to entitle him to have his accounts conducted free of charge?"

This is answered as follows: "A small account in the provinces, upon which an average balance of £50 is kept, will be conducted free, and * * * it does not appear customary to debit such accounts in London with any commission provided a credit balance of from £60 to £100 be maintained. If, therefore, your accounts be of this description and you find a debit of 2s. 6d. or 5s. in your bankbook, by all means decline to pay it, for it may as well be stated at once that a joint stock bank official often considers the nature of the customer as well as the nature of the account, and that he will, if he thinks you look a juggins, debit your account with a few shillings at the end of each half year.—London Mail.

Horticulture.

Wasps Injurious to Fruit.

EDITOR KANSAS FARMER:—Your refer the inquiry of Mr. C. D. Perry, of Englewood, Kans., to me for answer. The common paper wasps are probably more beneficial than injurious, but their injury to ripe fruit of all kinds at this time of the year is quite important. They are easily attracted by fermenting sweet substances and in this way can probably be poisoned. A mixture of molasses and some poison, such as strychnine, arsenic, etc., spread on the trunks of trees, or on boards and placed near the fruit that is being affected will probably afford some relief. In case it is not desirable to use the poison around the orchard, the molasses alone will probably attract large numbers of the wasps away from the fruit. Since honey bees are worse than wasps in some localities, in regard to ruining fruit, care should be used not to poison too many of some neighbor's pet bees. Careful destruction of the nests of the wasps will keep down the numbers to some extent.

JESSE B. NORTON,
Asst. Entomologist.

Bees and Pear Blight.

The committee appointed by the fruit growers of Kings County, Messrs. J. J. Cortner, N. W. Motheral and A. V. Taylor, has presented a report to the Board of Supervisors which reads as follows:

"Your committee appointed at a mass meeting of the fruit growers to investigate the pear blight in Kings County, and the connection of bees with the spread of the same, and the remedy, if any, would make this report:

"First—The pear blight is not in the least abating, but it seems to be increasing. There is no pear orchard in the county free from the disease, and many orchards have the appearance of having been burned over.

"Second—No remedy has been discovered that will check the disease.

"Third—No change has been produced in the minds of your committeemen in relation to the original cause of the rapid spread of the disease, that the bees are the principal agents in the spread in the flowering period of the pear trees.

"Fourth—We believe the only remedy is the removal of the bees, to at least 5 miles from the fruit districts, otherwise the pear industry will soon be a thing of the past in this county.

"Fifth—We, your committee, would ask the Board of Supervisors to give the fruit growers any aid in investigating the subject of pear blight or the removal of the same, for which we believe the bees are largely responsible, to do the same."

The Board of Supervisors will consult the district attorney in regard to its powers in the matter.—California Fruit Grower.

The "New" Potato Swindle.

The celebrated Connecticut Yankee "nutmeg" has had its share of newspaper space, describing the deception practiced in its manufacture; then, too, comes the endeavor of mankind to make a substitute for the wholesome egg of the industrious hen. Now from the far off State of California, tidings are sent of manufactured "new" potatoes. No article of food is so quickly sought after in the spring and for which such fancy prices are obtained as new potatoes. Several enterprising firms of the West, by a supposed private process of making new potatoes, get at least two months' advance on the market in many places and thereby reap a profit many times above what the legitimate natural product would bring.

The method of the manufacturer of the "new" potato is done as follows, states Dr. G. W. Harvey in an interview: Late in the season after other crops are out of the way, the gardener plants a crop of late and good keeping potatoes. These potatoes are dug and buried in heaps in the open field and left until spring opens and the new potato season arrives. These heaps are then opened and the tubers sorted. A large kettle is near at hand and made ready by filling it with water and adding sufficient lye to effectually curl the skin of the potato when dipped into the solution. By means of suitable dipping, washing, and drying apparatus the skin of the potato is made to crack and curl so that its resemblance to a new potato is so near that it would be hard to pick out the impostor.

The housewife can detect the spurious article by a faint lye odor arising from the water in which they are boiled, while the water itself will

have that slippery, alkaline feeling incident to all lye solutions. Otherwise, it is said to be practically impossible to detect the imposition.—G. E. M., in Indiana Farmer.

\$50,000 Worth of Apples on His Trees.

According to the Kansas City Journal Mr. B. F. Coombs, of Kansas City, has refused an offer of \$50,000 for the apples he has hanging on his apple trees in Kansas. The proposition was made by C. O. McDonald, representing Patrick Gleason, of Le Roy, N. Y., who is known as the "Apple King." Mr. McDonald indicated that he expected the deal to be made, but Mr. Coombs stated still later that he had decided not to accept the offer.

"I have concluded, after careful investigation," he said, "that my crop will be worth several thousand dollars more than the amount is proposed to give."

Mr. McDonald expressed the opinion, after having visited 12 apple growing States, that Mr. Coombs crop this year will be more valuable than that of any other man. He has 640 acres of apples at Parker, Kans.; 500 acres at Lane, Kans., and 460 acres at Willow Springs, Kans. It is estimated that his entire yield will exceed 30,000 barrels. He will harvest 40 carloads of Jonathans alone. No other man in the world will have so many. His trees vary in age from 7 to 14 years, and include the Johnathan, Ben Davis, Winesap, Missouri Pippin and a few other varieties.

Mr. McDonald's estimate of the amount the crop would be worth to the house he represents was based upon observations he had personally made in all the Coombs orchards. He has been Mr. Gleason's chief buyer for seven years; and he can come as near to telling how many barrels of apples are hanging from trees on a given number of acres as any other man in the country.

"For seven years I have spent the greater part of each summer visiting orchards, and making estimates regarding the value of their crops for Patrick Gleason," he said last night. "During the last few weeks I have been in Kansas, Missouri, Nebraska, Colorado, Oregon, California, West Virginia, Pennsylvania, Maryland and New York, and have bought at least one crop in each State, and in some several.

"People sometimes ask me how I can come so near telling how many barrels will be gathered from a certain orchard. Well, I don't always come near it. I go out and look over an orchard, just as another man looks over a horse, and then I guess what it's worth. Sometimes I miss the mark widely; but, like a good judge of horses, I usually come pretty near it."

"New York, of course, has the best crop of the season," said Mr. McDonald. "New York always leads on apples. But I have found as good ones in Kansas and Missouri, as in any other place in the United States. No man has finer apples this year than Ben Coombs.

"Dry weather has effected the crop some. The 'big Missouri red apple,' raised in the southern part of that State, will not be much in evidence. The crop in that part of the State is almost a failure. Taking the country at large, there will be less than two-thirds of a crop, and prices will be a trifle high. There will be little if any difference, from former years, in the prices at fruit stands and grocery stores; but a barrel will cost about \$1.50."

Mr. Gleason, whom Mr. McDonald represents, handled 253,000 barrels—\$1,000,000 worth—of the king of fruits last year. He has cold storage facilities this year for 300,000 barrels, and expects to handle that many.

Evaporation of Apples.

A good evaporator may be made by erecting a cheap building 18 feet square and two stories high, with one floor 8 to 10 feet above the ground. This floor is made of slats 1½ inches wide and 1 inch thick, beveled on lower edge. These slats are laid so as to leave a crack ¼ of an inch wide on top and ½ an inch wide on under side. Stoves or furnaces are put on the ground in the lower story. Two or more holes are cut in the sides, each 2 feet square, near the ground; these are to let in the cold air. Ventilators of still greater capacity should be put in the comb of the roof to let out the heated air. The prepared fruit of 100 bushels of apples is spread out on this floor, and the temperature in the lower room raised to about 150 degrees, and by shoveling or turning the fruit once or twice it is dried in about 24 hours.

Procure paring machines that simply pare. The slicing should be done just before putting into the kiln. Two paring machines and 6 women ought to

pare and trim the fruit as fast as the kiln will dry it, and one active man can tend the fires, the bleacher, slice the fruit, put it in and take it out of the kilns.

The bleacher is any kind of a tight box to hold the fruit with a pot of burning sulphur in the bottom. This bleaching, as it is called, is done to keep the fruit from turning brown before it is dried. Ten to fifteen minutes over the burning sulphur will hold it.

Where a business is made of drying 5 or more of these kilns are joined together, and an elevator is made to bleach the fruit and carry it to the floor above at the same time.

I can not here describe the paring machines, bleaching, etc., needed. I can not now even remember the names of the manufacturers; they should advertise in your paper. One ton of coal should dry 125 bushels of apples, and 1 bushel of apples should make 5 pounds of dried fruit and 5 pounds of dried cores and parings. The prices with us have ranged from 5 to 14 cents per pound for the dried fruit, and from 1½ to 3 cents for parings and cores.—F. Wellhouse, Topeka, Kans., in the Practical Fruit Grower.

Crude Oil as a Spray.

Crude petroleum vs. arsenic as an insecticide has been under test in Canada by Mr. G. E. Fisher, Provincial Inspector for San Jose Scale. On June 21 a spray of paris green was applied to some trees affected with canker worm and of crude petroleum to others. Four days after those trees which had been sprayed with crude petroleum showed better results than those treated with arsenic, and the foliage not injured in the least by the petroleum. The danger which seems to lurk in the petroleum is in giving an overdose, as most spray nozzles are altogether too coarse and can not be regulated so as to produce a vapor. The smallest Vermorel nozzle made has an aperture of 5-100 of an inch, or 20 diameters to the inch, but Mr. Fisher employed a watchmaker to make much finer ones, some of them even as small as 2-100, or 50 diameters to the inch. With these an exceedingly fine spray was made and every part of the foliage covered, but with a small quantity of petroleum. This, the Canadian Horticulturalist thinks, "is a much more sensible plan than that of attempting to mix kerosene and water, for they will only mix mechanically, not really, and will separate almost immediately." It is certainly simple of application and is also an admirable insecticide which can be applied without injury to the foliage.—American Gardening.

Layering Strawberries.

R. M. KELLOGG IN WESTERN FRUIT GROWER. The runners in the propagating bed should be straightened out and layered so they will have plenty of room and light. Do not allow them to be clus-

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tered together so as to exclude light from crowns.

First break the crust and lay the node next to fresh earth. Just back of the leaf place a clod, or preferably, a small stone, so as to hold it in place and it will send down roots even though it be pretty dry, but if left to themselves to run around in the wind they will get turned up in such a way that they will not root at all. Bear in mind the fact that this terrible drouth and heat will injure many fields to such an extent that plants will be very scarce and every extra one you have will find a ready taker. In the fruiting field this will pay largely. We have 22 men down on their knees placing the runners and they have been at it a week. As soon as they have finished a plat we irrigate it and in twenty-four hours the runners have roots an inch long. While the operation is somewhat costly yet the conditions are such we feel very confident the money will be returned four fold. Not only do the runners layered in this way root quicker and enable the plant to perfect itself early, but the relative position of the plants are just where you want them. In layering for the hedge row keep the plants in a straight row so the cultivator may cover as much of the surface as possible; pinch off the extending runner so all the sap may be utilized by the plant. Depend on it, the extra price and quality will pay for the work. Its money invested to be returned later with large dividends.

Ate His Bonnet.

An English driver for a Market street business house persuaded his employer to buy a straw hat for the horse during the recent hot spell, and on Tuesday the horse appeared without the new headgear.

"What has become of the horse's bonnet, Harry?" asked one of the firm. "Don't you think it is hot enough this morning?"

"'Ot enough. That it is, sir, but the bloomin' 'oss ate the 'at afore I could put it on 'im this morning," said 'Arry. —Newark Sunday Call.

Non-Union.

Harry.—Wonder why it was that Frank and Bertha broke off their engagement? I understood it was all arranged, even to the marriage day.

Dick.—It was discovered that the wedding ring was made by non-union labor, so the clergyman refused to perform the ceremony, and no minister in town dares to do it.—Boston Transcript.

If you eat without appetite you need Prickly Ash Bitters. It promptly removes impurities that clog and impede the action of the digestive organs, strength of body and activity of brain.

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.

Value of Education and Skill, Illustrated.

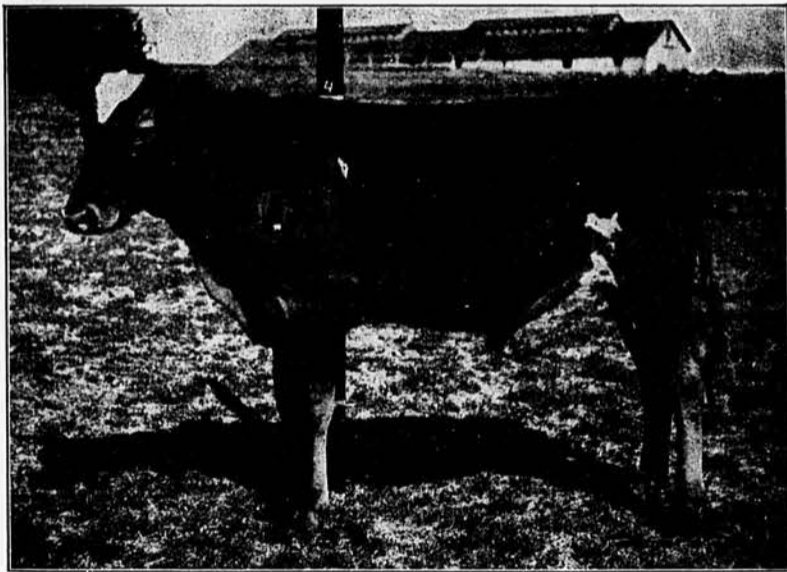
The value of education and skill is shown in the two cuts of Ypsey. This calf was born March 30, 1899, and weighed at birth 86 pounds. On account of his dam having a caked udder this calf was allowed to suck for several weeks. As a result of poor milk or some unknown cause the calf did very poorly. Finally we were obliged to take the calf away from its mother in order to make it live at all. Under the usual treatment of calves this animal kept growing worse and worse. This is shown by the fact that on June 17, Ypsey weighed just 90 pounds or 4 pounds gain during two months and a half.



Ypsey's Start in Life.

The herdsman above referred to undertook to bring this calf out although at the time no one would have offered ten cents for him. He tried nearly every thing he could think of from castor-oil, fresh eggs, calf meal, to dried blood. Just what effect these different things had is hard to say, but soon after giving dried blood this calf began to improve. By carefully watching every detail this herdsman succeeded in bringing this calf out in a remarkable manner, as is shown in the following cut.

Every township in every county of the State should have an institute each year. Public spirited citizens should see to it that their locality is provided with its share. One person in each community can make an institute a success provided he or she can induce others to join in the effort. To start the ball rolling is the most difficult part. Write to the Chairman of Farmers' Institute Committee, Manhattan, Kans., for any information desired. Select the general subjects upon which you wish



Ypsey When a Yearling.

After this calf began to improve it was not uncommon for him to gain 17 to 18 pounds per week. At one year old he weighed 578 pounds. This shows what can be accomplished by a man when skilled and full of determination and persistence along his special line.

D. H. O.

Picnic Institutes.

F. E. UHL.

Are farmers' institutes or institute picnics a luxury? Some communities must consider them so. If they have held an institute that was not as profitable as was expected, why not learn from past mistakes and try again. Quite a number of institute picnics were held last year. This year there seems to be even greater need of them. Quite a number of applications for college speakers are coming in at present and there should be many more. The rains we have had since August 1 have very

the college speakers to address you or for certain speakers if you wish, as the committee can not tell what may be the most acceptable to a certain locality. Some audiences have been wearied by addresses in which they had not interest. Do not forget the domestic science department, one of the most important and interesting in the institute as to the State in general. More young ladies would find it profitable to become better acquainted with it by becoming students here.

Why not take hold of this? There is plenty of time yet to arrange for a picnic institute about the first of October, or a fall institute, day and night session, held in some hall or schoolhouse. Let some one make the start, rustle half the program and call for the second half on the institute committee of the State Agricultural College, secure a date when college speakers can be present, then advertise.

much simplified the problem of furnishing roughness for the fall and winter. They should also make people feel like taking a day off for pleasure and profit. If handled properly an institute picnic is a great source of information and is certainly a pleasure to the younger generation.

The eastern part of the State especially, has experienced a severe drouth the present summer. There are various ways to recover from the effects of this drouth and various lessons to be learned from it. Why not meet together in an institute and discuss the situation with neighbors and several representatives of the State Agricultural College? Cultivation for holding moisture, including surface cultivation; the soil mulch and subsurface packing; corn culture; care of pasture, orchard, or garden; feeding the cow, steer, and pig the coming winter; breeding stock of better quality and less quantity; and many others which might be mentioned are all timely topics for an institute program.

Cream Ripening.

A. J. MYERS.

By "cream ripening" we mean all the treatment which it receives from the time it leaves the separator until it is put in the churn.

It was formerly thought to ripen cream was to let it sour, and the only test for the right acidity was the eye and taste. The acidity test has taken the place of taste, and artificial starters are being used to overcome undesirable flavors and odors.

The first step in ripening cream is determining the acidity of the cream. This will give the buttermaker an idea of what temperature to hold his cream to get the proper amount of acidity in given time. The amount of acidity to have in cream when ready for churning depends largely upon the flavor desired by the consumer, but as a general rule when cream has reached an acidity of .65 to .70 per cent it is ready to churn. Over ripening of cream injures the keeping qualities of the butter, and gives to it a strong undesirable flavor.

Cream should be ripened at a temperature of 70 to 85 degrees F, owing to the length of time in ripening and the amount of acidity when started. The texture of the butter depends upon the changes of temperature brought about during the ripening process. To get a good firm texture in the butter it is necessary that the cream be subjected to a temperature below 50 degrees F. for several hours sometime during the ripening. Buttermakers differ as to the best time to hold cream at this low temperature. Some hold that it should be cooled immediately after separation to below 50 degrees F. and held at this temperature. Others claim that the best plan is to hold the cream at a temperature favorable for the growth of lactic acid germs (75 to 80 degrees F.), until the cream contains the required amount of acidity for churning, and then cool to below 50 degrees F. and hold until ready to be churned.

The writer is inclined to believe that the latter plan is the best, as every change in temperature of the cream has an influence upon the texture of the butter, and the cooling of the cream immediately from the separator and the raising of the temperature again to the required point for development of lactic acid and then the cooling down for churning requires more changes than the ripening immediately from the separator, cooling down to churning point, and held until ready to churn. In order that the cream should ripen or become sour it is necessary that germs of lactic acid fermentation should find access to it and that a temperature favorable to their development should be secured. As a general thing in the handling of the cream a sufficient number of lactic acid germs will get into it to cause it to ripen or sour, but the number will vary from day to day and time to time so that a certain amount of acid can not be depended upon in a specific time. The cream may contain a dozen or twenty different kinds of bacteria and many of them may be undesirable and produce undesirable flavors in the butter. To insure a certain amount of acidity in a given length of time and to overcome the undesirable germs that may be in the cream, the introduction of lactic acid germs by artificial starters are very beneficial. The starter may be in the form of buttermilk or cream from a preceding churning, or it may be an artificially prepared starter "of sour skim-milk" or it may be one of the many commercial pure culture lactic ferments. The starter should be added to the cream soon after separation. The amount of the starter depends upon the amount of butter fat in the cream. A larger per cent of a starter may be added to a heavy cream than to a light cream.

College Dairy Notes.

F. E. UHL.

Our cows are holding to their milk yield in excellent form. They are pasturing sorghum, eat a little alfalfa hay, and are given bran as they can make return for it.

We are milking 23 cows at present. Four of these are kept in a dry lot and fed wheat straw as the only roughness, with ground wheat and cottonseed-meal as grain, in order to see if cows can be held to their milk on such a ration. This is especially difficult to do at this time of the year, but we are succeeding remarkably well.

Four cows and 5 heifers are on a feeding experiment to learn if their weight can be maintained on a ration of ground wheat and wheat straw.

In the calf feeding experiment of ground vs. whole Kaffir-corn, we find those getting the ground Kaffir-corn to



be making the best gains so far. Whether they will do enough better to pay for the grinding is yet to be proved.

We have now 2 Holstein heifers, 2 Guernseys, 1 Jersey cow and heifer calf, and a bull of each of the 3 breeds. There are also 3 representatives of the Polled Durham and 4 of the Red Polled breeds which may be considered as half dairy.

Manhattan was favored with nearly 4 inches of rain in 3 showers, from the first to the middle of the month. Kaffir-corn was sowed for fodder at that time. The rape pasture in the hog lot, though nearly bare before the rains came, took on a second growth, and is now furnishing plenty of pasture for the growing pigs.

REDUCED RATES AND SPECIAL TRAIN

To National Encampment, G. A. R.

The Great Rock Island Route will sell tickets to Cleveland, O., and return, for the Grand Army meeting, at greatly reduced rates. Tickets will be on sale at points west of the Missouri River Sept. 7th to 10th, inclusive, except Oklahoma and Indian Territory, where selling dates will be Sept. 7th and 8th. Return limit Sept. 15th, except that extension of limit to leave Cleveland, up to and including Oct. 8, 1901, may be arranged by depositing tickets with Joint Agent at Cleveland, and payment of small fee. Comrades of the "Rank and File" have selected the Great Rock Island Route and Lake Shore & Michigan Southern R'y for a special through train to Cleveland, which will leave Kansas and Oklahoma Sunday, Sept. 8th. Passengers on this special train will be given the privilege of going and returning via Toledo and boat or all rail as they may elect. Passengers making return journey by boat will have a delightful stop of three hours at the celebrated lake resort—Put-in-Bay. Any Rock Island Agent or the undersigned will give full details and arrange for sleeping-car reservations.

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WEEKLY WEATHER CROP BULLETIN.

Weekly weather crop bulletin for the Kansas Weather Service, for the week ending September 3, 1901, prepared by T. B. Jennings, Station Director.

GENERAL CONDITIONS.

Unusually high temperatures prevailed during the greater part of the week, but lower temperatures obtained the last days. The temperature reached 108 degrees at Phillipsburg, Little River, and Salina, and 105 to 107 degrees over the larger part of the State. Light showers fell in many counties, but in the northern part of Pratt and in the central and northern counties of the western division good rains occurred.

RESULTS.

EASTERN DIVISION.

The great heat of the first of the week damaged corn in many counties; it is needing rain very much in all counties. Corn cutting is progressing in all parts of the division. The earlier planted portion of the late corn will be out of danger of frost by September 15th, and the later planted by October 1. Peaches are ripe and a good crop is being marketed in most of the counties. Apples are improving. Prairie hay is being pushed but the yield is generally light; the second crop is being cut in Osage. The ground is too dry to plow now in most of the counties. Kafir-corn, cane, and millet are needing rain. Pastures are fairly good in Shawnee and Wilson, but are needing rain in all parts.

The fourth crop of alfalfa is now in stack in Morris.

Atchison County.—Very dry; hot winds early part of week; corn injured; ground too dry to plow; some corn cut; prairie hay in stack, light yield; latter part of week cool.

Chautauqua.—Conditions are good.

Cherokee.—Corn out of danger from frost about the 20th; a dry, hot week; late corn and second crop of prairie hay needing rain; peach crop large; apples will be good with more rain, or cooler weather; corn one-fourth crop or less.

Coffey.—Dry, hot week; few local show-

winds damaging corn and hay some; fine apples and peaches being marketed. Wyandotte.—Fine week for work; corn will be about one-third of a crop; fall plowing about finished; ground getting hard; apples falling badly; peaches a fair crop.

MIDDLE DIVISION.

Corn cutting is progressing rapidly to secure the fodder. The late corn will be safe from frost by about the 15th. There are some fine stands of cane and Kafir-corn in Barber; in Reno the cane looks well and the Kafir fairly so, while in Republic the Kafir-corn will be late on account of the dry weather, and in Jewell the millet and sorghum crops have been cut short by bugs and the drouth. Plowing is finished or nearly so in Barton, Cowley, and Harvey, and is progressing in Phillips, Smith, and Sumner, but has been stopped by dry weather in many counties. Apples are doing well in Harvey and Phillips, a fair crop in Rice, small yield and poor in Kingman, and falling in Barber. Peaches are doing well in Harvey and Phillips, abundant in Reno, being marketed in Kingman, a fair crop in Rice, but drying up in Barber. Pastures are improving in Smith, but are getting dry in most of the counties. The fourth crop of alfalfa has been cut in Barber, light; the seed crop is yielding well in Saline; it is growing nicely on the bottoms in Rice, but is not growing much in Reno. Prairie hay is in progress in Kingman, but the yield is light.

Barber.—Soll too dry to plow; corn fodder all cut; fourth crop of alfalfa cut, very light; in some localities a good stand of cane and Kafir-corn has been secured; fruit scarce; apples falling; peaches drying up; corn in no danger of frost at any time in this section.

Barton.—Corn cutting in full progress; fall plowing nearly finished; everything looks dry.

Cloud.—Corn will be safe from frost by September 10th; unusually large acreage being prepared for wheat; rain needed for pastures.

Cowley.—All the corn is made now that will be cutting it up as fast as possible to save the fodder; plowing is about done; a hot dry week; rain is needed to save the fruit crop, which is abundant.

Harvey.—Still dry—too much so for sowing wheat or alfalfa; plowing done; corn fodder cut and shocked, wherever fit for



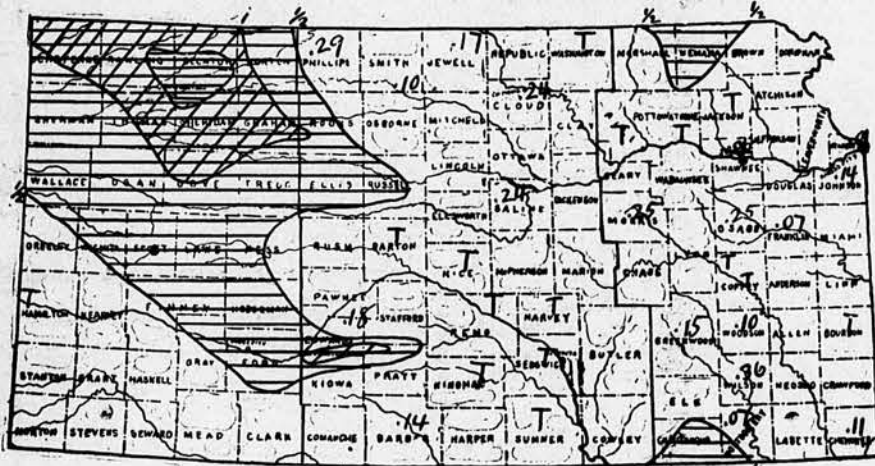
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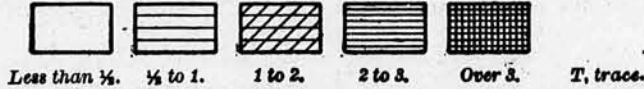
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For any color or shade required, use NATIONAL LEAD COMPANY'S Pure White Lead Tinting Colors. Pamphlet sent free upon application.

RAINFALL FOR WEEK ENDING AUGUST 31, 1901.



SCALE IN INCHES.



ers; late corn, cane, Kafir-corn, and pastures needing rain badly; stock water very scarce; farmers busy cutting hay, millet, and corn; latter drying rapidly, too early to say when it will be out of frost's way.

Crawford.—Corn fodder cutting about finished, the quality is not good owing to chinch-bugs; fall gardens not doing well; peaches ripe, but inferior; apples small, ripening three to four weeks later than usual; pastures drying up again.

Franklin.—With little or no rain corn may be out of frost's way in two weeks, with plenty of rain not before October 1; crops are needing rain.

Greenwood.—Early corn being generally cut; late corn, sorghum, and Kafir-corn being damaged by dry weather; late corn will require until October 1 to mature.

Jackson.—Dry week; plowing about stopped; pastures getting short and brown; cattle being fed; much corn being cut.

Jefferson.—Half of the late corn will likely be safe from frost by the 20th inst, the remainder by about October 1; getting quite dry again, need a good rain; peaches ripe; farmers putting up prairie hay.

Johnson.—Dry, more rain needed; corn will be out of frost's way by October 1.

Leavenworth.—No rain; wheat threshing done; corn cutting begun, one-third crop, peaches ripening, fair crop; pastures drying up; water falling; stock looking fairly well.

Lyon.—Corn cutting has progressed for some time, one-half crop; stock water becoming scarce.

Montgomery.—A warm drying week; corn cutting nearly done; all corn will be safe from frost in ten days; pastures and late forage crops need rain; stock water very low again.

Morris.—Some early corn being cut; Kafir-corn, cane, and later planted corn still look fine; fourth crop of alfalfa is now in stack, about the same as the second crop; apples holding fairly well; grapes ripe, fair crop; peaches being marketed.

Osage.—Too dry for anything to grow well; corn will be safe from frost by September 15; second crop of hay being cut and marketed.

Pottawatomie.—Rain needed for late corn and fruit; corn was never caught by frost in the fall in this county.

Shawnee.—Corn drying up rapidly in the northwestern part and cutting begun, it is filling nicely in the southern part, and will be out of the way of frost about the 8th; pastures and forage crops are also in good condition in the south part; apples and peaches are abundant and fine; grapes fair.

Wilson.—Corn will be out of danger from frost by the 15th of September; chinch-bugs are very bad; pastures fairly good; stock water scarce.

Woodson.—Corn cutting continues; hot

feeding; peaches and apples ripening well; many grapes drying up on the vines.

Jewell.—What little corn there is will be out of danger from frost by the 15th most of it makes only fodder, and is being cut as fast as possible; pastures short; most cattle being fed; millet and sorghum crops cut short by bugs and drouth.

Kingman.—Corn will be out of frost's way by the middle of September, there is very little of it; haying in progress, yield light; corn being cut; threshing about finished; plowing delayed by dry weather; peaches on market; apples small yield and poor.

Lincoln.—Most of the corn cut for feed, very little left standing, none left for frost to hurt; still dry, everything at a stand still.

McPherson.—Farm work at a standstill awaiting rain, except threshing; corn in no danger from frost, was roasted in July.

Mitchell.—All the corn was safe from frost August 1.

Phillips.—Hot dusty week; plowing progressing rapidly; corn cutting in full progress; stock doing well; apples and late peaches doing well.

Pratt.—With four inches of rain in the last three weeks everything is green and growing in the north part; ground is in good condition for plowing and seeding.

Reno.—Too dry to plow; corn cutting progressing rapidly, much more will be cut than usual, a few ears in some fields nearly ripe; corn never damaged by frost here; alfalfa not growing much; cane looking well; Kafir-corn fair; peaches abundant.

Republic.—Warm dry week; enough rain on the 29th to lay the dust; getting too dry to plow; pastures rather dry; Kafir-corn will be late on account of dry weather.

Rice.—Threshing about completed; much corn being cut; pastures dry; fair crop of apples and peaches; alfalfa growing nicely on bottom land.

Saline.—A hot week; some light local showers; ground again too dry to plow; alfalfa seed crop yielding well where threshed.

Smith.—Pastures improving; plowing well under way.

Sumner.—Warm, dry; pastures drying up; good week for threshing; wheat yielding from 20 to 35 bushels; no ears on corn stalks, about dried up; rarely frost before last of October, everything ripe before that.

Washington.—Rain needed for plowing.

WESTERN DIVISION.

Conditions have materially improved in the central and northern counties. Corn will be safe from frost about September 20. The corn will be plump in Decatur; some fields are very promising in Thomas, and in Scott there will be half a crop.

Forage crops are growing finely in Decatur, Thomas, and southern and western parts of Ness, and doing well in Trego. Alfalfa is growing well in Decatur, is nearly ready to cut again in Trego, and the fourth crop will be cut in Sheridan. Pastures are good in Ford and the central and northern counties, and cattle are doing well. Fruit is coming out well in Ness. The ground is in fine condition for seeding in Sheridan, but is getting too dry to plow in Ford. Prairie hay is good in Scott and Trego.

Decatur.—A fine growing week; corn will be plump; alfalfa and late forage are growing; late corn will not be out of frost's way before September 20th.

Ford.—Very little plowing, ground too dry; pastures good and cattle in good condition.

Lane.—Some hail with wind on the 25th, doing slight damage to feed and fruit; most corn is out of danger from frost now, the latest will be by September 10; flies have been bad on stock.

Ness.—Light rains in the northeastern part, heavy rains in the southern and western; threshing about finished in the dry portion, stopped by the rains in the southern; corn will likely be safe from frost by the middle of the month; in the southern part pastures are very good, feed crops are doing finely, rye being sown for pasture, fruit coming out well, and gardens are good.

Scott.—Corn will make about half a crop, and is out of the way of frost; farmers threshing, wheat averaging about 6 bushels per acre; hay crop good; pasture fine.

Sheridan.—Plenty of rain; ground in fine condition for seeding; corn will be out of way of frost in ten days; a fourth crop of alfalfa will be cut.

Thomas.—Fine rains, doing much damage to stacks, but greatly benefitting all late crops; some corn, Kafir, and cane are very fine; corn will be out of danger from frost about September 15 to 20; threshing delayed by rains.

Trego.—Corn mostly in shock or stack, what is left is practically beyond frost; grass green and growing; cane seed will soon be ripe; prairie hay is good; alfalfa is nearly ready to cut again.

Gossip About Stock.

H. L. Ritchie, live stock artist, 504 N. Y. Life Bldg. Kansas City, Mo., has done considerable sketching and photographing for breeders of fine stock. His work has been very satisfactory to all concerned. Any of our readers who may have any work in this line will find it very much to their interest to consult him in reference to said matters. Any of Kansas Farmer readers having such work should communicate with him at once.

The Frankfort Fair Association has decided to run their fair in full in all departments. Date, September 17 to 20. A good speed ring programme is offered. The late rains have made a fairly good agricultural exhibit possible. People have somewhat recovered from the drouth scare. The Cottrell Bros., of Irving, Kans., extensive breeders of Hereford cattle have donated one of their finest young bulls (to the fair association) worth \$200.00, which will go to the holder of the lucky season ticket. A lively interest is already being manifested as shown by the sale of tickets. J. D. Gregg is secretary.

McLaughlin Brothers, of Columbus, Ohio, the celebrated horse importers, write us as follows: "We have already written you in regard to the prizes that our stallions have won in France this year before they were imported. We are just now in receipt of a message from Des Moines, Iowa, which tells us that we have won fifteen prizes at the Iowa State Fair, every possible prize with one single exception. The message tells us that we won seven first prizes which is every first prize possible for us to win, and these winnings were in the strongest competition at any horse show held in America for many years. The great State of Iowa is a leader from and draft and coach horse standpoint, and it is necessary to have the best in order to win at their State Fair."

Publisher's Paragraphs.

Notice the bargain announcement of Sears, Roebuck & Co., of Chicago, in reference to mens' mackintoshes for only \$1.50. This is a sample of the numerous mail order bargains that they have to offer Kansas Farmer readers. Watch for further advertisements.

The twine album recently published by the McCormick Harvesting Machine Co. is made in the highest style of the printers art. It pictures everything from the gathering of the raw materials in the tropics to the great establishment in Chicago and the finished product. The descriptive

matter in the album is exceedingly interesting.

One of the most successful eye specialists in the West is Dr. W. O. Coffey, 837 Good Block, Des Moines, Iowa. During the Iowa State Fair his office was thronged with hundreds of visitors who took advantage of the occasion to consult this eminent specialist. The best modern publication on affections of the eye his new 80-page book, "The New System of Treating Diseases of the Eye," which will be sent free to those interested, who make the request and mention Kansas Farmer.

"Golden Harvest" catalogue of bulbs, plants, seeds and winter wheat has been received from office of Iowa Seed Co., of Des Moines, Ia. That firm is giving especial attention to selecting the best qualities of winter wheat for seeding, and it will pay any farmer to write them for their catalogue, and obtain the latest information on the subject of new seed wheat. Iowa Seed Co. have been established in business since 1871, and are in the enjoyment of the confidence of their many thousand patrons during the past thirty years.

There is no farm implement of recent invention which contributes more to the comfort and convenience of the farmer than the blower attachments for fodder and ensilage cutters, a pipe attachment designed to carry the cut fodder to any desired place. The continual annoyance from breakage and slipping of belts from the old fashioned long carriers has been overcome by this device. The blower manufactured by the Belle City Manufacturing Co., is especially popular for its simplicity and the ease with which it may be adjusted to old or new machines.

This can be done in a short time and without the aid of a mechanic or the return of the cutter to the factory. Piping can be used to carry fodder almost any distance without scattering, and the power required to operate this wind attachment is but little more, if any, than that required for running the carrier when loaded. Write the Belle City Manufacturing Co., Racine, Wis., and get their latest printed matter on this line of machinery.



Six Million a Year.

Did you ever stop to consider what a million mean? Multiply this six times and it shows you how popular Cascarets are and what great merit they possess. For, last year over six million boxes of this wonderful medicine for liver and bowels were sold in this country alone. The American people know a good thing. The sales of Cascarets prove it. The medicine is the best for the bowels, the price right, 10c, 25c and 50c a box, and a 50c box is a whole month's treatment for the worst kind of a case. It is a pleasure for us to advertise a medicine like this as well as to endorse the makers and ask our readers to buy it.

Secret of it.

"Why do you go away for the summer? You have a nice home near the lake, with a big porch and everything possible to make you cool and comfortable."

"That's just the trouble. In the summer we must have some hardships and discomforts in order to make us think we are having a good time. And, besides, they are necessary to make us appreciate home at its true value in the fall."—Chicago Post.

Extension of Limit

on Buffalo Pan-American tickets via Nickel Plate Road. \$13.00 for round trip, tickets good 15 days; \$16.00 for round trip tickets good 20 days. Three daily trains with vestibuled sleeping cars and first-class dining car service on American Club plan. Meals ranging in price from 35 cents to \$1.00. Address John Y. Calahan, General Agent, 111 Adams St., Chicago. (23)

When writing advertisers please mention this paper.

The Poultry Yard.

Mistakes of Poultry Farmers.

In looking over the average poultry house in winter, the most common defects are damp floor, upon which the fowls stand and mope, and sometimes contract rheumatism; broken windows, letting cold in upon the fowls in daytime, which will check laying, and are common cause of roup; dropping left for weeks to heap up under the roosts; lack of a supply of water, obliging the hens to eat snow; lack of plenty of good, sharp grit, which alone is a sufficient cause of failure; lack of fresh meat and cut bone which should be fed twice a week; overfeeding, overcrowding, and furnishing no inducement to scratch for a living. These are the most common and important mistakes, and those who wonder why their hens do not lay, will do well to get over the list. See that your poultry house is tight, so that on cold windy nights the fowls will not suffer any more than can be helped. Do not crowd the fowls. During the long winter months, when they can not exercise out of doors, fowls will need at least 7 or 8 feet square feet per fowl. Scatter some hay about, and throw the grain into it. This will cause the hens to exercise and will be what they need, and the eggs will hatch better in the spring. Avoid feeding stimulants to fowls which you are going to breed from, and do not give them more food than they will eat up clean. That which is left will become filthy. Furnish pure, fresh water. You may think snow will answer, but it is not good for poultry. Warm the water a little on cold days and put a spoonful of red pepper into it. Fowls are always thirsty, and a great deal of roup is brought on by allowing them to drink impure water. Kindness to poultry is never thrown away. Show us a person who studies and cares for his birds and we will warrant he will be successful. We consider galvanized iron dishes for drinking vessels the best. They do not break nor rust can be cleaned with hot water and will last for years. They should be kept in a shady, dry place, rinsed out every day, and scalded out every week. The drinking dish should, in any case, be so arranged as to promote cleanliness. A good plan is to raise it and enclose it in a frame of laths. Place a long, narrow dish, something like a tin bread tray, on a low shelf a few inches from the floor, and hinge the cover to one side of the poultry house, so that it can be tipped up in front for the removal of the dish or for filling it with water. Whatever device is used, it must be easy to clean and of free access to the fowls at all times. Cleanliness in all pertaining to the food and feeding is essential. Punctuality in all is another matter of great importance. Hens are early risers, and do not like standing around on one foot waiting for their breakfast. The morning meal, with them, is the most important of the day. In feeding grain to laying fowls, if the flock is a large one, great care must be taken that the grain is scattered so that the weaker fowls are not jostled aside by the stronger ones. See that the weakest ones have plenty of room when being fed to get their due share.—E. H. in the Epitomist.

The Nest-Egg Delusion.

I note in a poultry journal the editor's advice in regard to the use of nest eggs. He says don't use either good or bad eggs, but china of composition "eggs" that can not be broken.

It has always puzzled me to know why any kind of an egg, real or artificial, should be used as an inducement to a hen to lay where it may be located.

When a hen gets ready to lay there is no way to prevent the performance except by killing her, and all the nest eggs ever devised can not make her lay before she gets ready.

It is said that a cozy nest in which a nice, clean artificial nest egg is placed attractive to the biddy in the laying mood and that she will carefully step into it and deposit her treasure, while, if the nest egg were not present, she would hesitate for quite a while and finally lay under the gooseberry bush.

Several years ago I conducted an experiment to determine the magnetic properties of false nest eggs. A row of comfortable nests was arranged on one side of the hen house and in one of them a beautiful oblong china nest egg was placed. The house was then thrown open to the score of hens that were in the egg business, and I established myself in a secret place to witness the results. Three of the hens entered the house, scrutinized the new departure and seemed to agree that the nests were entirely satisfactory. They causally in-

spected the nests and when one of the maternal biddies was attracted by the glistening china egg it was very interesting to note her capers. She turned her head sideways and stretched her neck to get close to the "egg" without moving her feet. She seemed to be reasoning the case and wondering what manner of hen laid the curious egg. Presently she reached the conclusion that it was a delusion and a snare, so she entered a nest five nests away and planted an egg worth a dozen of the china variety. When she had taken a glance at her own product and that of the false egg manufacturer there was an air of pride in her cautious exit, as if she wanted to say what evidently she thought: that you may fool some hens, but you can't fool me.

Well, the other hens sized up that china egg about as carefully as the fine old Plymouth Rock just mentioned, and they went elsewhere to lay their eggs.

As to using real eggs as nest eggs, I am not able to say what the effect would be, as I never use them; but I don't believe well-bred Plymouth Rocks are ductile enough to be fooled with any kind of nest eggs.

When a hen wants to lay she hasn't the time to hunt a nest containing a nest egg: she either makes a quick nest in the grass, under a bush, in the barn, or relieves herself in any of the empty nests in the hen house.—D. C. K. in Farmers Voice.

Women and Poultry.

Yes, I think the poultry business is just the thing for the women on a farm who wants to make money. She can raise many or few, as suits her convenience, and the profits will rank accordingly. It takes her out of doors, which is good for her health, and to me there is no more fascinating work than to hatch a fine flock of chickens and watch them grow. Oh, yes, there are disappointments and failures. Rats may carry them off one by one or a weasel get into the coop and kill a dozen or more in one night. But tell me what business has no discouragements?

Our neighbor is a breeder of high grade Jersey cattle. He makes butter that takes the best price and the stock that he sells reaches a high figure. But occasionally a cow dies and her value usually reaches into the hundreds. It is very seldom indeed that a poultry raiser sustains a greater loss than this. We must always be on the lookout for accidents and failures. Diminish them all we can, but never, no never, be discouraged by them. And tell me where did people get the idea that poultry can be raised without work? They have it firmly fixed and turn from you and your chickens with disgust when they find you have labored for your results.

I was showing my incubator to a woman the other day and telling her how I take care of it.

"And you get up at night to look at it?" Well, you'll never find me doing that."

Now, I can not think this as such a hardship. Most people waken at least once in the night and if the incubator is near at hand and in a comfortable place this little attention can not hurt anyone. People will say, referring to the care of chickens: "But isn't that a great deal of trouble?" Of course it is trouble, but what do we get that isn't trouble? What a trouble it is to get three meals a day, week after week and year after year? Keeping a house clean and attractive is such a trouble and still we go on doing these things and never think of the inconvenience and we can learn to take care of chickens in the same way.

I had read some articles that made me almost afraid to try to raise chicks in a brooder. I have found that it does not require genius to do it and still if we accept Michael Angelo's definition, "Genius is eternal patience," perhaps it does. I have thought that perhaps this is one reason teachers succeed with chickens, because they have learned patience. Nevertheless, I think a person with sense and moderate ability may expect to succeed very well. This I believe we may set down as an axiom: You begin to raise your chickens when you put the eggs into the incubator.—Carrie L. Kirk, Rose Hill Poultry Farm, Youngstown, O., in Twentieth Century Farmer.

Losses in Handling.

As an example of what happens to a case of eggs during such weather as we have been having, we will give a history of two consignments that reached a large dealer in this city recently. These eggs in both cases came from towns in Iowa, a State which has a first-class reputation for furnishing good eggs and poultry. The reports are taken direct from the documents in the

case and are not exceptional in any way.

One report is of a consignment of regularly packed and properly handled eggs, which upon being candled showed the following results: No. 1, 7,401 dozen; seconds, 745 dozen; cracks, 296 dozen; rots, 881 dozen. These eggs would have been worth at Chicago market prices, say, 13 cents a dozen if they had been as good as No. 1. There was a total loss of 881 dozen, worth \$114.53. On the seconds and cracks there was a loss of 8 cents a dozen. Of these there were 745 dozen of seconds and 296 dozen of cracks, equal to 1041 dozen, a loss of \$83.28, or a total loss on the whole consignment of \$198.71. This loss was not due to the merchant, the transportation companies nor to any other persons or parties except those who gathered the eggs on the farms of the country. If the eggs had been regularly gathered, kept in a cool place and sold as soon as three days from the time they were gathered, would have reached Chicago without loss except as to the cracks, which were broken during the journey from the merchant to the candler. Altogether proper handling of these eggs on the Iowa farms that produced them would have saved a loss of \$175.03, approximately, all of which will in the end fall on the producer.—Commercial Poultry.

[Commercial Poultry will do well to remember that at the temperatures that prevailed during July throughout Iowa and Illinois and the remainder of the egg-producing country, everywhere outside of cold storage, eggs will start along the road to hatching in less than three days.]

Spoiled Eggs.

During the month of July I had saved up 258 eggs within a short time. I kept them in my incubator house, which is made of concrete and stands in the shade of trees where the sun shines on the house very early in the morning only.

I decided to market the eggs as guaranteed fresh, selling them to a landlady at Flat River, as I had been doing all along. But as the mercury had run up to 109 on our front porch during the time I had been keeping the eggs, I decided to test them. Out of the 258 eggs I found 144 that had started life; they had red rings in them, with a dark spot in the center of it, the same as we test out of the incubator on the sixth day of incubation as germs that have failed. Some of the germs were still alive when I made the test.

Here lies the secret of spoiled eggs. Most consumers think the eggs are old, or that hens set on them and spoiled them. There has been great complaint here this year of spoiled eggs. An egg that is exposed to a temperature of 103 for thirty-six hours will have red streaks in it, and they will spoil very soon in a temperature of 95 and 100.

I have a cave that I now keep my eggs in, where the mercury stands at 60 all the time. They will keep fresh in this cave a long time, suitable for family use or for hatching.

To separate the cocks and hens during the hot months would work wonders in saving all this trouble and expense on the part of the consumers, but how many farmers and breeders will go to the extra trouble of separating them. As for my part, I must stand in readiness to fill orders for eggs that will hatch, any day; for I keep my advertisements before the buying public all the time. I find this the best and most profitable way to advertise, though I must go to extra trouble and expense of keeping all my stock mated the whole year.—E. W. Geer in Journal of Agriculture.

The Absent-Minded Farmer.

The story has appeared in print before, quite possibly, of one Farmer Brown, whose wont it was to drive into town Saturday morning with various farm products, returning with such household articles or bits of personal adornment as the housewife or daughters desired. Upon one occasion the former was invited to accompany her spouse—a rare opportunity being thus afforded of seeing the sights and personally selecting any coveted finery. The farm produce disposed of, the girls list of necessities secured and checked off, Farmer Brown started upon the homeward way, his mind from the start disturbed by the thought of something forgotten or undone. Nor was his peace restored as he neared home, for although he checked the list of articles he was commissioned to buy by going carefully through the various parcels in the wagon he became more than ever certain that something had been forgotten. The girls declared everything

EYESIGHT RESTORED

Falling Eyesight, Cataracts or Blindness Cured without the use of the knife.

Dr. W. O. Coffee, the noted eye specialist of Des Moines, Iowa, has perfected a mild treatment by



which anyone suffering from falling eyesight, cataracts, blindness or any disease of the eyes can cure themselves at home. Judge George Edmunds, a leading attorney of Carthage, Ill., 79 years old, was cured of cataracts on both eyes. Mrs. Lucinda Hammond, Aurora, Neb., 77 years old, had cataracts on both eyes and Dr. Coffee's remedies restored her to per-

fect vision. If you are afflicted with any eye trouble write to Dr. Coffee and tell him all about it. He will then tell you just what he can do. He will also send you Free of charge his 80 page book, "The New System of Treating Diseases of the Eye." It is full of interesting and valuable information. All cures are permanent. Write to-day for yourself or friend to
W. O. COFFEE, M. D., 837 Good Block, Des Moines, Ia.

POULTRY BREEDERS' DIRECTORY.

WHITE WYANDOTTE COCKERELS For Sale. C. W. Staley, Rose Hill, Butler Co., Kans.

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

BELGIAN HARES...

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 \$8.50 per pair; \$5 per trio, until further notice.
A. H. DUFF, Larned, Kansas.



200-Egg Incubator for \$12.00.

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to—GEO. H. STAHL, Quincy, Ill.

PICTURES IN COLORS.

Six Beautiful Chromos size 8-1/2 by 12 inches in natural colors suitable for framing. Over 600 pages in 12 issues of the FANCIERS' GAZETTE which is published monthly. It teaches you how to take care of chickens and fowls and everything pertaining to the poultry industry. For the next 6 months we will make the following remarkable offer. We will send the FANCIERS' GAZETTE for one year for 25 cents to new subscribers only and send you upon receipt of your subscription 6 beautiful colored pictures, the regular subscription price of the GAZETTE alone is 50 cents. We make this offer to secure thousands of new readers. A sample copy free if desired.
Fanciers' Gazette Co., Indianapolis, Ind.

STANDARD POULTRY.

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

CASH PRIZES

For Poultry Raisers.

Believing that fresh cut Green Bone is one of the greatest aids to successful and profitable poultry raising, the publishers of this paper will pay a cash Prize of \$10 for the best article, not exceeding 500 words in length, on **The Use and Value of Fresh Cut Green Bone as Poultry Food.**

CONDITIONS.

The article must be written by one who has had actual experience in the cutting and feeding of bone. The name of any special bone cutter must not be mentioned in the article. The article must be in our hands on or before August 15. Announcement of the prize winner will be made in our first issue in September. Articles submitted will become the property of this paper.

\$100 CASH PRIZE. Other agricultural papers are making the above offer. Each paper will award one \$10.00 Cash Prize. The articles winning these \$10 prizes will then be submitted to a committee of competent judges (to be announced later), who will select the best article of all, for which a Grand Prize of \$100 will be paid. Every one of our readers who is familiar with the use of cut green bone stands a chance of winning these prizes. Send in your article at once.
Address GREEN BONE PRIZE, Care KANSAS FARMER.

Time extended for above mentioned articles, to September first.

wanted had been brought, and happy in the possession of new found notions prepared supper. It was when the family had gathered around the board and one of the girls had suddenly asked, "Why, where's ma?" that Farmer Brown recovered from his uneasy condition of mind and striking his fist on the table exclaimed triumphantly, "There, I knew I forgot somethin', by Gosh!"

The winner in the "Green Bone Prize" contest is Mr. J. G. Mitchell, of Buxton, Wilson county, Kansas.

PILES

TRIAL TREATMENT FREE. We will forfeit \$50 for any case of Internal, External or Itching Piles the Germ Pile Cure fails to cure. Instant and permanent relief. Write at once. Germ Medical Co., 215 E. 3d St., Cincinnati, O.

Grange Department.

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

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

NATIONAL GRANGE.

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

KANSAS STATE GRANGE.

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

Penny Postage.

Efforts are again being made to secure one cent letter postage. This of itself is very desirable and will come in time, but it is of vastly more importance to the people of the rural portions of the country that the "Free Delivery of Mail" in the country be firmly established, and this should not be endangered by the reduction of income to the Post Office Department, which would at first result from the adoption of one cent letter postage. Free rural delivery as extended as practicable first—then welcome to the penny postage. This is the grange program.

E. W. W.

Some of the Results of Grange Work.

There are some facts which are quite patent to every observer, and one of these is the change in thought, feeling and sentiment among other classes of people, toward the farming community, with regard to the importance and respectability of that body of people. And keeping pace with this altered attitude of merchants, professional men, writers, artists, and more than all else, politicians and statesmen, or, perhaps it would be more correct to say, preceding this change and to a considerable extent compelling it, is the equally altered attitude and thought of the farmer toward himself, his vocation, and his possibilities.

Time has been when to be a farmer was to be an actual "mud sill" of society; one ordained to labor and struggle; with a small hope of intellectual advancement or culture or refinement. The farmer considered himself of no great importance either socially or politically. Agriculturists, I fear, made themselves of slight significance in public affairs, allowed others to do their thinking for them, and swallowed the doses which party and political leaders prepared for them, without much inquiry as to their composition, and without much thought as to reasons and results. I give this as a general rule, to which, however, there certainly were bright exceptions in every town and neighborhood, and these were the "leaven, which leaveneth the whole lump." And as I have said there is now a change.

Farming is being raised to the dignity of a profession. Schools and colleges for teaching its principles and practice are appearing in various parts of the land. Farmers' clubs and farmers' institutes, the latter provided for and nourished by the State, are becoming strong factors in the enfranchisement and enlightenment of the agricultural classes, helping to raise them intellectually and socially to a level with their brethren in the other professions and industries.

The farmer now understands his own power and privileges. He studies and reads, thinks, and decides questions of public policy for himself. He realizes that he belongs to a numerous class and recognizes to some extent the power which that class may hold in its hands—that instead of piling up votes only for the aggrandizement of some political leader, it may vote for its own progress and advancement and for an equality of privileges and opportunities. They have found themselves able to affect and control legislation to a considerable degree. Those who seek for political prestige, find it to their advantage to consult the wishes and to forward the interests of the farming community, or at least to make a profession of trying to do so.

Farmer women, too, are quickened and helped in many ways even as are their husbands and brothers. Their lives are broadened and their labors dignified. They are beginning to use and cultivate their minds, to take an intelligent interest in educational affairs and in questions of State and national policy and honor. And we hope and believe too, that the children of farmers are growing up with a proper sense of their powers and responsibilities—that they feel that the affairs of their country rest largely on them, and that they are striving faithfully and

jealously to prepare themselves for the great work that is to be theirs.

However, I will no longer specify changes and improvements, but will ask, are we not indebted, for this broadening and brightening influence, which has worked such a decided betterment in the farmer's life, mostly to the grange, the first, and I think the only well organized effort on the part of the agricultural population of our country, for their own uplifting and advancement? It would seem almost to go without saying that this is true, for without effort it would scarcely have been possible that so much could have been accomplished in so short a period of time. In conclusion, to sum up briefly some of the good results of grange work, we may say that the social, intellectual, and political status of the great agricultural population of our country has been raised nearly or quite to a level with that of any other class of its citizens; and by a little exercise of the imagination we can easily understand how potent and how far-reaching may be its effects, not only upon the people of our own land, but even extending its influence and its blessings in an ever-widening circle to every other civilized country and people.—Mary Dietz, in Michigan Farmer.

The August Topic.

"How can we secure better teachers for rural schools?"

(1) Elect school officers who know the difference between school keepers and school teachers, and who are so built that they will do as well as they know, and if they feel that they are not competent to decide some school questions will consult those who are and follow the advice they get.

(2) Pay better wages for teachers. So long as rural schools will pay no more for teachers than for hired help on the farm it can not be expected that the brightest and best of your young men and women will remain as teachers in rural schools. So long as the policy of "hiring the cheapest" is pursued, the rural schools will have to put up with novices and the incompetent.

(3) Stand by the county school commissioners and examiners in maintaining a good standard for teachers and schools.

(4) Get rid of the noxious notion that the schools are instituted for the sake of giving somebody a job.

(5) Engage good teachers for the year, or for two years, and don't let some town school get such teachers away from you for 20 shillings or \$5 or so a month increase.

(6) Stand by the teachers loyally in discipline, management, supplying necessary equipment, etc. Drum the chronic kicker out of the district, or drum so loudly for your teachers that the kicker's tin horn and rattle sound supremely silly.

(7) Get over the notion that anybody can teach the little folks.

(8) Let the rural patron be imbued with the idea that nothing is too good for the rural school.

(9) Any district can have as good a school as it is willing and able to pay for and support.

(10) Finally let the grange exert its mighty influence in building up a good school sentiment. Select the right kind of officers. Insist on the right kind of teachers. Money is worse than wasted that is spent on a poor teacher. Let liberality, not extravagance, gauge expenses. Banish all nepotism and favoritism in the selection of teachers. Consider the child, not the "influence" of some patron, in the choice of the teacher. Visit the school. Encourage teacher and pupil by your open interest. Make the school the chief center of attraction and power.

United States Secretary of Agriculture Wilson is about to organize a new service that must prove to be of great benefit to the farmers of the United States. Last year he asked that the existing system of inspection and certification of meats and meat products for export be extended so as to include butter, cheese, and condensed milk. The act granting this authority went into effect July 1, and Secretary Wilson has been busily engaged in perfecting the details of this new work. How valuable it will be to the farmers is indicated by the fact that the exports of cheese from the United States to England grew to 150,000,000 pounds a year. But there began the exportation of adulterated cheese, and our English market was speedily lost. At the same time, Canada set up a system of government inspection and captured the trade that unscrupulous merchants here had spoiled for the dairy farms of the United States. Such cheese as is now sent from the United States to England



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The first and only chewing tobacco to be guaranteed.

No Premiums.

If your dealer has not Wetmore's Best, send us 50 cents for a pound plug.

Remember the Umbrella Brand.

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

The largest independent factory in America.

goes by way of Montreal, so that it may share the inspection and guaranty enjoyed by the Canadian product. Almost parallel is the story of the loss of the English market for American butter. The new inspection promises to revive our exportation of dairy products and its successful application will reflect additional credit upon the present administration of our Department of Agriculture.—Farmer's Friend.

She Soon Altered It.

Many young ladies have found it necessary to improve, or rather alter, the spelling of the names with which they were originally blessed. Mabel becomes Mabelle, Jessie becomes Jessica. Mary becomes Marie, and so forth. A brother lately received a letter from his young sister at a fashionable boarding school. It was signed Jessica. He answered:

"Dear Sister Jessica:—Your welcome letter received. Papaica and mammaica are well. Aunt Maryca and Uncle Georgia started for Glasgowica yesterday. I have bought a new horse. You ought to see it; it's a beauty. Its name is Maudica. Your affectionate brother, Samica."

The sister's next letter was signed "Jessie."—London Tid Bits.

Kansas Fairs in 1901.

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

- Allen County Agricultural Society—C. H. Wheaton, secretary, Iola; September 10-13
- Brown County Fair Association—G. W. Harrington, secretary, Hiawatha; September 17-20
- Butler County Fair Association—H. M. Balch, secretary, Eldorado; October 8-11
- Chautauqua County—Hewins Park and Fair Association—N. G. Marsh, secretary, Cedar Vale; September 25-28
- Coffey County Fair Association—A. L. Hutchens, secretary, Burlington; September 10-13
- Greeley County Fair Association—J. C. Newman, secretary, Tribune; September 6-7
- Harvey County Agricultural Society—John C. Nicholson, secretary, Newton; September 24-27
- Jackson County Agricultural and Fair Association—S. B. McGrew, secretary, Holton; September 24-27
- Jewell County Agricultural Fair Association—C. F. Horne, secretary, Mankato; September 17-20
- Marshall County—Frankfort Fair Association—J. D. Gregg, secretary, Frankfort; September 17-20
- Miami County Agricultural and Mechanical Association—W. H. Bradbury, secretary, Paola; September 24-27
- Morris County Exposition Company—M. F. Amrine, secretary, Council Grove; September 24-27
- Neosho County Fair Association—H. Lodge, secretary, Erie; August 27-30
- Ness County Agricultural Association—H. C. Taylor, secretary, Ness City; October 2-5
- Norton County Agricultural Association—J. L. Miller, secretary, Norton; September 18-20
- Osage County Fair Association—C. Curtis, secretary, Burlingame; September 17-20
- Reno County—Central Kansas Agricultural Fair and Live Stock Association—Ed. M. Moore, secretary, Hutchinson; September 2-6
- Rice County Agricultural Association—C. Hawkins, secretary, Sterling; September 11-14
- Riley County Agricultural Society—R. T. Worboys, secretary, Riley; September 24-26
- Rooks County Fair Association—J. Q. Adams, secretary, Stockton; September 10-13
- Sedgwick County—Wichita State Fair Association—H. G. Toler, secretary, Wichita; October 1-4
- Sumner County—Mulvane Agricultural Society—John A. Reed, secretary, Mulvane; September 27-28

Low Rates to Buffalo, Pan-American.

The Nickel Plate Road are selling tickets at exceptionally low rates to Buffalo and return, good for 10, 15, and 30 days. For particulars and Pan-American folder of buildings and grounds, write John Y. Calahan, General Agent, 111 Adams St., Chicago. City Ticket Office 111 Adams St. (No. 19.)



A Dairying Proposition

does not go badly with that of raising No. 1 Hard Wheat. Both are satisfactory in the Great Agricultural districts of Manitoba, Assiniboia, Alberta and Saskatchewan. Most favored districts in Western Canada.

Mixed Farming is an assured success.

Every condition is favorable. Schools, Churches, Railways, Climate meet every requirement.

By letters from settlers we find after a few years' residence, one man who came to Western Canada with \$75, is now worth \$10,000; another who brought \$1,000 is now worth \$50,000; another who came with barely enough money to buy a team, is now worth \$20,000, and so on.

These lands are the most valuable on the continent. Railroad and other lands at low figures adjoin Free Homestead Lands. For fuller information, maps, pamphlets, etc., address F. Pedley, Superintendent of Immigration, Ottawa, Canada, or to

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

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ARE THE EASIEST TO FEED
having a large feed opening. This makes them correspondingly fast balers. They are made in 38 styles and sizes for either horse or steam power. They are thus best suited to the wants of the individual farmer or the man who makes baling a business. Made entirely of steel, they combine in a high degree, lightness, strength, durability and general efficiency. Bales are compact and even sized—pack to good advantage in cars, saving freight. We mail large illustrated catalogue free. COLLINS PLOW CO. 1120 Hampshire St., Quincy, Ills.

Cream Separator

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

CREAM SEPARATOR FREE

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

THE SMITH CREAM SEPARATOR.

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

RHEUMATISM

Nine years ago I was attacked by muscular and inflammatory rheumatism. I suffered as those who have it know, for over three years, and tried almost everything. Finally I found a remedy, that cured me completely and it has not returned. I have given it to a number who were terribly afflicted, and it effected a cure in every case. Any one desiring to give this precious remedy a trial, I will send it on receipt of 10 cents to pay cost of mailing. Address: Mark H. Jackson, 708 University Building, Mr. Jackson is responsible. Syracuse, New York. Above statement true.—Pub.

When writing advertisers please mention this paper.

International Live Stock Exposition.

The first week of December will be a "gala" week for those engaged in the live stock industry on this continent. The Second International Live Stock Exposition to be held at Union Stock Yards, Chicago, Ill., during that week will be larger in all of its departments than last year. The knowledge of a permanency to the exposition inaugurated a year ago, led breeders to preparing for this exposition who did not attend the initial exposition. The range men and carload feeders of cattle and sheep are enthusiastic over the success of the first exposition, and this part of the second international will probably be trebled in its proportions. Owing to the excessive demand for swine at the present time, the hog raisers as well as the hog breeders, intend to make their every way. It is needless to say that the horse exhibit will be grand, as it certainly was a most remarkable feature in the first exposition. Creditable information develops that corporations and men of wealth are scouring foreign countries, as well as home, in search of prize winners. Colleges are at work, and the rivalry, while thoroughly friendly, will be very intense, both in their exhibits and the student contests. The unsuccessful of last year have their armor on, and are industriously working to wrest the laurels from those who hold them, while the winners of last year are fortifying themselves to retain their standards.

The arrangement of the exposition will be much more compact than a year ago as the Union Stock Yards Company is sparing no expense in constructing proper and adequate facilities. The erection of an enormous cattle amphitheater of brick and steel, with the buildings of last year enlarged, an increase in pen and walking capacity, will insure the possibility of handling larger exhibits and double the crowd of a year ago, which now seems likely to be the attendance of the 1901 exposition.

The National Live Stock Association holding its convention in the city of Chicago at Studebaker Hall on the first four days of the exposition, enables students to put in the morning hearing the speeches and papers of the foremost men in the industry, and in the afternoon see the results of the breeder's art. The description bulletin of feeding and handling of stock will be more than last year, and accessible to all interested in the advancement of this great industry.

The following program has been arranged:

Tuesday, December 3.—To be Foreign Consuls' day, on which day it is hoped to have the consuls representing all of the various countries, who office in Chicago and adjacent towns, visit the exposition, and see the class of live stock produced in this country, so that they may be able to make a report thereon from observation to their home governments.

Wednesday, December 4.—Will be governors' day. To each of the governors of the cattle-growing and cattle-feeding States an invitation has been extended, and it is very pleasing and flattering to the management of the exposition that so many of these executive officers of the different States in which live stock is a strong factor, take such a strong interest in the exposition as evinced, and will be present.

Thursday, December 5.—It is the intention to invite all Foreign Ministers and Ambassadors located at Washington to view the handwork of American breeders, and thus give them an insight into the great live stock industry of this continent.

Friday, December 6.—Will be live stock sanitary commissioners and live stock agents' day. While every day is for the great American people.

The exposition of last year was a decided success, the people of the country at large recognize the importance of this event and the Second International Live Stock Exposition will be greater in every way than its predecessor.

The entry blanks for the Second International Live Stock Exposition are ready for distribution.

If intending exhibitors of pure breeding and fat stock, and horses, will make application for them to W. E. Skinner, general manager, International Live Stock Exposition, Union Stock Yards, Chicago, stating how many animals they desire to enter, and the class or breed, it will greatly expedite matters in the office, and they will receive their many entry blanks promptly. Carloads of live stock do not need to be entered until

arrival at the Union Stock Yards, Chicago. Premium lists will be sent out with the entry blanks only on request.

A New World to Conquer.

EDITOR KANSAS FARMER:—Some interesting facts regarding the great size and possibilities of our country were brought out at one of the recent hearings before the Committee on Irrigation of Arid Lands. It is not usually realized, especially by people in the East, that an enormous area of our country, 600,000,000 acres in extent, lies unutilized. This is an area larger than the whole of Europe, and big enough to furnish land for a dozen Old World Kingdoms. Of course a good deal of it is, and always will be, unfit for the support of a large population, but with proper management, it is destined to become the home of thousands and even millions of people.

This great tract lies entirely west of the Mississippi Valley and extends over the Rocky Mountains, the Great Desert, and into California. Much of it at present is a barren and desolate wilderness with too scanty a rainfall to provide the necessary moisture for any but the hardest vegetation. Irrigation is to effect the change. Years of successful experience in the artificial watering of land has proved beyond a doubt its wonderful efficiency in certain portions of this arid section, in California, in Colorado, and elsewhere, so that it is but a question of capital and enterprise before the whole large problem will be solved. Every year sees an advance toward this desirable end; Congress has some phase of the matter constantly before it; the United States Geological Survey has rendered valuable assistance in determining the flow of the rivers, which must be used for water supply, surveying and establishing the cost of dams and reservoirs, and pointing out past mistakes and errors which may be avoided.

Close the mind's eye a moment and picture the accomplished result. Fifty million people, added to the population east of the Missouri river, for this is the number of inhabitants the present waste of lands are capable of supporting, a great nation in itself; an agricultural community, changing desolation into fruitful lands, creating a constantly increasing demand on Eastern manufacturing, and taxing to the utmost the carrying capacity of the great transcontinental railroad lines. It means a new and bright era of development for the country. GEO. B. HOLLISTER, Resident Hydrographer U. S. Geological Survey, Rutherford, N. J.

Kansas Farmer's Handy Guide

Contributed from various sources, including correspondence, scrap-books, and farm papers. Compiled and arranged by J. Clarence Norton, Moran, Kans.

CHILBLAINS.

Remedy for Chilblains.—Those who have suffered the agonies of burst open chilblains—and all other kinds as well, and who have tried every known remedy and found no relief, as we did—will find this remedy will give almost instant relief. There are so many receipts given that I would feel this was uncalled for did I not know the misery one suffers with this most distressing ailment, and that this remedy will give immediate relief. Take about an ounce of lard, mix it with mustard (the common yellow table mustard); grease the feet all over and tie up in clean white rags before going to bed (first bathe the feet). Do this every night for a week and chilblains will be cured. Another good reliable "sure cure" is mutton suet, applied after the feet are bathed at night. These are simple remedies, but try them.

Those Afflicted With Chilblains will find great relief in the simple application of snow each night before going to bed. Experience has taught me that it is more effectual than anything else.

MISCELLANY.

Saving the Chaff When Threshing.—Make 2 saw benches high enough to set behind the threshing machine. Use planks on top, 12 or 16 feet long, so the straw will run out on them. Put 2 boards on the edges to keep the straw on the planks; put a boy on the planks to shove the straw off, then the chaff will blow out of the mill under the plank platform. In this way all of the wheat and buck-wheat chaff can be saved with little trouble. Can use it for feed or bedding.

How to Prepare Cherries for Market.—Cherries should be picked with the stems on. They will keep nice and solid for a few days. Last year I

picked my cherries with the stems on, and I got two cents a box more than the others, and at the same time it takes less cherries for the box.



An Improved Tie for Cattle.

Chest Protector.—Those whose lungs are sensitive to sudden changes are aware of the great comfort to be derived from the wearing of a chest protector. Take two pieces of heavy flannel and cut in the shape of a shirt-bosom, about ten or twelve inches wide and long enough to extend from the throat to the waist. Cut so as to extend around the neck and button on the side. The protector can be made of double or of several thicknesses if desired and can be lined with print or any cotton material, but the flannel should be worn next the body. This gives good protection where it is most needed, the chest, throat, and back, and in our family has proved an invaluable article of underwear. Similar affairs, made of a kind of felt and which profess to be medicated, can be bought at most drug stores, but they are quite expensive and will give no better satisfaction than the one made at a small cost at home.

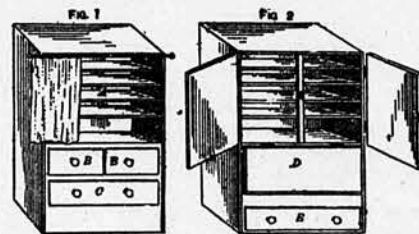
Keeping Chestnuts Fresh.—Chestnuts and beechnuts may be kept during the winter months by filling some boxes with sand and mixing the nuts through it. Bury them in a dry place. When wanted for use take up a box, but do not allow any to remain in the ground until the frost is disappearing, if you do, they will sprout and grow. By this method of keeping nuts you can have them as fresh in February or March as when picked from under the tree in October.

How to Keep Chinch-Bugs from Corn Fields.—On the side of the corn field that the bugs are entering, leave two or three rows for them to work upon. Then cut four to six rows as it may require to keep moisture, and lay it in a solid row along the good corn, having the tassels lap over the butts of the stalks. A few of the bugs will pass over this layer of corn, but not enough of them to do any damage, while the remainder will collect under it and die there. This suggestion is well worth a trial by those troubled with the pests.

It has been discovered that the fermenting green corn gave the bugs the genuine chinch-bug cholera and other fields can be inoculated from the dead bugs.

White Lead for Mending Crockery.—The best cement for broken glass, china, or crockery is pure white lead. Apply the lead to broken edges, stick together and set away to dry. If thoroughly dry before being used, will be as sound as new. Care must be taken not to have lead too thin. It should work like putty. Mended articles, such as teacups, goblets, and bowls can be used to put away jellies, preserves, etc. You can get a small can of the drug-gist for 10 cents which will last a year or two by keeping oil on top after using, so as not to get dry. Try it. I make my own sealing wax and save a few pennies; ½ pound resin, ½ pound Venetian red, a small lump of tallow. Boil all till well mixed. Pour into moulds to cool, or small pasteboard boxes, such as soda boxes.

China Closet.—A handy short cut which will save tired housekeepers many steps, is a china closet like the one illustrated, between kitchen and dining room. Figure 1 is the dining-room side just even with the wall and



with curtains over the shelves. Figure 2 is the kitchen side which projects into the room and has doors to keep all smell of cooking from the dining room. AA are shelves for china; BB drawers for silver; C drawers for table linen; D is a hinged shelf with a folding support beneath, on which to place food ready to take from dining room; E drawer for dish towels, etc.

Fidgety

people are lacking in nervous strength. The weak, care-worn, melancholy, headachy, and low-spirited men and women are easily excited, impatient, fidgety, and unable to sleep at night. Worn-out nerves must be built up, and the vitality of the whole system replenished before relief can come.

"The least bit of noise or sudden jar would nearly drive me crazy, and I was just too fidgety for anything. I was so nervous that I could not rest or sleep. The first dose of Dr. Miles' Nerve brought me sleep, and after that I got well fast."

Mrs. A. R. MORRELL, Arcola, Ills.

Dr. Miles' Nervine

builds up the nerves, strengthens the brain, and fortifies and refreshes the whole system.

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

THE STUDY OF BREEDS

By THOMAS SHAW, Professor of Animal Husbandry at the University of Minnesota, formerly Professor of Agriculture at the Ontario Agricultural College, and editor Canadian Live Stock Journal.

This great work gives the origin and history of all the pedigreed breeds of cattle, sheep, and swine now found in America, in a manner at once brief, comprehensive and in regular sequence. It also deals with their present distribution. It treats of the characteristics of each breed, showing relative size, adaptability, early maturity, feeding and breeding qualities, and uses in crossing and grading. It also gives relative milk production in cattle, and wool production in sheep. It gives the recognized standards or scales of points where these exist, and where they do not, standards are submitted. It is a summary of condensations, stated in a manner at once clear, concise, comprehensive and exact. The time occupied in preparing this book has covered a large portion of 12 years. Illustrations are given of male and female animals of each breed that are true to the type. For farmer, breeder or student, the book is the one complete and reliable guide. Upward of 460 pages, nearly 100 full-page plates, cloth, 12mo. Price, postpaid, \$1.50.

The "Study of Breeds" and one new subscription to the Kansas Farmer, one year, both for only \$2.00. Address

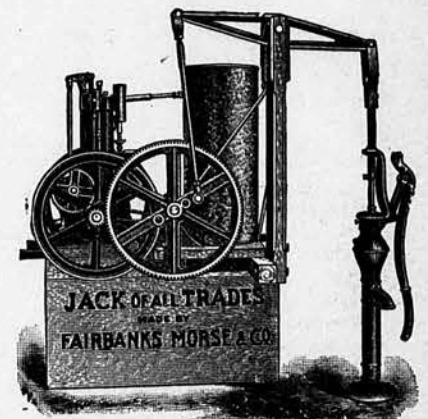
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Plenty of Water can be obtained at a cost of about

TWO CENTS

Per thousand gallons by using this little



Prices Right. Immediate Delivery.

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HANDSOME AMERICAN LADY, independent, only rich, wants good honest husband. Address ERIE, 198 Washington Street, Chicago, Ill.

MARKET REPORTS.

Kansas City, Sept. 2.—Cattle—Receipts, 8,905; calves, 931. The market was slow and lower. Representative sales: SHIPPING AND DRESSED BEEF STEERS. No. Ave. Price, No. Ave. Price. 15.....1200 \$5.10 17.....1080 \$5.00 10.....1025 4.60 23.....1027 4.40 32 grs.....1090 3.75

Chicago Live Stock. Chicago, Sept. 2.—Cattle—Receipts, 29,000. Good to prime steers, \$5.90@6.30; stockers and feeders, \$2.25@4.25; cows and heifers, \$2.50@3.00; Texas steers, \$3.50@5.00; western steers, \$3.75@5.00.

St. Louis Live Stock. St. Louis, Sept. 2.—Cattle—Receipts, 7,000. Beef steers, \$4.00@5.85; stockers and feeders, \$2.30@3.75; Texas steers, \$2.65@4.20; cows and heifers, \$2.00@3.15.

Omaha Live Stock. Omaha, Sept. 2.—Cattle—Receipts, 5,200. Native beef steers, \$4.25@6.00; Texas steers, \$3.25@4.35; stockers and feeders, \$2.70@4.00.

ALFALFA SEED In large or small quantities. Write for samples and prices. E. J. HULING & CO., Las Animas, Col.

ALFALFA SEED. To-day's Prices Sacked on Cars at Lawrence, Kansas. Choice quality, \$6.00 per bushel (60 pounds.) Prime quality, \$5.70 per bushel (60 pounds.) Fair quality, \$5.40 per bushel (60 pounds.)

TO SHEEP BREEDERS. First edition Stewart's "DOMESTIC SHEEP" sold out. Second edition, revised and enlarged, now ready. 384 pages batted down sheep and wool knowledge, covering every department of sheep life.

When writing advertisers please mention this paper.

Special Want Column.

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

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

CATTLE. NO FEED.—Must sell part of my registered Short-horns. Good individuals, best of breeding. Prices cut to half. M. C. Hemenway, Hope, Kans.

FOR SALE—A fine registered Shorthorn bull calf, dark red, 10 months old. Enquire H. O. Miller, Valencia, Kans.

WANTED.—300 head of cattle to pasture for the winter on good buffalo grass range, at 50 cents per head per month. Plenty of water and shedding. W. C. Moyer, Coffeyville, Kans.

FOR SALE—A highly bred registered St. Lambert bull, 10 months old. O. E. Haley, Ottawa, Kans.

FOR SALE—Five registered Shorthorn bull calves. All are promising, and certified copy of pedigree goes with each. Call or write J. B. Anderson, Box 246, Salina, Kans.

FOR SALE OR TRADE—Forty head of dairy cows with or without the dairy business; also 80 head of stock cattle. Address C., care of Kansas Farmer, Topeka, Kans.

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

SHEEP. GRADE SHROPSHIRE and full-blood Merino ewes to put out on shares. Bucks and Wethers for sale. W. Leghorn Roosters 50 cents. W. W. Cook, Russell, Kans.

REGISTERED SHROPSHIRE RAMS for sale. Fine, lusty fellows and well woolled. Also a lot of good ewes at drouth prices. E. S. Kirkpatrick & Son, Wellsville, Kans.

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

SWINE. POLAND-CHINA HERD BOAR FOR SALE—U. S. Wilkes 26895, sire Nox All Wilkes 18179, dam Bonnie Black U. S. (27927), farrowed April 2, 1900. Sure breeder. Also a few granddaughters of Missouri's Black Chief, and a smooth, growthy October boar. Harry E. Gillette, R. F. D. No. 2, Ottawa, Kans. Five miles northeast of Ottawa.

MISCELLANEOUS. ALFALFA SEED—New crop, specially cleaned, \$5 to \$5.50 per bushel, sacked on cars here. Chas. N. Woodell, Grain and Seed Dealer, Nickerson, Kans.

FOR SALE—A permanent business. Will guarantee \$1,800 profits per year. Needs a man with 2 or 3 steady boys, above 15 years old. Will take real estate or cash for part pay—balance monthly. Price \$4,500. All cash or real estate will take it for less. Investigate. Open 20 days. Lock Box 28, Cottonwood Falls, Kans.

ALFALFA SEED—Crop of 1901, pure and fresh. Write for prices. McBeth & Kinnison, Garden City, Kas

A 14-INCH ROSS CUTTER—With 12-foot carrier, right, left, and straight delivery. Write for particulars. Wm. Ramsey, Solomon, Kans.

SEED WHEAT FOR SALE—Economy wheat, raised from seed from Western Ohio Seed Co., soft, beardless, stands well, early as Little May, and yielding 20 to 40 bushels per acre on upland. Ruby—soft, bearded, mammoth berry, stands winter well. Is a wonderful yielder, making 41 bushels per acre on upland this year. Price \$1.25 per bushel (either kind), sacked F. O. B. Cherryvale. wagon loads \$1 per bushel at bin while stock lasts. Lewis Billings, Cherryvale, Kans.

I BUY mortgages, and loan money on farm and town property. F. J. Brown, 17 Columbian Bldg., Topeka, Kas

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

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

WANTED—A young man and wife to work on a Herford ranch in Barber County, Kans. Woman must be a good housekeeper, average three to cook for besides themselves; this is a permanent home, if suited. Address D. L. Taylor, Sawyer, Kans.

MUST SELL Forty acres, Howell Co., Mo., 2 miles east of railroad town of Pomona, in center of fruit country, 2-room frame house, barn, cistern, fruit, 10 acres cleared, balance fine timber. Title perfect. \$150 gets this. A sure snap. LOTT, "The Land Man," N. Y. Life Bldg., Kansas City, Mo.

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

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.

When writing to advertisers please mention the KANSAS FARMER.

The Stray List.

For Week Ending August 22. Rice County—J. D. Bright, Clerk. MARE—Taken up by G. C. Allinger, in Farmer tp., (P. O. Bushton), July 11, 1901, one bay mare, 10 years old, branded H D on left hip; valued at \$40.

Rice County—J. D. Bright, Clerk. MARE—Taken up by G. C. Allinger, in Farmer tp., (P. O. Bushton), July 11, 1901, one grey mare, 7 years old, branded with a heart on left leg; valued at \$25.

Rice County—J. D. Bright, Clerk. MARE—Taken up by G. C. Allinger, in Farmer tp., (P. O. Bushton), July 11, 1901, one bay mare, 9 years old, branded N S on left shoulder; valued at \$25.

Shawnee County—Jno. M. Wright, Clerk. HEIFER—Taken up by H. M. Hewins, in Dover tp., (P. O. Dover), July 15, 1901, one yellow Jersey heifer, 1 year old, tip of left ear cut off, and box brand on left hip.

Cowley county—Geo. W. Sloan, Clerk. CALF—Taken up by D. C. McKinlay, in Ninnescah tp., (P. O. Seely), July, 1901, one red yearling male calf; valued at \$12.

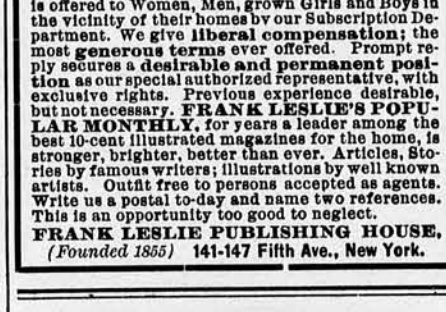
Montgomery County—D. S. James, Clerk. PONY—Taken up by H. L. Rundell, in Drum Creek tp., (P. O. Independence), one sorrel pony, 4 years old, cross on left shoulder, right ear tipped forward at center.

For Week Ending August 29. Pratt County—John Mawdsley, Clerk. COW—Taken up by J. P. Gibbons, in Saratoga tp., August 5, 1901, one white and yellow cow, branded Y on left hip, crop off both ears; valued at \$15.

Cherokee County—S. W. Swinney, Clerk. COW—Taken up by Jno. A. Carlson, in Ross tp., August 20, 1901, one dark red milch cow, 6 years old, weight 900 pounds, some white on belly and sides, star in face.

For Week Ending September 5. Cherokee County—S. W. Swinney, Clerk. HORSE—Taken up by Thomas Osborne, in Garden tp., July 17, 1901, one dark brown horse, 10 years old, 16 hands high, white spot in forehead, saddle and collar marks, shod in front, branded on left shoulder like dim figure 8.

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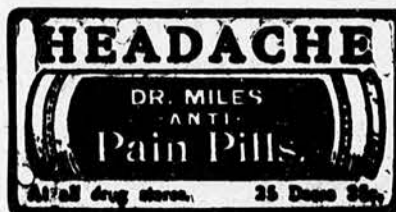
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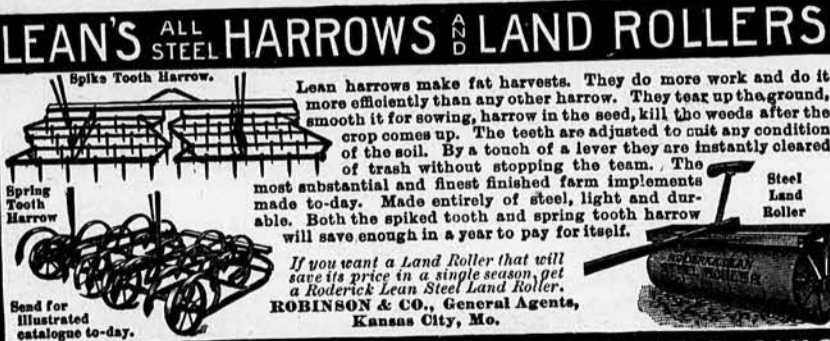
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