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PAGES—\$1.00 A YEAR.

BREEDERS' DIRECTORY.

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DUROCS. Registered stock all ages.
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Breeder and shipper of Poland-China hogs,
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PEDIGREED POLAND-CHINA HOGS.
I now have for sale a fine lot of large, well matured early spring boars, two of them just past 1 year old; all fine, large, mellow fellows, broad backed, large boned and well marked. . . . Write me for description and prices. . . .
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—THOROUGHbred POLAND-CHINA HOGS—
Perfect We Know, a son of Chief I Know, the sweepstakes boar at the Omaha Exposition, at head of herd.
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Telephone address Pearl, Kans. | RHINEHART.
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Daughters of Knox All Wilkes, Majestic Chief and Ideal Black Chief; they are bred to Imperial Chief, the first-prize boar at Iowa State Fair, 1900, Ideal Black Chief and Kanawaka Chief by Midway Chief. These gilts are as good as any we have raised this year. We have some fall boars sired by Ideal Black Chief and Majestic Chief, the best we have ever raised. Parties wanting something to put at head of their herd should correspond with us. Prices right.
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Farm one mile from station.

POLAND-CHINA HOGS
Herd headed by I Know Perfection 48263 O., sired by Chief I Know 87167 O., and out of Black Beauty F. 11642 O., assisted by Kansas One Price 461150 O., Look At Me Jr., and Young U. S. I have a few fall gilts by Kansas One Price and one by Lawrence Perfection 80; also a few extra good March and April boars for sale. Gilts will be sold bred or open. Write me, or come and buy for yourself. I will guarantee all stock as represented.
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PERFECTION CHIEF BOARS, GUY DARKNESS BOARS. CRESCENT HERD Has 'Em.
Come and see, or write your wants.
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Headed by the grand boar, Anderson's Perfect I Know, dam Anderson's Model (48611), sire Perfect I Know 19172 mated to a lot of choice selected sows of the most noted prize-winning families. A fine lot of fall and spring pigs ready to ship. Write for what you want. Safe arrival and satisfaction guaranteed.

VERDIGRIS VALLEY HERD
Large-boned, Prize-winning POLAND-CHINAS.
We have for sale 6 last fall boars, 3 extra good. Also 100 spring pigs. They are of the low-down, heavy-boned, lengthy, easy-keeping kind. The practical, money-making kind of hogs. We can furnish pairs or herds not akin, and of any of the popular and prize-winning strains. Prices reasonable. Nothing but the best shipped on order.
WAIT & EAST, Altoona, Wilson Co., Kans.

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Breeder of POLAND-CHINA SWINE.
The Prize-Winning Herd of the Great West. Seven prizes at the World's Fair. The home of the greatest breeding and prize-winning boars in the West, such as Banner Boy 28441, Black Joe 28603, 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.

33--PURE BRED POLAND-CHINAS--33
For present sale, I have CHOICE SOWS, Bred to Logan Chief 2d 24427 and Proud Tecumseh 24655. Most of the sows are sired by the 900-pound Corwin I Know 18448 and Hadley U. S. 20186. Also 50 choice October pigs at \$8 and \$10 for the next 30 days. My hogs have good heads and small, fancy ears. Come and see them or write.
JNO. BOLLIN, Kickapoo, Leavenworth Co., Kans.
I ship from Leavenworth.

MAPLE GROVE REGISTERED POLAND-CHINAS
HIRAM SMITH, Breeder, Colwich, Sedgwick County, Kansas.
Herd headed by the famous herd boar, BLACK CHIEF (42887), and assisted by IDEAL U. S. (Vol. XXII). I have on hand 80 serviceable boars and 85 gilts for sale at reasonable prices; quality, style, and breeding considered. Out of 20 richly-bred sows, such as Worldbeater's Beauty (109484), Dolly F. (108670), Black Bessie (102424), and Banner's Pride (108706). Inspection or correspondence invited.

SWINE.

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For Sale: Thirty-five fine gilts, sired by "Miles Look Me Over (18879) prize-winner in 5 fairs in 1900; also a few fine boars. Call on me or write your wants.

KANSAS HERD OF POLAND-CHINAS has 20 fine fine January pigs, 10 fine sows, bred to a son of Perfect I Know. I will sell or trade U. S. Tecumseh 20388 he by old Black U. S. Address F. P. Maguire, Haven, Reno County, Kan.

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Only choicest individuals reserved for breeding purposes. J. M. GILBERT, Busby, Elk County, Kansas.

CHINQUAPIN HERD OF POLAND-CHINAS.
Black Chief's Perfection at head. Sire, Missouri's Black Chief, dam by Chief Perfection 2d. Special rates on weaned pigs. A. M. JORDAN, Alma, Kans.

FAIRVIEW HERD DUROC-JERSEYS
Contains breeders of the leading strains. We have some fine Summer and Fall pigs to sell at moderate prices.
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Prize-winning strain. Young stock for sale.
WARE & POCKE, Station B., St. Joseph, Mo.

PARKALE STOCK AND FRUIT FARMS THOROUGHbred HEREFORD CATTLE.
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DUROC-JERSEY SWINE---REGISTERED.
Some extra July and August pigs at reasonable prices. Write us and get first choice.
NEWTON BROS., WHITING, KANS.

PLEASANT HILL HERD POLAND-CHINAS
Twenty selected pigs of September farrow for sale.
HERMAN ARNDT, Templin, Kans.
Shipping station, Alta Vista.

CATTLE.

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

MEADOW BROOK SHORTHORNS—Some fine young stock, 20th Earl of Valley Grove at head of herd, for sale; breeding of the best, in color unexcelled. Address F. O. KINGSLLEY, Dover, Shawnee County, Kans.

ROSEDALE HERD OF HOLSTEINS. . . . C. F. STONE, Proprietor. PEABODY, KANSAS. Home of Empress Josephine 3d, champion cow of the world. Gerben's Mechtildie Prince at head of herd. . . . Young bulls and heifers for sale. . . .

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.

V. R. ELLIS Gardner, Kas. Sir Charmin 4th at head of herd. Cruickshank top crosses on best American families. Young stock for sale.

PERCHERON HORSES, AND ABERDEEN-ANGUS CATTLE
GARRETT HURST, Breeder, Zyba, Sumner Co. Kans. For sale 1 young stallion, and 1 mare; also 3 cows, and 1 bull. All registered.

SHORTHORN BULLS FOR SALE.
A few choicely bred young bulls—spring yearlings for sale at very reasonable prices; also 2 Shropshire, and 1 cross bred Shropshire-Cotswold buck. Address JAMES C. STONE, LEAVENWORTH, KANSAS.

RED POLLED CATTLE.
Largest Herd in America.
S. A. CONVERSE, Proprietor, Importer, and Breeder, Cresco, Howard Co., Ia.

D. P. Norton's Shorthorns
Dunlap, Morris County, Kansas.
Breeder of Pure-bred SHORTHORN CATTLE.
Herd bull, Imported British Lion 133692.
Young Stock For Sale.

Sycamore Springs Stock Farm
SHORTHORNS.
H. M. HILL, Proprietor, La Fontaine, Kans.
All stock reserved for the Gowdy, Wolf & Son, and Hill sale at Kansas City, November 20, 1900. Personal inspection of our sale draft and of herd invited. Correspondence solicited.
...SILVER CREEK HERD...
SHORTHORN CATTLE.
GWENDOLINE'S PRINCE 130913 in service, a son of the \$1,100 cow, Gwendoline 5th. Best Scotch, Bates, and American families represented. Also breed high-class Durpc-Jersey swine. Can ship to Santa Fe, Frisco, and Missouri Pacific R. R. J. F. STODDER, Burden, Cowley Co., Kans.

STEELE BROTHERS' HEREFORDS.
Our standard is the standard of the breed.
STEELE BROS., Belvoir, Douglas Co., Kans.

SUNFLOWER HERD
Scotch, and Scotch-topped
SHORTHORN CATTLE
POLAND-CHINA SWINE.
Herd bull, Sir Knight 124408. Herd boar in quality U. S. 2d 22582 S., and Sunflower Black. Representative stock for sale. Address—Steele Brothers, Blue Stem, Harveyville, W.; and Little Club. As a large distribution of

CATTLE.

BULLS AT ROCKY HILL.
On account of bad weather and inadequate room, our sale January 9th was called off after a few lots had been sold. We now offer a car load of top-quality bulls at retail; will make very low price for the lot.
J. F. TRUE & SON, Newmad, Kansas.
On U. P. R. R., 12 miles East of Topeka.

Polled Durham Cattle.
Edgewood Polled Durhams. The largest and best bred herd west of the Mississippi river. Scotch blood a specialty. Bulls for sale. Address . . .
A. E. BURLEIGH, KNOX CITY, MO.

ALFALFA MEADOW STOCK RANCH.
1,300 acres. Pure bred stock only. Herefords, Poland-Chinas, Light Brahmas, and Belgian hares. Stock of all kinds for sale. Pedigreed hares, \$2.
O. B. WHITAKER, Proprietor, Lincoln, Kans.

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

BREED THE HORNS OFF BY USING A RED POLLED BULL.
CHAS. FOSTER & SON, BUTLER CO., KANS.
Breeder of Red Polled cattle. Herd headed by Powerful 4582. Pure-bred and grades for sale. Also, prize-winning Light Brahmas.

MT. PLEASANT HERD OF SHORTHORNS
Herd headed by Acomb Duke 18th 142177. Herd composed of Young Marys and Galateas. Young Bulls for sale. Sired by Phyllis Duke 131838.
A. M. ASHCROFT, Atchison, Kan.
R. D. No. 3.

BILL BROOK HERD REGISTERED SHORTHORN CATTLE.
Headed by Iowa Scotchman 2d. Young bulls and heifers always for sale. Write for prices, and address
H. O. TUDOR, Holton, Kans.

RECORDED HEREFORD BULLS FOR SALE.
The get of Marmion 66646 and Anxiety Wilton A--46611, 10 to 24 months old. These bulls are large, and good individuals, and of the best of breeding. Inspection invited.
FRED COWMAN, Lost Springs, Kans.
Breeder (not dealer) of HEREFORD CATTLE.

Registered Herefords.
THOS. EVANS, Breeder, Hartford, Lyon County, - - - Kansas.
SPECIAL OFFERINGS:— FOR SALE—Six bulls and fifteen heifer calves, one 3-year-old imported bull, one yearling bull, and 5 cows.

PURE BATES SHORTHORNS.
Variety of wintery, 8-99 did not flourish in experimental plot, but from the effects of the cold. It is not a success.

TO CURE A COLD IN ONE DAY
Take Laxative Bromo Quinine Tablets. All druggists refund the money if it fails to cure. E. W. Grove's signature is on each box. 25 cents.

CATTLE.

IDLEWILD SHORTHORNS.

The blood of Roan Gauntlet and Champion of England can be had direct through our herd bull, Godoy 115675. His dam, Imp. Golden Thistle (Vol 26) is by Roan Gauntlet; his granddam, Golden lady by Champion of England. Godoy is still active and a sure getter. A few years later you can not get this blood direct. Godoy transmits the old scale and substance produced only by Cruickshank. Thirty-five Cruickshank females in herd; also Booths and DoubleMays. Can offer Godoy Calves from these tribes. W. P. HARNED, Vermont, Cooper Co., Mo.

COBURN HERD OF RED POLLED CATTLE

GEO. GROENMILLER & SON, Coburn, Franklin Co., Kans. Breeders of full bloods, and high grades. For sale a number of extra good high grade bulls from 6 to 12 months old; also a few choice full bloods. Herd numbers 90 head.

POWELL'S HEREFORDS.

Sires in Service: JUDGE VICTOR 62246, ROYAL BOY 82820. Special Offering: Three very choice bull calves, extra large, growthy fellows in good flesh. W. S. POWELL, Moline, Elk Co. Kans.

HORSES AND MULES.

PERCHERON HORSES.

J. W. & J. C. Robison, Towanda, Kansas. Importers and Breeders. Stallions for sale.

Leavenworth County...

JACK FARM.



Twenty-five Jacks and Jennets for sale; also a registered trotting-bred stallion, 16 1/4 hands high, weight 1,800 pounds. O. J. CORSON, Potter, Kansas

SNYDER BROTHERS, WINFIELD, KANSAS.

SHIRE, AND PERCHERON HORSES, SHORTHORN, AND POLLED DURHAM CATTLE, POLAND-CHINA SWINE. BREEDING STOCK FOR SALE.

LIVE STOCK AUCTIONEERS.

JAS. W. SPARKS LIVE STOCK AUCTIONEER

Marshall, Mo. Have been, and am now, booked for the best sales of high-class stock held in America. Write me before claiming dates.

GEO. R. HUNGATE, The Reliable AUCTIONEER

Son of A. J. Hungate, who spent 45 years as a prominent Auctioneer.

I have sold more cattle during the past year than any man in Kansas. Sales made on the per cent plan. Correspondence solicited and promptly answered. Address, Sixth and Quincy Streets, Topeka, Kans.



LIVE-STOCK AUCTIONEER

Col. J. N. Harshberger, LAWRENCE, KANS.

Special attention given to selling all kinds of pedigreed stock, also large sales of graded stock. Terms reasonable. Correspondence solicited. Mention KANSAS FARMER.

HOGS, SHEEP, POTATOES.

Two Registered Duroc-Jersey Gilts, bred to registered Duroc-Jersey boar not akin, \$15 each.

Two Registered Poland-China Gilts, bred to registered Poland-China boar not akin, \$15 each; Poland-China pigs, registered, \$10 each. Registered Poland-China and Duroc-Jersey boars, 250 pounds, \$15 each.

Registered Shropshire Rams and in Lamb, \$20 each. Also "The Kansas Snowball."

SHEEP.

..AMERICAN..

Angora Goat Breeders ASSOCIATION

For all information as to registering, etc., address W. T. McINTIRE, Secretary, 227 Live Stock Exchange KANSAS CITY, MO

WELL DRILLING Machines

Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog.

WILLIAMS BROS., Ithaca, N. Y.

WINTER WATER.

When the stock goes into winter quarters you will want to be sure of a reliable and constant supply of water. A bored well is the safest and surest. Our Well Machinery does it best and cheapest. Drills 25 to 1500 ft deep. We make all appliances. Have stood the test of 13 years. We also have Gasoline Engines for all purposes. Send for free catalog.

W. M. Thompson Co., Sioux City, Iowa. Successors to Sioux City Engine & Iron Works

Advertisement for LIGHTNING WELL MACHY IS THE STANDARD STEAM PUMPS, AIR LIFTS, GASOLINE ENGINES. WRITE FOR CIRCULAR THE AMERICAN WELL WORKS, AURORA, ILL. - CHICAGO - DALLAS, TEX.

THIS FEED MILL

Does all kinds of work on one set of gears. The Tandem Sweep compels each horse to pull his own share. No Gearing. No Friction. Capacity, speed and comfort increased. (Also make 3 sizes belt-power mills). Price lists free. C. N. F. Bowers Co., So. Bend, Ind.

A POWER SAVER

The cutting head used on our Spartan Corn Belt Feed Grinders is the greatest power saver ever placed on a grinder. It cuts the ears to pieces instead of crushing them. It is faster and easier than others. Made of best material throughout, strong and durable. Send at once for circulars, etc.

G. D. Colton & Co., Box 578, Galesburg, Ill.

A HAPPY NEW YEAR TO ALL.

Farmers!

If you have any fencing to do, the best way to make yourselves happy is to buy a SUPERIOR FENCE MACHINE and build your own fence. You can have the best fence for the least money, built on the ground to fit. Catalogue Free. Price of Machine \$4.75 prepaid. Good agents wanted.

SUPERIOR FENCE MACHINE CO., 180 Grand River Avenue, Detroit, Michigan

Italian Bees.

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

A. H. DUFF, Larned, Kansas.

"I had been in bed three weeks with grip when my husband brought me Dr. Miles' Nervine, Pain Pills and Nerve and Liver Pills. I was cured."—Mrs. J. Renier, Franklin, Ind.

250 HIGH GRADE ANGORA DOES

All pure white, thin pendulent ears. Will sell very cheap if taken soon.

W. T. McINTIRE, Live Stock Exchange, - - Kansas City, Mo.

ANGORA DOES

AT PUBLIC AUCTION!

ON MONDAY, FEBRUARY 25, 1901, There Will Be Sold at the KANSAS CITY STOCK YARDS,

1,500 REGISTERED and HIGH GLASS ANGORA DOES, all bred to registered bucks, which will kid from April 15 to May 1. 600 of the above goats are registered in the American Angora Goat Breeders' Association. They are 2 and 3 years old. Owned and bred by D. O. Taylor, Lake Valley, New Mexico, the gentleman who bred and owned "Lazarus", the \$700 buck which sold at our sale and show last fall.

W. T. McINTIRE, Agent, Live Stock Exchange, KANSAS CITY, MO.

POLAND-CHINA BROOD SOW SALE

OF MISSOURI'S BLACK CHIEF BREEDING, THURSDAY, JANUARY 31, 1901

OAK GROVE, MO.

will see 20 Missouri's Black Chief Sows and Gilts bred to "R's Perfection" 24433 by "Chief Perfection 2d", and 20 fall yearlings and spring gilts by "A's Chief" 21014, (and other well bred boars) bred to "Chief Eclipsed" 22499, the best matured son of "Missouri's Black Chief"; also open gilts by "Missouri's Black Chief", and A Few Spring Boars same breeding. This offering is all by "MISSOURI'S BLACK CHIEF" or bred to his best son. FOR FULL PARTICULARS...SEND FOR FREE CATALOGUE...

E. E. AXLINE, OAK GROVE, MO.

COL. J. W. SPARKS, Auctioneer, Marshall, Mo.

Bids may be sent to the Auctioneer or to H. A. Heath, Topeka, Kansas, by those who are unable to be present.

THREE : DAYS' : AUCTION : SALE. 60 Shorthorns 120 Herefords

AT THE KANSAS CITY STOCK YARDS NEW SALE PAVILION, FEBRUARY 6, 7, and 8, 1901

Wednesday, February 6, Thursday, February 7, Friday, February 8,

F. W. and O. B. CAIN, of Novinger, Mo.,

WILL SELL 60 HEAD OF REGISTERED SHORTHORNS.

Straight Bates, Cruickshanks, and Cruickshank-topped.

STEELE BROS., Belvoir, Kans., and E. A. EAGLE & SON, Rosemont, Kans.,

WILL SELL 60 HEAD OF RICHLI BRED REGISTERED

HEREFORDS.

Thirty Bulls and Thirty Females.

MILLER & BALCH, Kirksville, Mo., and E. CORKINS, Bethany, Mo.,

WILL SELL 60

HEREFORDS.

Eleven Bulls, and 49 Cows and Heifers.

FOR SHORTHORN CATALOGUE, ADDRESS

W. CAIN, - - Novinger, Missouri. STEELE BROS., - - Belvoir, Kansas.

COLS. WOODS, SPARKS, and JONES, Auctioneers.

Agricultural Matters.

Characteristics and Needs of the Several Wheat Districts of the United States.

MARC A. CARLETON, U. S. DEPARTMENT OF AGRICULTURE.

(Continued from January 10.)
IRRIGATED WHEAT DISTRICT.

In this region is included all those scattered portions of the Rocky Mountain and Basin States in which wheat is grown at all. The states thus included are Wyoming, a part of Montana, southern Idaho, Utah, Nevada, Arizona, New Mexico, and the greater part of Colorado. In this district we find conditions remarkably different from those existing anywhere east of the Rocky Mountains. Three striking characteristics not present to so great a degree in any other district are (1) the extreme aridity, necessitating the application of water by irrigation, (2) the very low humus content of the soil, and (3) the superabundance of alkali usually present. These conditions are closely inter-related and mutually dependent upon one another. The absence of humus is a natural result of the absence of rainfall, upon which depends the existence of plant life. Rainfall also tends to equalize the distribution of the alkaline matters of the soil, which in this district, however, are concentrated, in places, in high percentages. The practice of irrigation is often allowed to make conditions worse by gradually carrying and depositing in certain localities or on certain farms an excess of alkali largely above that which was already present. These features of extreme aridity, lack of humus, and excess of alkali are so particularly characteristic that they go far beyond any matters of temperature dependent upon latitude or elevation in their effects upon the nature of wheat varieties grown in this district. That is, wheats so far north as southern Idaho are very like those of southern New Mexico or Arizona, and in all parts of the district show uniformly a great lack of gluten content, which is dependent mainly upon the presence of soil humus.

Wheat does best in soil that is alkaline rather than acid in reaction, but an excess of alkali becomes very injurious. Different cereals are able to withstand different amounts proportionally of alkali in the soil. Barley and rye seem to tolerate a larger proportion than wheat, and the latter will usually tolerate a larger amount than oats. Of all the cereals barley will withstand the largest amount.

The wheats of this district are almost always white-grained, soft, and extremely starchy, and lack greatly in gluten content. The straw is so white and clean and glistening that it is dazzling to the eyes in the hot sunshine. Rust on wheat is seldom injurious, and in some localities is entirely unknown. Smut, however is often present to a considerable extent. The stiffness of the straw and the absence of rain prevent the grain from ever lodging, so that harvesting may be delayed for weeks with little or no injury to the grain.

Manifestly the greatest need of this district is an increase in the gluten contents of the grain. While the introduction of hard-grained nitrogenous sorts from other sections is at first an improvement, the gluten content can not thus be materially and permanently increased. No wheat variety, whatever its nature, can abstract from the soil elements that are not present there. Wheats brought from the black prairie soils of other sections to this district show striking illustration of the radical changes that may be caused in a variety by a simple transference to a new locality and, even when grown under the best of care, quite effectually disprove a notion prevalent even among scientists that varieties will not deteriorate. The hardest red Fifes from North Dakota, Turkey wheat from Kansas, or Diamond Grit from New York, become rapidly more starchy and of a lighter color on being grown in Utah or New Mexico. The first requisite, therefore, for wheat improvement in irrigated sections is the complete amelioration of the soil by (1) dispersing the excessive accumulations of alkali and (2) increasing the humus content through the application of nitrogenous fertilizers and the growth of leguminous crops in alternation with wheat. At the same time it will aid greatly to gradually introduce the harder red-grained wheats.

In many portions of this district, at high elevations in the mountains, wheat is often seriously damaged by early

autumn frosts. It is therefore important to obtain for these localities the earliest maturing varieties possible, or varieties that may perhaps resist the action of frosts. For example, the San Luis Valley of Colorado wheat is grown at an elevation of over 7,500 feet, where frost is likely to occur in any month of the year, but is especially liable to injure the crop in August.

SUMMARY OF CONDITIONS AND NEEDS OF THE DISTRICT.

- (1) Chief varieties now grown: Sonora, Taos, Felspar, Little Club, Defiance, Amethyst.
- (2) Average yield per acre, about 21 bushels.
- (3) Needs of the grower:
 - (a) Increase of the gluten content.
 - (b) Early maturity.

WHITE WHEAT DISTRICT.

This district covers, in a general way, the Pacific Coast region, including California, Oregon, Washington, and northern Idaho. All varieties that have become at all acclimated are characteristically white-grained, soft, and starchy. Usually the factor which is probably most influential in producing a grain of such nature is the lack of humus in the soil, as is true in the irrigated district. The generally cool summers, however, no doubt give aid to the same end. Hard, red-grained varieties, when brought to this district, deteriorate in a few years' time. Nevertheless such introductions have in a number of instances proved beneficial.

A majority of the more common varieties strictly characteristic of the district are of the group usually called club wheats and belong to the species *Triticum compactum*. Sonora, Defiance and Australian of California, Red Chaff of Oregon (distinct from the Palouse Red Chaff of the Palouse country), and Palouse Blue Stem of Washington are not, however, club wheats. As the botanical name of the club group implies, these wheats have their spikelets (meshes) so compactly arranged in the heads that they stand out nearly at right angles with the rachis (or stem of the head). The head thus becomes square formed (hence the name square head applied to many of the varieties), and, being usually a little larger at the apex than at the base, appears club shaped. Thus, although the heads are usually rather short, each contains comparatively a large number of grains, which partially accounts, probably, for the large yields per acre in this district. Heads of Chili Club are occasionally found that contain over 160 grains each.

A very valuable characteristic of the club wheats is their ability to hold the grain in the chaff so that there is little danger of shattering, even during the driest season, if there should be much delay in the harvest. In some localities the grain, though ripening in July, is sometimes left standing until September before harvesting, a habit which, however, has no good excuse for its practice.

For the purpose of clearer discussion, the district may be considered as subdivided into three sections—California, Oregon, and the Palouse country of Washington and northern Idaho.

In southern California the varieties Sonora and Defiance are much grown, the latter particularly for its rust resistance, which is an important need in this part of the state. Sonora wheat has a reddish velvet chaff, is beardless, and is white-grained as seen in this district. The grain is a little harder than that of the club wheats and is used for export, while the grain of the latter is used for home consumption.

From the latitude of Fresno to the Oregon state line Australian and the various strains of club wheats are principally cultivated. The best known varieties that are given special names at all are Golden Gate Club, Salt Lake Club, and Chili Club. The variety Propo is also grown to some extent. Other sorts from the East, such as Rudy, are occasionally introduced, but these do not seem to yield so well, and besides shatter so badly that they soon have to be given up. Non-shattering varieties are in great demand. In all portions of the state the increase of the gluten content is probably the greatest need. All varieties grown in the state are winter wheats.

One of the most interesting sections of California devoted to wheat culture is that of the "Tule" lands, near Stockton. The great grain fields there show strikingly the possibilities in a reclamation of immense marshes. They were once vast flats covered with water, mud, and a growth of bulrushes (*Scirpus lacustris*), called Tule in Spanish. By means of pumping, dredging, and throwing up levees these lands have been reclaimed, and now after many

years they are among the most fertile of the state. Wheat yields from 50 to 80 bushels per acre here, and barley sometimes as much as a hundred bushels or more per acre. This remarkable fertility is a result, in part at least, of the deep deposits of organic matter. There is still apparently a lack of certain mineral ingredients, such as lime and potash, which are needed to make the quality of the grain as good as the quantity.

As in the case of the hard spring wheat district the chief difficulty in the way of successful wheat culture in California, so far as agricultural practice is concerned, is the enormous size of many of the farms or ranches. They are even larger than in the Dakotas and Minnesota, containing often from 20,000 to 30,000 acres. On this account it is impossible to give the attention to details in farming that are necessary for the best results. The lack of attention to nitrogenous manuring, and especially to the alternation of wheat with leguminous crops, is particularly noticeable.

The combined harvester-thresher is used in harvesting pretty generally throughout the state. This machine is either drawn with an engine or with 28 to 40 horses. By its use the grain is threshed directly from the field and left piled in bags. Immense ricks of these bags of grain remain in the field sometimes for weeks unmolested and undamaged by the weather. All grain throughout the state is handled in this form and calculations are made in bags and not in bushels. There is therefore no use for the grain elevator, in the ordinary sense of the term. Each bag contains 2½ bushels or about 150 pounds.

West of the Cascades, in Oregon, conditions are somewhat similar to those in California. In a large portion of the state a considerable amount of spring wheat is grown. In addition to the ordinary club wheats some other varieties, such as Oregon Red Chaff and Foise, are also well represented. The midsummer climate is much cooler than in California and therefore harvesting is performed much later. On account of the greater dampness of the atmosphere and the smaller size of the farms combined harvester-threshers are not used, but self-binders instead. There is great need of early maturing varieties, as the cool autumn weather begins so early. The nitrogen content of the grain is exceedingly small.

In eastern Oregon climatic and other conditions are quite different from those west of the Cascades, and a description of that section is more properly included in the discussion of the Palouse country.

In western Washington the general conditions and the quality of the wheat are very similar to those of western Oregon, but in southeastern Washington and adjacent portions of Idaho and Oregon is a large section known as the Palouse country, which possesses peculiarities of soil and climate that are distinctively characteristic and radically different from those of the Pacific Coast region proper. Strictly speaking, the Palouse country is considered to be rather limited in extent, comprising approximately Latah County, Idaho, and Whitman County, and very small adjoining portions of Adams and Franklin counties, in Washington. Recently, however, the term has come to be applied practically to early all of these last-named counties, as well as to Garfield, Columbia, and Walla Walla counties, and may even include the northern portion of Umatilla County, Oregon. The two features which most distinguish this region from the Pacific Coast proper are the dryness of the climate and very finely divided condition of the soil. The particles are so very fine that when dry the soil is practically mere dust. On windy days this dust fills the air, forming vast clouds that are very disagreeable to the traveler. At the same time, with very little rain the soil becomes quite sticky and difficult to manage. The capacity of the soil to absorb and retain moisture is remarkable. It is pretty generally believed that a rainfall of 12 inches in this district is sufficient to make a crop of wheat, while in the states of the plains 18 inches is considered to be rather low for successful wheat growing. Wheat is the chief crop of the region, though barley and oats are grown to some extent. The principal wheat varieties (except Palouse Blue Stem) are of the club-wheat group. They are usually soft-grained and starchy, and generally white, similar to those of the coast region, but a little better in quality. The three standard varieties commonly grown are Palouse Blue Stem, Palouse Red Chaff, and Little Club. As regards the comparative distribution of

these varieties if the region be considered as divided into three parallel north and south belts, it will be found that Palouse Blue Stem prevails in the western belt, extending as far westward as North Yakima; Palouse Red Chaff in the middle belt, passing through the heart of the region, and Little Club in the eastern belt, reaching the foothills of the mountains.

The most serious obstacle to successful wheat culture in the Palouse country is the annually recurring drought which occurs about two weeks before harvest time, particularly in the western and southern portions. From this cause the wheat is often badly shriveled, and both the yield and quality thereby much affected. A slight compensation for this loss lies in the fact that shriveled wheat in this district is more in demand for making macaroni than plump wheat, because of the greater proportional amount of gluten in the former. In order to escape the severe effects of the drought, early maturing sorts are exceedingly desirable. It would probably be no exaggeration to say that a variety ripening ten to fifteen days earlier than the varieties now used, and as good in other respects, would add from one to three million dollars a year to the wealth of this region. In the central and southern portions of the region fall sowing is chiefly practiced, but in the northern and eastern portions, near the mountains, there is a larger proportion of spring varieties, and there a good, hardy winter sort is needed. In the drier western and southern portions, especially in the vicinity of Walla Walla, non-shattering varieties are necessary. There the combined harvester-thresher is used in harvesting, as in California. In the north and east, and in the more hilly portions, as in the vicinity of Colfax, the self-binder is more commonly employed. In a few places a comparatively new sort of machine has recently come into use. It makes a 10 or 12 foot cut, and is driven in front of the horses, as in the case of a header, but unlike the latter possesses a self-binding attachment as well.

SUMMARY OF CONDITIONS AND NEEDS OF THE DISTRICT.

- (1) Principal varieties at present grown: Australian, California Club, Sonora, Oregon Red Chaff, Palouse Blue Stem, Palouse, Red Chaff, Little Club, White Wimper, Foise.
- (2) Average yield per acre, about 14½ bushels.
- (3) Needs of the grower:
 - (a) Early maturity.
 - (b) Non-shattering varieties.
 - (c) Hardy winter varieties in the colder portions.

Johnson Grass.

PROF. A. S. HITCHCOCK.

This grass is a native of the Mediterranean region. It was introduced into the Southern States about 1830, and for some time was known by the name of Mean's grass, which name it still retains in some localities. About ten years later it was introduced into Alabama from South Carolina by William Johnson, and has since been quite generally known as Johnson grass. Its botanical name is *Andropogon Halapensis*, or *Sorghum Halapense*. It is sometimes called Guinea grass, but this name properly belongs to *Panicum maximum*, a tropical forage grass sometimes cultivated in southern Florida.

Johnson grass has received considerable attention in Kansas lately. It has been grown in the plats of the Kansas Experiment Station for several seasons, and its behavior in our climate tested. It is a rank growing perennial, with numerous strong rather fleshy creeping rootstocks, by which it propagates. The stems and leaves are coarse but quite succulent. It seeds abundantly and seed can be purchased at all seed houses. If the seed is clean, about one bushel per acre is sufficient for sowing. Johnson grass is chiefly used for hay, for which purpose it should be cut early before the stems become too old and hard. Usually two or three cuttings can be made. The seed should not be sown until the ground is warm or it will not germinate well. Johnson grass prefers rich moist soil, though it will grow in quite a variety of soils. It is injured by severe winters, but the cold winter of 1898-99 did not entirely kill out the experimental plot, and it quickly recovered from the effects of the cold. It is not a success

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as a pasture grass, as it is injured by grazing to such an extent that a pasture soon becomes useless, yet the vitality of the rootstocks is such that it is never entirely killed out in this way, and after a rest soon recovers from the effects.

Throughout the South, under proper conditions it is considered an excellent hay grass, and in all parts of Kansas where there is sufficient moisture it will undoubtedly be valuable for the same purpose.

However, it is exceedingly difficult to eradicate the grass on land where it has obtained a foothold, and for this reason it may become a pestiferous weed. Hogs are rather fond of the rootstocks and when confined upon a plot of the grass will destroy it. But on soil adapted to its growth it requires great care to eradicate it. If one wishes to grow Johnson grass the best plan is to devote a field to the purpose without expecting to subsequently put the field in cultivation. With care it can be confined to this field. After a few years the ground becomes so full of rootstocks that the development is hindered. To rejuvenate a field, it should be plowed and harrowed in the spring, or else thoroughly disked.

All these points should be carefully considered before the grass is given a trial. As a forage grass it may prove of great value, and the fact that it is difficult to eradicate may be in its favor in those parts of Kansas where it is not easy to grow forage plants successfully. But if tried, great care should be taken to keep it under control.

Kansas Experiment Station.

Numbering Roads and Farms.

EDITOR KANSAS FARMER:—I have read your plan for numbering roads and farms. It seems to me it is worthy of being promptly carried into effect. Anything that has no drawbacks, and this proposition has none, that adds to the convenience of our people and the attractiveness of the state is worth while. Its convenience to travelers is of no small importance. A stranger within the state, finding so efficient a device at every section corner for accurately locating himself, could not help telling that he was among hospitable people whose acquaintance he could afford to cultivate. A farm so numbered as to be definitely located on the map of the state would indicate that the owner regarded it not as a period (.) at which he must stop after passing beyond its confines, but a place in which he feels an honest pride. This in turn would naturally stimulate a desire to make it as attractive as circumstances would permit. The reader of a paper sees a pig, calf, horse or something else advertised in which he is interested, and can determine at once by the numbers whether it is within a range of feasible shipping, and so solve one problem in a possible deal. From any point of view the plan is a good one and only needs to be understood to be indorsed. J. M. Fox, Brainerd, Kans.

Turkestan Alfalfa.

For the last two or three years, we have occasionally seen in the agricultural press, articles lauding the merits of the variety of alfalfa brought from the far East by Prof. Hansen. We believe we have tested this alfalfa as carefully as any farmer can under the same circumstances, with the limited amount of seed furnished me by Secretary Wilson. On receipt of the seed, I sowed it adjoining another piece of common alfalfa and thought I had a bonanza. The second year I cut it when in bloom, same as the common variety, thinking to get some seed to send to Secretary Wilson, as he requested, that he might test seed of American growth. But not a bloom or seed did I see that fall, and only a 6-inch second growth. I blamed a dry spell for the short growth and the failure to seed, notwithstanding the fact that the adjoining plot of common alfalfa made the third crop but a little short. In the second year from sowing I was very careful to cut it during a wet spell. This time we got a little better second growth, but not half as high as the common variety, and no seed.

I want to say right here that I do not believe this imported variety will ever produce seed on the second crop. During the season of 1900 I determined to

A Month's Test Free.

If you have Dyspepsia, write Dr. Shoop, Racine, Wis., Box 27, for six bottles of Dr. Shoop's Restorative. Express paid. Send no money. Pay \$5.50 if cured.

let the first crop seed, and did succeed in getting a few seed.

Mr. Ballard, the gentleman who superintends the Washington County exhibit at the Nebraska state fair, has been trying to get a sample of this alfalfa to put in his collection of grasses; but we always fail to get a sufficient growth from the second cutting. This year (1900) we furnished him a sample from the first growth.

We always had our doubts about anyone being able to distinguish between these two varieties of alfalfa. But Mr. Ballard informs me that Prof. Bessey easily recognized this as a new variety. I never could tell any difference except in growth. Why anyone will recommend this alfalfa is a mystery to me. Prof. Hansen still claims it is superior to the common variety. —S. W. Stewart, Washington County, Nebraska, in Nebraska Farmer.

Important Facts About Kansas Wheat Crop.

EDITOR KANSAS FARMER:—From the Kansas State Board of Agriculture's last crop bulleting of the year, as published in the KANSAS FARMER of December 13, we discover the following facts. There are 12 counties in the state that produce over 2,000,000 bushels of wheat each. Numbered according to the quantity produced, they are as follows:

Table with 2 columns: Name, Number of Bushels. Lists counties from Sumner to Reno with their respective bushel counts.

Total 35,946,679

It will be seen from these figures that nearly half of the entire wheat crop of the state has been grown in these twelve counties, and they are all located between the 20th and 23rd degree of longitude from Washington, and the 37th and 39th of longitude, excepting a small portion of Russell and Ellis counties. Seven of these counties lie mostly on the east side of the geographical line running north and south through the center of the state and the balance on the west of that line. From the north line of the state, they begin in the third tier of counties. Sumner, which is probably the banner county in the United States, if not of the world, is in the southern tier of counties, while Barton, that raised the second largest crop, is very near the geographical center of the state.

Notice again, there are fourteen counties that raised between one and two million bushels, numbered as follows:

Table with 2 columns: Name, Number of Bushels. Lists counties from Pawnee to Cloud with their respective bushel counts.

Total 22,330,510

Every one of these counties lies contiguous to some of those which produced over two million bushels. The total product of wheat in the twenty-six counties thus mentioned is 58,277,189 bushels. In addition to this, there are thirteen other counties that have produced over 500,000 bushels each, which are numbered as follows:

Table with 2 columns: Name, Number of Bushels. Lists counties from Montgomery to Jewell with their respective bushel counts.

Total 9,030,034

Of these counties, seven lie east of the center line of the state and six west. There are 68 counties in the state that raise less than 500,000, 28 less than 100,000, 14 less than 20,000, 3 less than 100, and 2 that do not report any wheat, Grant and Stanton. Stevens only reports 80 bushels. These three counties lie in the southwest corner of the state.

Some of your correspondents, I see, do not seem disposed to look favorably upon wheat raising as a profitable business. From the bulletin of the Kansas Board of Agriculture referred to, it will

Advertisement for Easy Harness and Eureka Harness Oil. Includes an illustration of a horse and harness, and text describing the product's benefits for leather.

be seen that the wheat crop of the state in 1900 was valued at \$41,624,096, nearly half of which was raised in twelve counties and this at the present low price of wheat.

I own a farm in Sedgwick County on which I have three farmers, one of which raises 27 bushels to the acre, another raises 25, the third 15 bushels to the acre; the latter occupied the best land of the three, the difference being in cultivation. I sold my wheat for 58 cents a bushel. That would make the crop of the first farm worth \$15.66 an acre; that of the second, \$14.50; that of the third, \$8.70 an acre. I got one-third of the crop, which, for the first, was \$5.22 an acre; for the second, \$4.83 an acre; for the third, \$2.90 an acre. The farm produced over 3,000 bushels of wheat in 1900. There is on this farm about 200 acres of pasture and meadow from which the rent is not 50 cents an acre. Imagine how these facts suit the wheat cranks, can you? DR. E. P. MILLIE, New York City.

How to Make Farming Pay.

J. W. SHIVE, BURTON, KANS.

There are five essential things in farming. We must have a farmer, a farm, good teams, good machinery, and good seasons.

Now in discussing the farmer as a man I presume you will be a little surprised when I say he is a scarce article (in this community). He exists more in name than in reality. The farmer to be successful should have greater attainments than any one following another profession. I mean he should have a greater diversity of knowledge. While men of other professions are experts in one thing the farmer should be conversant with all, or in other words the farmer should have a broader education than in any other profession. Again in regard to capital. It takes more capital to farm right than any other occupations.

The farm, the stock, and the machinery are the farmer's capital. Now in order to make a business pay we must reckon from the capital and labor invested. I think it is a mistake for a man without any capital to try to farm; again I think it a mistake for a man with large means to farm. The first is too poor, the second too rich, and both interfere with the man who is best suited to farm. I think you have in your minds about the kind of a man I am trying to tell you about. I mean a man of broad gauge, one who knows a good farm, one who knows what different soils are good for, one who knows how to diversify his crops so as to keep his land fertile and in good condition. All the land here is good for something but the man who does not know what is good for will make a mistake in farming.

The teams on a farm should be large and able to work and of such breeding as will make them proud of their masters. Such teams, if mares, will be profitable on the farm even when not at work.

Now in regard to the machinery. I don't believe that a farmer should buy every new-fangled thing that comes along but he should have good substantial machinery such as is suited to the work, then it should be taken care of. A good coat of paint just before it is placed in the shed will help it wonderfully and will keep it from rusting.

Now comes the seasons. These are something we can't make but we may guard against their effects. We must plant and cultivate as if we expected a drought every year. Then if it comes we are ready for it and if it does not come we have not lost anything by being ready for it.

Land should be well prepared and planted in season, neither too early nor too late. In this climate corn should be planted from the 15th of April to the 10th of May. Oats should be sown in March and wheat in September as a rule.

In order to be successful the farmer must raise what he uses on the farm. He should raise his meat, his bread, his fruit, his fuel, and his fowls. He should be in such condition that he

can stand the siege of drought and trusts for at least one year. He should be able at all times to judge of the future markets with such certainty that he may market his cattle, his hogs, his horses, his grain, on the highest market for it is not the cost of production that we farmers are after but the profits.

Now to sum up the whole matter the farmer must sell more than he buys, he must make more money than he spends and have his accounts balance on the right side of the ledger, and in order to do this he must plant in good and well prepared soil, plant in season and cultivate in a thorough manner. He must have a diversity of crops and such as are adapted to the soil. His stock must be well bred, well fed and well sheltered not a mangy scrub among them.

It is as easy to raise a good animal as a poor one.

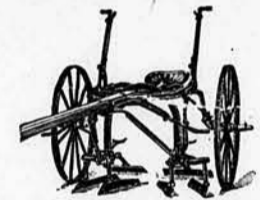
The farmer to be successful should like his occupation. He should have his work planned some years ahead and make all things work to a successful ending, turning failure, if it should happen, into success. He should be as nearly independent of all other occupations as the nature of the case will permit. Now, finally, brethren, it is easier to preach than to practice, easier to give than to take advice and I hope if I have erred in this paper you will set me in the right for I know I have touched only of the high places and have entered into detail in no particular case but I know that a good farm judiciously handled in Kansas will pay a handsome per cent on the investment.

I now leave the details for future discussion as to means and variety to be employed by the farmer in his various stages of success.

Proper Corn Culture.

The practical man is guided by the repeated efforts of successful men and is thus a learner from their experience. It is no longer required of one to go through all the details of trying theories when an abundance of reliable testimony of the truth is obtainable.

Many years ago the Tower Brothers experimented with the theory of shallow cultivation for corn, in Illinois, and



became so thoroughly convinced that it was the true policy and adapted to most all regions that they have ever since devoted their energies to placing in the hands of every farmer the right tools for successful work. The result is the wide use of Towers' Surface Cultivator, a perfect picture of which is here shown. They have an elaborate manual, giving facts and discoveries and the experience of many successful farmers, in the corn-field, which may be secured by addressing J. D. Tower & Bro., 14th St., Mendota, Ill.

"Failing to find relief from the grip with old methods, I took Dr. Miles' Pain Pills, Nervine and Nerve and Liver Pills and was permanently cured."—Gust. Egan, Jackson, Mich.

Advertisement for \$37.75 VISALIA STOCK SADDLE. Includes an illustration of a saddle and text describing its features and availability.

Last Week's Shorthorn Sales.

On Thursday and Friday, the 17th and 18th inst., 133 head of Shorthorn cattle were sold at the stock yard sale pavilion at Kansas City.

The cattle were from the herds of Neal N. Gallagher, of Highland Station, Kans.; J. J. Dimmock, of White Cloud, Kans.; and R. M. Lale, of Odessa, Mo. One hundred and thirty-two head were sold, the average paid for the whole offering being \$95.57. This is the lowest average yet made at a sale of pure bred in the new pavilion, but the result is easy to account for. It was due to the age and condition of the cattle. There were a large number of very young ones among them, and none had been put into condition for the sale. The mature cows with calf and the aged bulls sold well, but the young stuff held down the average.

The highest price of the sale was \$215, which was paid by Henry Selecman, of Eight Mile, Mo., for J. J. Dimmock's year and a half old bull, Alexandrian 5th. The top price on the 17th was \$200, which Ed. Idol, of White Cloud, Kans., paid for the cow Lady Alexandrian 2d. On the two days' sale ninety cows and forty-two bulls were sold.

The 42 bulls averaged \$99. The principal consignor was Mr. J. J. Dimmock, of White Cloud, who made the bulk of the offering. Mr. Gallagher's consignment averaged very satisfactorily. In fact, all the consignors were very well pleased with their first effort, although they thought that some of the good things sold too low. The heaviest purchasers were, McIntosh of Kansas City, who purchased over \$2,000 worth. Other heavy purchasers were: W. C. Lee, of Toledo, Kans.; W. W. Taylor, of Sawyer, Kans.; Penrod & Hopper, of Pratt, Kans.

The complete list of purchasers is as

premier herd bull, Basanio 6441, is a half brother to the champion bull, King Hensol 9967, that was senior champion at the late international show held at Chicago. Basanio was champion, any age, at Iowa state fair, 1895. The well-known Galloway breeder, S. P. Clark, bred both of these bulls and pronounced Basanio as the best bull he ever bred.

Twenty of the animals in this sale are daughters or granddaughters of Crusader. There are several, too, that are of the Hardin strain.

The Grace draft are the best of last year's calf crop, and one of them will be his herd bull, Earl of Derby.

The Harris draft are sons of the noted King Hensol, and show much promise of the worth of their sire.

It may be news to many, especially those unacquainted with the Galloway, that the demand for the "shaggy coated Scotch" is far greater than is the supply. It would take half a score of car-lots to meet the inquiries that have come from the Southeast within the past few days.

One Hundred Galloway Bulls for Texas.

The leading breeders of Galloway cattle have made a big combination sale of 100 pure-bred Galloway bulls, which were shipped to southwest Texas, 1,400 miles from Kansas City, to the ranch of J. D. Jackson, Alpine, Texas. Mr. Payne, of the Mallory Commission Co., was instrumental in securing this order. The bulls were purchased as follows: 36 head from E. W. Thrall, of Eureka, Kans.; 12 head from J. M. Lowe, of Kansas City; 20 head from C. N. Moody, of Atlanta, Mo.; and the remainder from various Kansas and Missouri herds.

Farm Herd of Poland-Chinas, reports a very thriving business. Among the more recent sales was one boar and seven sows to E. Sturdy, of Bradford, Kans., and four sows and one boar which went to two Oklahoma breeders. In concluding a report of recent sales Mr. Jordan says: "Am getting lots of inquiries from Kansas Farmer readers."

Among the recent sales of Shorthorn cattle from leading Kansas herds, are some made by the Kennedy Pasture Co., of Corpus Christi, Texas, who purchased from T. P. Babst, of Dover, Kans., 11 heifers and 17 bull calves, and from T. K. Tomson 8 heifers and 10 bulls. The ages of the calves purchased were from 5 to 15 months, and the prices realized were from \$100 to \$400 each.

Every Kansas feeder is interested in de-horning cattle, and naturally desires to know the best tools on the market for that purpose, and to such we suggest that they write to M. T. Phillips, Pomeroy, Pa., for his latest catalogue regarding de-horning, which will be sent free to such as mention Kansas Farmer. Mr. Phillips is entirely responsible, and orders sent to him will receive prompt attention.

The forthwith coming Berkshire Breeders' Convention sale, to be held at Kansas City, Saturday, February 16, 1901, is an event of special interest to every one desiring first-class Berkshire hogs from the leading herds of Missouri, Kansas and Nebraska. The sale will be held under the auspices of the American Berkshire Association. See the regular announcement in the Kansas Farmer, and watch for further particulars in subsequent issues.

The Kansas Farmer appreciates the fol-

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NATURE'S WONDERFUL HEALING SALVE.
CURES SORE SHOULDERS,
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CRACKED HEELS, SITFASTS,
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SORES AND ALL FLESH WOUNDS ON
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ENDORSED BY HORSEMEN EVERYWHERE

Laramie, Wyo., Aug. 20, 1899.
Dear Sir:—I had a horse cut his foot badly in a mower; and applied your Balmoline. He never even got STIFF on it and the FETLOCK was badly cut. We WORKED him right along. My faith in Balmoline is unbounded.
RICHARD KING.

prepared to fill orders for bulls, or females of all ages, either in car lot or single orders. Any one desiring Simon pure Galloway cattle should call on or write Mr. Platt.

Our readers will notice a change in the advertisement of Idlewild Shorthorns, owned by W. F. Harned, of Vermont, Mo., in which the blood of Roan Gauntlet and Champion of England can be had through his herd bull, Godoy 115675. His dam, Imp. Golden Thistle, is by Roan Gauntlet; his grandam, Golden Lady, by Champion of England. A few years hence it will be next to impossible to get this blood direct. Godoy has more prize sons heading first-class herds than almost any other living Cruickshank sire. Among this number might be mentioned J. W. Smith, Baron Dudding, Col. Casey's Admiral, Godoy, and F. M. Marshall's great big Orange hero, all of which sons are breeding and are making records. If you want to get next to this line of breeding see Mr. Harned.

A Poland-China event of importance to a great many western breeders will be Axline's annual brood sow sale, to be held at Oak Grove, Mo., thirty miles east of Kansas City on the Chicago & Alton railroad, on Thursday, January 31, 1901. There will be 40 brood sows, 10 open gilts, 10 spring boars, all sired by Missouri's Black Chief, or bred to his best natured son, Chief Eclipsed 22499. The Poland-China breeding fraternity appreciate the fact of the demand and great inquiry for pigs sired by Missouri's Black Chief, and this will be the last chance to get pigs sired by this famous hog. Look up the advertisement in this issue, and write for catalogue, and if you can not be present bids may be sent to the auctioneer, or to H. A. Heath, Topeka, who will look after the matter.

The next important public sale of Herefords will consist of 45 bulls and 75 cows and heifers, to be sold at public auction at the Kansas City Stock Yards sale pavilion on Thursday and Friday, February 7 and 8, 1901. The consignors are Steele Bros., Belvoir, Kans.; E. A. Eagle & Son, Rosemont, Kans.; Miller & Bouch, Kirks-

"I was given up to die from heart and nervous troubles caused by grip. Six bottles each of Dr. Miles' Heart Cure and Nervine cured me."—Mrs. John Wollett, Jefferson, Wis.

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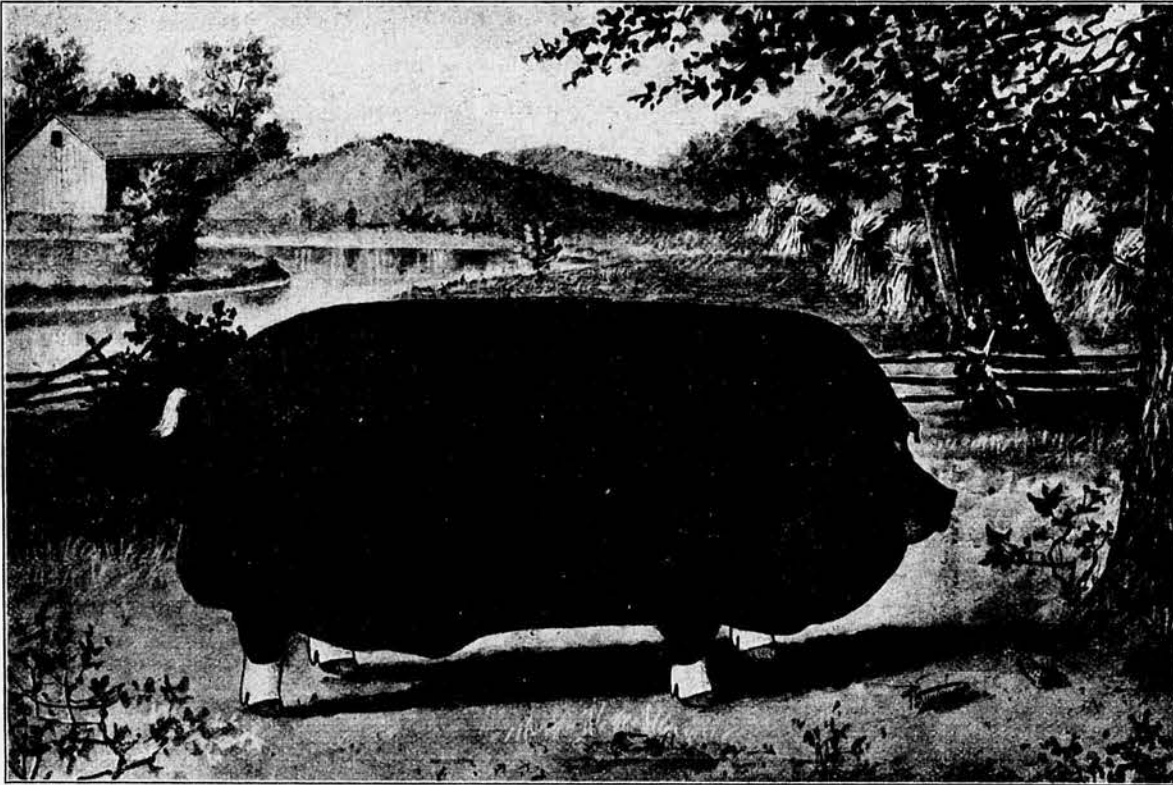
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IMPROVED LINCOLN OATS

If interested in Seed Oats, address
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RECTOR'S IMPROVED CREAM SEPARATOR

The greatest time and labor saver of the century for butter makers. Separates AUTOMATICALLY in 40 minutes. Gain in cream from 5 cows in one month pays for it. Agents wanted. One hundred per cent profit. Women successful as men. For catalogue and wholesale prices address,
J. A. RECTOR, 107 K. & P. Bdg, Kansas City, Mo
Reference, Western Exchange Bank.



MISSOURI'S BLACK CHIEF 19399

A famous sire (now dead), is the sire of the entire Axline offering of January 31, 1901. See advt.

follows: Ed. Idol, White Cloud; W. C. Lee, Toledo; William Sloan Kansas City, Mo.; A. W. Baker, Strong, Kans.; J. S. McIntosh; W. W. Taylor, Sawyer, Kans.; B. O. Cowan, New Point, Mo.; Henry Hahn, Fall City, Neb.; A. S. Kleinfelder, Hiawatha, Kans.; Wood Hopper, Pratt, Kans.; T. W. Morse, Mound City; G. W. Johnson, Lexington, Mo.; B. H. Larken, Corder, Mo.; C. F. Wolf & Son; G. D. Osburn, Colwich, Kans.; Andrew Gyson, Leavenworth, Kans.; G. H. Roesener, Riley, Kans.; Fred B. Glover, Almod, Kans.; J. J. Holt, Savannah, Mo.; Capt. W. S. Tough, Kansas City, Mo.; Chas. Lee, Independence, Mo.; J. J. McKlitrck, Greenwood, Mo.; W. W. Taylor, Sawyer, Kans.; Walter Jones, Warrensburg, Mo.; C. A. Hopper, Pratt, Kans.; Frank Hunn, Arrington, Kans.; John McCoy, Sabetha, Kans.; Henry Selectman, Eight Mile, Mo.; H. L. Aitken, Pawnee City, Neb.; B. H. Larkin, Corderoy, Mo.; E. D. Ludwig, Sabetha, Kans.; J. S. Parsons, Verdon, Mo.; L. Wilf, Kansas City, Mo.; D. P. Rush, Coffeyville, Mo.; T. L. Lale, Odessa, Mo.; H. S. Clevinger, Tina, Mo.; Henry Leledmon, Eight Mile, Mo.; Jas. Stone, Cedarvale, Kans.; A. S. Klinefelter, Hiawatha, Kans.; Geo. B. Campbell, Kansas City, Mo.; Fred D. Glover, Atwood, Kans.

Next Galloway Sale.

The attention of all interested in registered Galloway cattle is called to the announcement found elsewhere in this issue, wherein one finds that S. M. Winslow, of Oskaloosa, Mo., will dispense his entire herd of choicely bred Galloways without reserve or by-bid at Kansas City. The

Gossip About Stock.

The International Food Co., of Minneapolis, Minn., presents on another page of this issue a large and attractive advertisement. Special attention is called to it, and our readers are requested to answer the four questions asked therein.

S. A. Converse, importer and breeder of Red Polled cattle, of Cresco, Iowa, states that he can still spare some good things for foundation herds, and head them with the young bulls sired by his herd bull that took first premium at the National Live Stock Exhibition recently held at Chicago.

In this issue appears for the first time the advertisement of Vesey's Star Anti-Cholera Cure, room 263-F Exchange Building, Kansas City, Mo. This preparation has been in successful use since 1883 and is said to have superior merit. The company handling it is a reliable one. Write them for full information.

The seventh annual convention of the Oklahoma Live Stock Association will be held at Woodward, Okla., on February 12 to 14, 1901. A splendid program has been arranged and a red hot program is guaranteed by "Oklahoma Bill," otherwise known as W. E. Bolton, of Woodward, Okla.

On February 16, at Kansas City, Mo., Berkshire breeders will have a chance to purchase 100 animals which will be sold at public auction by Harris & McMahan, King, Stannard, Houk, N. H. Gentry, and others. The best Berkshire blood of Missouri and Kansas will be offered on that occasion. See advertisement next week.

Mr. M. W. Anderson, Independence, Mo., last week sold the young Bracelet bull, Winfield Scotchman, to S. M. Sidle, Winfield, Kans. This fine young bull was sired by 166th Duke of Wildwood 13467L. His dam is Barrington Bracelet 2d, grandam, Bracelet by Waterloo Duke, and traces to Imp. Bracelet by Duke of Athol. Mr. Anderson reports his cattle doing well and wintering finely.

A. M. Jordan, breeder of Chinquapin

lowing unsolicited testimonial from Mr. J. B. Osburn, Erie, Kans., who writes as follows: "To Kansas Farmer Readers—I desire to say that this paper is the very best medium that I know of in which to advertise pedigreed stock of all kinds. A few weeks since I sent in a small advertisement of Clydesdale horses and Hereford cattle, and have already sold my stallion and my young Hereford bulls, except one which will be priced to your readers."

The following officers were elected at the annual meeting of the American Chester White Record Association, held last week at Dayton, Ohio: President, I. T. Cummins, Cedarville, Ohio; vice-president, F. A. Branch, Medina, Ohio; secretary-treasurer, Carl Freizan, Dayton, Ohio; board of trustees, W. H. Pool, Delaware, Ohio; N. P. Herstiner, Ansoria, Ohio; F. P. Herdin, Lima, Ohio; C. Hintz, Fremont, Ohio; T. N. Harrod, Belleater, Ohio; J. L. Beringer, Marion, Ohio. Executive committee, W. H. Pool, F. P. Hardin, C. Hintz.

F. W. and O. B. Cain will sell on Wednesday, February 6, 60 head of Shorthorns, consisting of 22 bulls and 38 cows and heifers. F. W. Cain, the senior member of the firm, founded the herd in 1893, and in 1896 secured the Brown herd at New Berlin, Ill., consisting of 28 head. Twenty-three of these were females, consisting of Duchesses, Young Marys, and Imported Forest Queens. A draft of 43 head were subsequently added to the herd, many of them Scotch-topped. Many of the females will be safe in calf to the herd bull, Arcale 142286, a Mysie, that won first prize at the Iowa state fair in 1899.

In this week's Kansas Farmer appears an advertisement of the largest herd of Galloways in the world—the property of M. R. Platt, Kansas City, whose farm, one of the very best equipped breeding establishments in the West, is located one-half mile south of the Kansas City Stock Yards, in Johnson County, Kansas. However, his business is located near the stock yards exchange, at 1613 Genesee street. There are no grades kept on the farm, all being pure-bred cattle, richly bred, and of the choicest quality. He is

If I had Grip I would use Dr. Miles' Pain pills and Dr. Miles' Nervine.
Sold at All Druggists.

ville, Mo.; and E. Corkins, Bethany, Mo. This offering will be one of the surprising ones of the year, owing to the very high character and quality of the bulk of the cattle included in the sale.

In this week's Farmer will be found the announcement of the next public sale of the Armour-Funkhouser, of American and imported Hereford cattle, to be held at the Kansas City Stock Yards sale pavilion, February 19 and 20.

On another page this week will be found the announcement of the Poland-China sale, of the McCune Herd, at McCune, Kans., Messrs. Zelgro Bros. being the proprietors.

During the old days of the state fair in Kansas, one of the best and strongest exhibitors was Joseph Watson, of Beatrice, Neb. He was always a leading importer, and a sure winner at all the state fairs at which his horses were shown.

Three red Cruickshank-topped Shorthorn bull calves are advertised on page 96 of this paper by O. E. Morse & Sons, of Mound City, Kans. These bulls are the descendants—sons and grandsons—of the two Lady Elizabeth show heifers retained by Morse & Sons at the time of their dispersion sale in 1893.

In the Kansas Farmer this week is presented the announcement of a closing-out sale of registered Shorthorn cattle and Poland-China swine that should readily attract the attention of all good stockmen who read this paper.

blood lines represented, and if he attends these sales, February 13-14, he will find as good stock as will go under the hammer this year. It should be remembered that these are absolute closing-out sales.

"The gilts we are offering," write Dietrich & Spaulding of Richmond, Kans., "in our ad. are some of the best gilts we have raised this year. They are by Knox All Wilkes, Majestic Chief, and Ideal Black Chief."

Kansas State Poultry Show. (Continued from page 90.) 91; 1 hen, 91%; 2 hen, 90%; 1 pullet, 91%; 2 pullet, 93%; 1 pen.

HOUDANS. W. L. Bullene, Lawrence, Kans., 1 pullet, 93; 2 pullet, 92; 3 pullet, 90%; 4 pullet, 90; 5 pullet, 90. Special for largest display in variety scoring over 90.

W. C. POLISH. C. H. Musset & Co., Ft. Leavenworth, Kan., 1 hen, 91%; 1 cockerel, 91%; 1 pullet, 93; 2 pullet, 91%; 3 pullet, 91; 1 pen. Special for largest display in variety scoring over 90.

BUFF ORPINGTONS. Mrs. S. Rickett, Topeka, Kans., 2 cock, 89; 1 hen, 90%; 3 pullet, 90%; 4 pullet, 90%. Eccleston & Son, Topeka, Kans., 1 cock, 90%; 2 hen, 89; 1 pullet, 92%; 2 pullet, 91%; 1 pen.

SILVER GRAY DORKINGS. Eccleston & Son, Topeka, Kans., 1 cock, 91%; 1 hen, 95%; 2 hen, 91%.

CORNISH INDIAN GAMES. A. L. Withers, Valley Falls, Kans., 1 cock, 90%; 2 cockerel, 89; 1 hen, 91%; 3 hen, 90%; 4 hen, 90; 5 hen, 89%; 1 pen. Special for largest display in variety scoring over 90.

PIT GAMES. Abe Elliott, Topeka, Kans., 2 cockerel, 1 pullet, 2 pen. C. L. Ward, Narka, Kans., 1 cockerel, 2 pullet, 1 pen. Special for largest display in variety.

BUFF COCHIN BANTAMS. W. C. Sherrill, Salina, Kans., 2 cock, 90; 1 pullet, 91%; 4 pullet, 90%; 3 pen, 180.62. N. R. Clark, Kansas City, Mo., 3 cock, 88%; 3 hen, 91%; 2 pullet, 91%; 3 pullet, 90%; 1 cockerel, 90%; 2 pen, 181.06.

SILVER S. BANTAMS. J. W. F. Hughes, Topeka, Kans., 1 cock, 91; 1 hen, 93%; 2 hen, 93; 3 hen, 92%. Special for largest display in variety scoring over 90.

GOLDEN S. BANTAMS. L. V. Marks & Son, Topeka, Kans., 1 cock, 90; 2 hen, 88%. Special for largest display in variety scoring over 90.

B. B. R. GAME BANTAMS. Thos. Herron, Topeka, Kans., 1 cock, 94%; 2 hen, 94%; 4 hen, 91%; 1 cockerel, 95%; 2 cockerel, 94%; 2 pullet, 93%; 4 pullet, 93%; 5 pullet, 92%; 1 pen, 189.06. Special for largest display in variety scoring over 90.

B. T. W. JAP. BANTAMS. Wm. H. Stephenson, Clements, Kans., 1 hen, 92%; 1 pullet, 94%; 2 pullet, 92%.

S. C. B. L. BANTAMS. Albert Lutes, Topeka, Kans., 1 cockerel, 1 pullet.

M. B. TURKEYS. J. R. White, Salina, Kans., 2 cock yearling, 94%; 3 cock, adult, 93; 3 hen, 93; 4 hen, 92; 1 pullet, 95; 2 pullet, 95; 1 trio, 189.50; 4 trio, 185.50. Special for largest display in variety scoring over 90.

Mrs. M. J. Jardon, Baldwin, Kans., 1 cockerel, 94; 3 cockerel, 92; 3 pullet, 93%; 4 pullet, 92%; 3 trio, 187. A. P. Chacey, Topeka, Kans., 1 cock, yearling, 96; 4 cock, adult, 83%.

Mrs. F. A. Hargrave, Richmond, Kans., 2 cock, adult, 93%; 2 cockerel, 92%; 5 hen, 90%; 5 pullet, 91%; 5 trio, 184.50.

C. H. Clark, Delphos, Kans., 1 cock, adult, 93%; 1 hen, 94%; 2 hen, 93%; 2 trio, 187.75.

WHITE HOLLAND TURKEYS. Mrs. W. J. Smith, Smith Center, Kans., 1 cockerel, 95%; 1 pullet, 95%; 2 pullet, 94%; 1 trio.

NARRAGANSETT TURKEYS. Mrs. M. Butterfield, Lee's Summit, Mo., 2 cockerel, 86%; 1 pullet, 91%; 2 pullet, 91%; 3 pullet, 90; 4 pullet, 88%.

PEKIN DUCKS. J. C. Robison, Towanda, Kans., 1 cock, 96; 1 hen, 95%; 2 hen, 95%; 1 cockerel, 96%; 2 cockerel, 96; 1 pullet, 96%; 2 pullet, 96; 3 pullet, 96; 1 trio, 192.62; 2 trio, 191.81. Special for largest display in variety scoring over 90.

O. E. Martinson, Wichita, Kans., 2 cock, 94%; 4 pullet, 95%; 5 pullet, 95; 3 trio, 189.75.

A. L. Withers, Valley Falls, Kans., 4 cockerel, 88%; 5 trio, 179.25.

D. A. Wise, Topeka, Kans., 3 cockerel, 94%; 4 trio, 188. TOULOUSE GEESE. Burton & Burton, Topeka, Kans., 1 cock; 2 cock; 1 hen; 2 hen; 1 cockerel; 2 cockerel; 1 pullet; 2 pullet; 3 pullet; 4 pullet; 1, 2, and 3 trio. Special for the largest display in variety.

WHITE GUINEAS. Paul Forbes, Topeka, Kan., 1 cock; 1 hen; 2 hen. Best incubator, Sure Hatch Incubator Co., Clay Center, Neb.

RHODE ISLAND REDS. W. E. Clark, N. Topeka, all premiums.

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

GALLOWAYS. LARGEST HERD OF REGISTERED GALLOWAYS IN THE WORLD. Bulls and females, all ages for sale—no grades. Carload lots a specialty. M. R. PLATT, Kansas City, Missouri. Office at Platt's Barn, 1613 Genesee Street.

...THIS SPACE BELONGS TO... ZEIGRA BROS. McCune...Kansas. Watch for announcement of their Poland-China Sale next week.

YOU CAN ENLARGE THE CORN CROP BY IT. TOWER'S SURFACE CULTIVATOR. Has made money for users for more than TWENTY YEARS. This statement is easily proved, where it is known.

THE DAVENPORT "WIRELESS" PLANTER IMPROVED FOR 1901. The Davenport "Wireless" is now an unequalled success. The Cushioned Hubs on the Spacing Wheels overcome all difficulties met last season.

10,000 RAZORS GIVEN AWAY! Sheffield Razors known world over as best made. To introduce our Electric Balm Shaving Soap we offer handsome imported Sheffield steel razors absolutely FREE to everyone answering this advertisement.

For Grip aches use Dr. Miles' Pain Pills. Sold by All Druggists.

The Young Folks.

CUPID'S PICNIC.

Dan Cupid gave a picnic
Once of a summer's day,
And invited all the other loves
To join him in his play.

There was big love and little love,
And the love that flies away,
And naughty love and haughty love,
And the love that loves alway.

And long love and strong love,
And love for the happy hour,
And love that loves for love alone,
And love with the visage sour.

Yet the picnic proved a failure,
For the best loves stayed away—
The constant love and the tender love,
And the love that ne'er says nay.

—James S. Metcalfe, in Life.

Carmen Sylva as a Child.

The surroundings, work and personality of Elizabeth, Queen of Roumania—known to the world of letters as Carmen Sylva—are the subject matter of an article in the December Woman's Home Companion entitled "The Queen Who Writes Fairy Tales." The author, George T. B. Davis, thus writes of the childhood of the queen-author:

"Her father was a man of deep learning, author of a notable philosophical work, and entertained the leading scholars of his time at his castle on the Rhine. Here she was born, in 1843, on the 20th of December, missing by only four days being a 'Christmas child.' As a child Elizabeth was a prodigy, at least in the great imagination and overflowing energy she possessed. Such a bundle of nervous energy was she that when, at the age of 5, her portrait was being painted it was almost impossible to make her sit quietly. Pleading and threats were alike unavailing. Finally the child herself made up her mind to sit perfectly still. She succeeded for two or three minutes, but the strain upon her nervous system was too great and she fell fainting from her stool.

"Once she was taken with her mother to visit the German Empress. The child wandered about the room fondling cushions, sofa-pillows and bolsters, pretending they were her children, and finally went up to the Empress, took hold of her feet, which were resting on a footstool, placed them roughly on the floor, clasped the stool to her breast, and exclaimed, 'You must not stand on my child!'

"At 9 years of age Elizabeth wrote verses; at 12 she attempted to write a novel; at 14 she arranged dramas and tragedies in her imagination; at 15 she studied three newspapers daily and took a keen interest in politics. During her youth her chief pleasures were roaming alone through the great forest surrounding the ancestral castle—and stories are still told of her daring deeds in those earlier days on the Rhine—and listening to fairy tales; or, as she grew older, weaving the tales from her own rich imagination and relating them, with eyes all aglow, to eager troupes of children.

"It was not until after the war between Russia and Turkey that the Queen began to write for publication, although she had written verses secretly—and pasted them in a large scrap book—from early childhood. Her first book was written in a peculiar manner. One day the National Superintendent of Schools came to her and said he wanted a book to offer as a prize at the end of the year to certain Roumanian school children, and suggested that Her Majesty write one. The Queen entered into the plan with enthusiasm, and in three weeks had written a book of fairy tales, taking old Roumanian legends as the foundation for her stories. The volume was such a success, and creating it gave the Queen such pleasure, that she turned to writing in earnest, and volume after volume has appeared bearing the name 'Carmen Sylva' on its title page. One day in each month is devoted to reading the Queen's books in the public schools of Roumania."

Beauty of Manners.

The following study from real life is given by a writer for the Sunday Inter Ocean:

The girl who thought she was beautiful entered a train on the elevated road. She was well dressed. She had

bright eyes and a good complexion. She took her seat with the sort of grace that showed that she had studied some of Delsarte's rules. She was accompanied by a young man who wore a big chrysanthemum. The girl and the man sat together on one of the seats facing forward. Passengers looked up from their papers to notice that the girl had a rich color in her cheeks.

There was a moment of silence and then the girl began to talk in a voice that reached the guard on the platform. Between every sentence she giggled—not in the bread-and-butter way, but after the fashion of the juvenile ingenue who plays a saucy role at the matinee. Men looked up from their papers for the second time and she met their gaze with a conscious glance. She knew she was challenging the notice of strangers, but she did not care. They talked football and the girl spoke in superlatives, while the young man employed more or less slang. Now and then, when a detached sentence floated across the aisle of the car, a youth with loud trousers would smile sociably. This caused the young man with the chrysanthemum to scowl. But the girl did not mind the impertinent attention she was receiving from strangers. She rather liked it. Indeed, she appeared not to realize that she was the object of disrespectful consideration. Before she had reached Twenty-Second street there was not a person in the car but would have answered the question, "Isn't she pretty?" with the words, "Yes, but—" and a shrug of the shoulders.

Beauty is such an impalpable possession after all, that no one can say how much of it is spiritual and how much physical. The truly beautiful woman must have repose and reticence, dignity and reserve. It is her privilege to hide her personality from the vulgar crowds, to pass unrecognized and unnoticed among the throngs upon the city streets. There is nothing more vulgar than the desire to attract the attention of strangers. The girl who challenges the passing glance of any man has in her that trait that will coarsen and degrade her, for she lacks the sweet spirit of self-forgetfulness that is the heritage of the finest natures.

The woman who would be beautiful should remember that the most charming picture may be spoiled by its frame. She should keep to mind that her character shines through her face, and is betrayed by act and gesture. There are no lotions for bad manners; no balms for unlovely dispositions. Moral defects can not be cured in a day, and the beauty-seekers must bear in mind the importance of watching the soul as well as the body.

Candid Young People.

"In my day," said an elderly woman recently, "while poverty wasn't considered a crime any more than it is now, it was a subject carefully kept in the background.

"If one had to darn her stockings, it was done in the secrecy of her bedroom. If a dress had to be turned or a bonnet retrimmed, these processes were never spoken of outside of the family circle, and whatever skimming the mistress of the mansion did to keep down household expenses was a secret between herself and her cook.

"It wasn't that the family dignity could have been lowered by the public's knowing that there was a lack of funds; it was that it was none of the public's business. The public might be all that Mr. Vanderbilt wished it, but it had no concern in the expenditures to which the gentlefolks were sometimes forced to make ends meet.

"That was thirty years ago or more, and I remember still weeping bitterly once because an envious cousin told some of our playmates that my new silk frock was made out of Aunt Lucy's dinner gown of the winter before. Things are so different now that I'm sometimes shocked.

"Only yesterday I heard a girl say when my granddaughter exclaimed at the beauty of some new furs the latter wore, ' * * *, they were given to me. You know very well we could not afford to buy sables, poor as we are.'

"And my grandchild replied, 'I wish to goodness some of my relatives would give me some new rags. Job's turkey wasn't any more poverty-stricken than I am.'

"Another young woman in the group declared, 'Well, I am going to get a new hat this winter if I don't get anything else the rest of the year. My old one is positively disgraceful. It's been made over so often.'

"These were all young women, whose parents are in comfortable circum-

GRIP IS EPIDEMIC.

Grip is everywhere. The papers tell us there are two million Americans now suffering with "grip" (or La Grippe, as the doctors call it) and what is worse it is more violent in its character than in the past, as a much greater percentage of victims are dying from its effects. Grip attacks the old and the young, the hard workers and the people of leisure, the rich and the poor, everybody in fact, whose system is not in perfect order. If the bowels are constipated or irregular, if the kidneys are ailing, the blood impure, the liver torpid, the digestion weak or disordered, it produces a condition very favorable to "grip," and such people are its victims. A little care will render the body proof against attack; that is to say, the impurities in blood, liver and bowels can be driven out through the use of Prickly Ash Bitters, the great remedy for cleansing and regulating the system. This splendid remedy purifies the bowels, strengthens the kidneys, renovates the liver and blood and tones up the digestive organs. In short, it prevents "grip" by putting the system in good condition. And as a help, in cases where the disease has already fastened itself on the body, there is nothing better. It flushes the sewers of the body and stimulates the vital organs so that nature is assisted to more quickly throw off the disease. Sold at Drug Stores.

stances, but they seemed to delight in giving their hearers the impression that they were in imminent danger of going to the almshouse. This pose, if it is a pose, isn't confined to the gentler sex, but extends to the men.

"If I didn't owe my tailor such a pot of money, I'd keep you in violets this winter," one lord of creation remarked to a young lady he had recently met, in my hearing, not long since. "Tell you what I'll do," he continued, "if I make some cash on a deal I've gone into, I'll send you a thousand for the first german. If I don't you won't get so much as a rosebud, for I will be down on my luck then for fair."

"Give me the days again when the condition of one's purse wasn't public property, and when there was more reserve in speaking about private affairs. This way of talking gives a very ingenuous air to the speaker, but I'd like her better if she continued to darn her stockings in the secrecy of her bedroom and spend her last five cents for car fare with the air of one who has the mines of Golconda at her back."—Baltimore News.

Tent Life on the Desert.

Dr. Craig writes of the climate of Arizona for various diseases and sums up his conclusions that it is in pulmonary diseases that the best results are obtained. The method pursued by the more modern sanitarium at present, particularly in Germany and at Davos Switzerland, is to give the tubercular patient as nearly as possible an absolute outdoor existence. There is no place in America where this end can be attained with greater success than in the Salt River Valley, Arizona.

Undoubtedly the best results are being secured by a tent life on the desert at the foothills which extend to within 10 miles of Phoenix. Indeed, many people sleep in the open air all winter, although it is not so common a practice as it should be when carried out under intelligent directions.

Good horses are numerous and cheap and there are plenty of vaqueros (cowboys—the genuine article) to show what horses can be made to do.

The roads for 15 or 20 miles on either side of Phoenix are good. The desert itself is as easy to drive over as the average eastern roadway, and the whole valley is a paradise for bicyclists and horsemen.

While the Salt River Valley is the climate par excellence for the relief of pulmonary tuberculosis, there are many other diseased conditions that do well there. Asthmatic patients usually receive prompt relief and are permanently cured. Bronchitis and laryngitis disappear as if by magic, the dry, warm air acting as a most effectual stimulant to the mucous membrane of the respiratory tract.

Rheumatic affections are generally much improved during the winter, but it is in the summer that the best results are attained, as the constant perspiration, maintained for months, has a greater eliminative effect than a sojourn at the most famous springs. The perfect rest and relaxation that tired nerves experience in this balmy air act almost as a specific for nervous prostration and insomnia, as well as affording a new lease of life to the consumptive.

It is folly, however, for those just

Cash For Your Farm

may be obtained through me. No matter where located. Send description and selling price and learn my plan. W. M. Ostrander, 1215 Filbert St., Phila., Pa.

ready to die to go there. It is in the earlier stages that the best results are secured.—Health Magazine.

Recoveries from Grip.

Mrs. E. I. Masters, at her home in Monitor, Ind., used Dr. Miles' Nervine and Pills to cure after effects of grip.

Mrs. A. E. Lopeer, in the little town of Modella, Minn., used Dr. Miles' Pain Pills and Nerve and Liver Pills and was well in a few days.

President McKinley is slowly recovering from grip and its after effects.

George J. Flannery was relieved of the awful pains in his head in fifteen minutes, by the use of Dr. Miles' Pain Pills. Now he is rapidly recovering at his home in Buffalo, N. Y.

Speaker Henderson is again in his chair in the House of Representatives after a severe attack of the grip.

J. C. Helfrey, foreman of the Westinghouse factory in East Pittsburg, had a severe attack of grip, but he used Dr. Miles' Nervine and Pain Pills and was soon back in his place.

Rev. C. Body was in a serious condition at his home in St. Paris, Ohio, but Dr. Miles' Nervine and Nerve and Liver Pills pulled him through all right.

The Savages.

"What are aborigines, pa?" "Aborigines, Bobby, are people who act all the time the way you do when we have company."—Chicago Record.

Aching in the small of the back is an indication of Bright's Disease. The proper course in such cases is to take a few doses of Prickly Ash Bitters. It is an effective kidney remedy and bowel regulator.

"After suffering for two months from a severe attack of grip I found quick relief and a lasting cure by using Dr. Miles' Nervine, Pain Pills and Heart Cure."—Harry Abbott, Cincinnati, Ohio.

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.

PARALYSIS


Locomotor Ataxia conquered at last. Doctors puzzled. Specialists amazed at recovery of patients thought incurable, by DR. CHASE'S BLOOD AND NERVE FOOD. Write me about your case. Advice and proof of cure FREE. DR. CHASE, 224 N. 10th St., PHILADELPHIA, PA.

GREAT NEW CENTURY OFFER OF EMPORIA BUSINESS COLLEGE.

Write at once for our "New Century" offer, and mention this notice.

This College stands at the head for thorough work, broad courses, small cost, popularity, and great success of its graduates. This notice is worth \$50 in gold to you, if you can enter college before March 1, 1901.

Address... C. E. D. PARKER, President, Emporia, Kansas.



Neglect of a Cough or Sore Throat may result in an Incurable Throat Trouble or Consumption. For relief use BROWN'S BRONCHIAL TROCHES. Nothing excels this simple remedy. Sold only in boxes.

KANSAS FARMER.

Established in 1863.

Published every Thursday by the KANSAS FARMER CO., : : TOPEKA, KANSAS.

E. B. Cowgill.....President J. B. McAfee.....Vice-President D. C. Nellis.....Secretary and Treasurer

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E. B. Cowgill.....Editor H. A. Heath.....Advertising Manager W. B. Roby.....Circulation Manager

ADVERTISING RATES.

Display advertising, 15 cents per line, agate (fourteen lines to the inch). Special reading notices, 25 cents per line. Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per agate line for one year.

NOTICE EXTRAORDINARY. BLOCKS OF TWO.

The regular subscription price for the KANSAS FARMER is one dollar a year. That it is worth the money is attested by the fact that thousands have for many years been paying the price and found it profitable.

We want a good reliable man or woman in every county to act as local agent for the KANSAS FARMER. We offer a good proposition to the right parties.

Victoria, queen of England and empress of India, died last Tuesday evening in the eighty-second year of her age and in the sixty-fourth year of her reign.

Announcements are out for the fourth annual meeting of the Central Shorthorn Breeders' Association of America, to be held at assembly hall, in the Kansas City live stock exchange building, on Tuesday and Wednesday, January 29 and 30, 1901.

Official state statistics on the crops in Indiana show that the 1900 wheat crop was 7,840,000 bushels, the smallest yield for many years. The acreage sown in the fall of 1899 was 2,674,000 acres, of which only 974,000 were harvested.

The final report for 1900 of the Iowa crop and weather bureau shows that the wheat crop was 21,200,000 bushels, valued at \$12,799,371; oats, 138,832,340 bushels, valued at \$27,966,466; rye, 1,621,000 bushels, valued at \$697,000; barley, 12,694,260 bushels, at \$4,188,000; flax 1,222,000 bushels, at \$1,834,000.

portant item, amounting to 4,139,000 tons, which brought \$31,100,815, the largest of any crop aside from corn.

Even though the KANSAS FARMER is mailed by machinery, which seldom makes a mistake, yet it does occasionally occur that a subscriber fails to receive his paper. In such cases the publishers should be notified by postal card. Usually the missing number can be supplied.

HARD WHEAT SCARCE.

During the early fall there was much controversy, which resulted in proving pretty conclusively that, while they denied it vehemently, the Minneapolis millers were using large quantities of Kansas hard winter wheat in producing their best flours.

This is a point in which the superiority of Kansas wheat placed it above the manipulations of the grain gamblers. It is the very acme of farming; to produce an article of such excellence that it makes its own market.

It is noted that the home milling demand for Kansas wheat has wonderfully increased during the last few years, owing to a large number of new mills which have lately been built in the state.

The general tenor of the report is to the effect that Kansas hard winter wheat is a very desirable article, but difficult to obtain and that good wheat is generally scarce, that the facts of the case are well understood by holders, and that confidence in future prices of wheat is general.

THE TWELFTH BIENNIAL.

Secretary Coburn has again made Kansas proud by issuing another of his remarkably valuable publications. This time it is the twelfth biennial report of the Kansas State Board of Agriculture, a volume of 957 pages.

The first 670 pages of this handsomely made volume, with 180 illustrations, are given to the promotion of improved animal and farm husbandry, under conditions the Kansas stockman and the Kansas farmer find ready-made or can make in their surroundings; to the furtherance of the dairy interests, through a higher appreciation of the cow, and her better management; and to encouraging the most improved systems of road-making.

The biennial period with which the volume deals has been agriculturally by far the most profitably productive of any in the state's history, and the percentages of increase in values of products from Kansas' soil, not alone in this period, but on an average for all the years mentioned, are so gratifying that every citizen and friend of the state may well feel proud of an identity with a commonwealth possessing such

capabilities, and showing such results from developments as yet little more than begun.

When it is considered that the state consists of more than fifty million acres of land, practically all arable and fertile—a country 61 per cent wider in extent than England, two and one-half times greater than Ireland, nearly three times larger than Scotland, ten times greater in area than Wales, and in the most favored zone—and but a fraction of this utilized except in a limited way, and none of it nearly to its possibilities, it is patent that no prophet not inspired can foretell the riches in store for those fortunates who in the years to come shall possess a heritage so fruitful.

With her present progress, prosperity, and citizenship, and the bright future of which her many advantages give unquestionable assurance, Kansas is certainly occupying a most enviable position in the sisterhood of states.

The following tables show by contrast the home values of the farm products of Kansas, also the values of live stock in each of the biennial periods for the past twenty-four years, together with the aggregate increase (or decrease) in values and the per cent of increase or decrease in each of the same periods:

VALUES OF FARM PRODUCTS.

Table with 4 columns: Biennial periods, Value, Increase, Pr cent incre'se. Rows include 1877-1878, 1878-1880, 1881-1882, etc.

*Decrease.

VALUES OF LIVE STOCK.

Table with 4 columns: Biennial periods, Value, Increase, Pr cent incre'se. Rows include 1879-1880, 1881-1882, 1883-1884, etc.

*Decrease.

PURE-BRED STOCK FOR THE AGRICULTURAL COLLEGE.

Farming is the original source from which is produced nearly all the wealth of Kansas. Our mines yield an interesting item of revenue not to be despised but rather to be cultivated and developed. But compared with the dollars received for Kansas farm products all other sources of income are small.

The need of pure-bred animals for use in illustration before the classes of the college has received substantial recognition by some of the stock breeders of the state in the presentation of four of the finest pure-bred cattle in as many herds in the state.

But the young farmers who seek instruction at the Kansas college are entitled to as ample opportunities as are furnished by any state. For these the legislature alone can provide. The investment necessary to secure pure-bred animals of every kind and of every prominent breed need not be large, and ought to be provided without hesitation by the legislature.

LIVE STOCK MEN SELECT CHICAGO.

It was decided last Friday at the meeting of the National Live Stock Association at Salt Lake City to hold its next meeting in Chicago during the International Live Stock Exposition.

According to live stock men the selection of Chicago means that the greatest stock association in the world, embracing in its membership 126 organizations and representing an investment of \$600,000,000, will cooperate with the International Live Stock Exposition for the two-fold purpose of encouraging increased and improved production of animals for breeding, slaughter, and draft purposes, and of making known to the markets of the world and impressing upon consumers everywhere the superior excellence, healthfulness and abundance of America's surplus of animals and meats.

"This means expansion of the live stock industry at home and abroad as never before," said a live stock man. "It means, through the power of larger organization and wider cooperation, increased efficiency in establishing a higher standard of quality and greater abundance in production, greater consumption at home and abroad, better legislation for the protection of all interests involved in the industry, more successful meeting of foreign competition, and the overcoming of foreign opposition, not only through superior excellence in our animals and meat products, but also through the inducement of wise measures of reciprocity in trade with foreign nations.

"From now on the foreign outlet for America's surplus animals and meats will become more and more a prominent factor in our live stock markets, and everything that will contribute to the growth and expansion of this trade should receive the utmost attention. The value to our live stock interests of the coming exposition and convention is almost beyond computation, as it must result in a vastly increased demand abroad for American animals and meats."

A delegation of Chicago men went to Salt Lake City in a special car, and put up a strong fight for the convention. Omaha, Kansas City, St. Louis and St. Joseph worked for it, but the suggestion of combining the meeting and Exposition won for Chicago. Packers and stockmen say this assures the largest gathering of live stock men ever held.

A FEEDING INVESTIGATION.

Prof. R. W. Clothier, assistant in chemistry at the Kansas State Agricultural College, is getting out a report upon the best methods of fattening steers in Kansas. He is distributing among the best feeders of the state 1,000 blank reports, which ask for information upon the lot or lots of steers that have made the best gains in the experience of the feeders. The report calls for information upon the following points: Number of steers fed, kinds of steers, age, length and date of feeding period, weight at beginning and end of feeding period, average gains made, kind of shelter used; also the amount of each kind of grain consumed and the amount of each kind of rough feed consumed. Each blank provides for reports upon eight lots of steers, and although it is not expected that every feeder will report upon so many lots it is to be hoped that many will be able to do so.

When the reports come in the amount of digestible protein carbohydrates and fat consumed in each ration will be calculated and comparisons made with Wolff's feeding standards. This ought to throw a great deal of light upon the practicability of these standards and if every man reports upon the greatest gains he has ever obtained, it will be readily seen that one thousand such reports classified and put into available form will be of almost infinite value to the feeders of the state. It is to be hoped that every feeder to whom Mr. Clothier applies will assist him in the work by making as complete reports as possible. Any feeders who have made exceptionally good gains will confer a favor upon Mr. Clothier by writing to him and asking for a blank report.

Constipation leads to liver trouble, and torpid liver to Bright's Disease. Prickly Ash Bitters is a certain cure at any stage of the disorder.

"I had grip three months; could not sleep; pain all over and headache very bad. Dr. Miller's Nerve, Pain Pills and Liver Pills made me well."—Mrs. E. C. Bowly, Waterloo, Ind.

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, and how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. In order to receive a prompt reply, all letters for this department should give the inquirer's postoffice, should be signed with his full name, and should be addressed to the Veterinary Department, Kansas Farmer, Topeka, Kans.

Hydrophobia.—I had an extra good colt, and the first I noticed anything wrong with him was when he came to the tank to drink. He drank, stood there awhile, and ran out on the wheat pasture (where he has been all winter) and commenced to neigh. I noticed him for a while and concluded nothing was wrong, but in a few moments he was rolling vehemently. I brought him to the barn, where he seemed to get worse; would bite himself first on one side then the other, also the other horses, and the wood manger; he would fall and kick violently, and get up to do the same over again; was bleeding at the nose some. He died in not over an hour and a half from the time he was at the tank. Is it possible for a horse to drink too much ice water? It was an extra good colt, and in fine shape. J. L. JAMES.

Viola, Kans.

Answer.—Your colt had a well marked case of hydrophobia. There has probably been a mad dog in your neighborhood some time during the summer, and it would be well to keep a close watch of your large stock and tie them up safe if any should show any symptoms, as they are sometimes very dangerous.

Mammitis.—I have a young heifer which has been fresh about two months and most of the time she has given bloody milk; sometimes it is very bad. Can you suggest through your columns the cause and a remedy?
Bloomington, Ill. YOUNG FARMER.

Answer.—It is usually caused by a slight congestion and inflammation. Hand-rub well twice a day with camphor and lard. Milk her three times a day or let her raise a calf.

Nerving as a Preventive of Blackleg.—Can we not have an explanation by the KANSAS FARMER veterinarian about nerving young cattle for blackleg? I never lost a calf or yearling from blackleg after nerving, but I do not understand why nerving is a preventive.
Cambridge, Kans. CHAS. UTLEY.

Answer.—We can not see where that operation would prevent the disease. It would not affect the nervous system if they were going to have it, and it could do more than the simple wound in question in preventing the disease. Probably all those that have been operated on would have escaped anyway.

Rheumatism.—I have a 5-year-old roan cow that will be fresh the 20th of this month. About two months ago I noticed that she was apparently lame in one of her hind legs, but could not find out which one. Later on the lameness seemed to be in both hind legs, but I could not locate the soreness. But now the lameness seems like it is in her loins. She stands humped up all the time and walks the same way. She shuffles or rather drags her hind feet as she walks. She eats and drinks as hearty as ever but has lost some flesh. She hasn't had any cane, Kaffir-corn or millet, but I feed her wheat and barley straw at night, and she runs on buffalo-grass during the day. I first gave her salts, but am now giving her saltpeter and sulphur. But neither did her any good. J. H. CHINN.

McDonald, Kans.

Answer.—Give her two pounds of epsom salts in a quart of hot water at once. Give one drachm of salicylate of soda in a teacup of water twice a day for ten days. Feed bran and alfalfa hay or prairie hay. Give her a good warm stable with plenty of bedding.

Catarrh Cannot Be Cured with LOCAL APPLICATIONS, as they cannot reach the seat of the disease. Catarrh is a blood or constitutional disease, and in order to cure it you must take internal remedies. Hall's Catarrh Cure is taken internally and acts directly on the blood and mucous surfaces. Hall's Catarrh Cure is not a quack medicine. It was prescribed by one of the best physicians in this country for years, and is a regular prescription. It is composed of the best tonics known, combined with the best blood purifiers, acting directly on the mucous surfaces. The perfect combination of the two ingredients is what

produces such wonderful results in curing Catarrh. Send for testimonials, free.

F. J. CHENEY & Co., Props., Toledo, O. Sold by druggists, price 75c. Hall's Family Pills are the best.

Rabies for Prairie Dogs.

EDITOR KANSAS FARMER:—The Kansas City papers report this morning that a bill was introduced in the legislature at Topeka having for its purpose the extermination of prairie dogs. This news item brings to my mind a suggestion which I was about to write you three months ago, when I frequently heard complaints relative to the ravages wrought by the prairie dogs in the pastures. Not being a farmer, I hesitated to write you touching this matter; but it is barely possible the suggestion has some value, so I send it.

It seems to me that it would be an easy matter to introduce hydrophobia into a "dog town," and that a prairie dog with the rabies would quickly spread the contagion, to the dismay of the dogs and the delight of the cattleman. It might be necessary to remove the cattle from the vicinity of the "dog town" till after the war. The close of the war might be hastened by shooting the dogs or clubbing them when they have lost their self-control and timidity.
GEORGE R. KIRKPATRICK,
La Harpe, Kans.

Personals.

Mrs. E. P. Green has recovered from an attack of the grip at Canaseraga, N. Y., by the use of Dr. Miles' Pain Pills.

Among the victims of the grip epidemic now so prevalent, F. Coyle is now recovering at Canton, Ohio, by the use of Dr. Miles' Nervine and Pills.

W. E. Nihells, of St. Louis, Mo., who was down with grip, is reported much improved. He used Dr. Miles' Nervine and Pills.

The friends of Mrs. L. Denison will be pleased to learn of her recovery from grip, at her home in Bay City, Mich., through the use of Dr. Miles' Nervine and Pills.

Everybody says that J. W. Udy is looking splendid since his recovery from the grip at his home in Des Moines, Iowa. They all know that Dr. Miles' Nervine was what cured him.

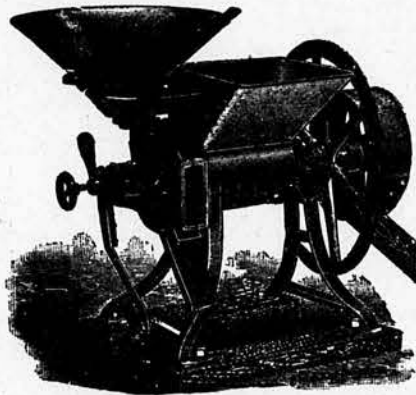
Prosecuting Attorney, Charles L. DeWaele, who has passed the three-score mile stone, had a time with the grip; but when seen at his home in Roscommon, Mich., the other day, he said Dr. Miles' Nervine was what cured him.

At nearly three score and ten Mrs. Galen Humphrey was fighting against odds when the grip attacked her; but she took Dr. Miles' Nervine, and now her neighbors in Wareham, Mass., remark on how well she is looking.

After an illness of five weeks from the grip, Mrs. Harriett Jackson is again about and looking fine. She began taking Dr. Miles' Nervine after the fourth week. Her home is in Bowling Green, Mo.

The Improved Quaker City Grinding Mill.

The old adage that "wilful waste makes woeful want" is just as true to-day as it was when spoken long years ago. I know of no place where this truism will apply with so much force as in the feeding of live stock. In most sections of the country it is still the practice to allow the hogs and cattle to shell and grind the corn they eat, with the resulting great loss in both grain and animal energy, which had much better be devoted to lying around and getting fat and ready for the market. The careful man, the reading, thinking fellow, that always tops the mar-



ket, because of fine finish, knows better than this. He grinds his feed, and thereby not only saves in feed, but derives a much greater value from the grain he does feed. Among the many good machines now on the market for grinding grain for stock purposes, we know of none which stands out more prominently than this Improved

Quaker City Grinding Mill. It is manufactured by A. W. Straub & Co., of Philadelphia, Pa., and is handled in the West by the A. W. Straub Co., of Chicago, Ill. The Quaker City mills are so well and favorably known, having been upon the market since 1887, that they leave practically nothing to be desired in machinery of this class. They are made of the best procurable material in a most superior manner. They crush and grind ear corn alone, or mix other grain with it at the same time. The reader will observe the double hoppers, and this is the object of their use. The reduction in very gradual, easy and thorough. Small grain hopper is equipped with automatic Shaker Feed, which insures evenness of the resulting meal or feed. They are easy to adjust and regulate, and in grinding shelled corn alone can be set so as to produce the finest family meal. It will pay any intending purchaser to look into the merits of these mills before buying. Write to the nearest office for catalogue, circulars, prices, etc. Kindly say that you saw this article in the Kansas Farmer.

The Page Company Doing Business in Their Own Name Again.

The friends of the Page Woven Wire Fence Co., of Adrian, Mich., who have stood by that company so nobly in their temporary financial embarrassment, will learn with great satisfaction of the company's being recapitalized at \$1,000,000, every dollar paid in, and every share sold. The receivers have been discharged, and the company is again in possession of its entire property which includes the steel, rod and wire mills at Monessen, Pa., and its original Adrian plant.

The management is not materially changed. The capacity for weaving fence will be quite largely increased, and they are in hopes to be able to supply the spring's demand as fast as it is called for. They tell us that every spring they have run short of fencing and have been unable to supply some of their customers.

It seems as though the farmers and stockmen were really standing by them in their endeavor to furnish a fence not made by a trust.

One of the officers of the company states it this way: "People who have never bought before are buying now, and those who have bought before are buying more. Our sales in November, 1900, exceeded those of November, 1899, by 25 per cent, and sales for December, 1900, exceeded those of December, 1899, by 473 miles, and the sales so far in January are not falling off."

This company are and have been heavy advertisers, and their product is known in every hamlet in the United States where the agricultural press circulates, and they are receiving the congratulations of the agriculturists from all directions.—From The Telegram, Adrian, Mich., January 17, 1901.

Be Sure to Remember

that the popular Pan-American Exposition Route this summer will be the Nickel Plate Road, the shortest line between Chicago and intermediate points and Buffalo. No excess fare is charged on any of its Peerless Trio of fast express trains and American Club meals ranging in price from 35 cents to \$1 are served in all its dining cars. Palatial through vestibuled sleeping cars and modern day coaches with uniformed colored porters in attend-dance on the wants of passengers. The acme of comfort and convenience in traveling is attained through the superb service and competent equipment found on the Nickel Plate Road. Write, wire, 'phone, or call on John Y. Calahan, General Agent, 111 Adams St., Chicago, Ill.

Business opportunities on the line of the Chicago Great Western Railway in Illinois, Iowa, Minnesota, and Missouri. First-class openings in growing towns for all kinds of business and for manufacturing. Our list includes locations for blacksmiths, doctors, dress-makers, furniture, grain and live stock buyers, general merchandise, hardware, harness, tailors, cold storage, creameries, and canning factories. Write fully in regard to your requirements so that we may advise you intelligently. Address W. J. Reed, industrial agent, C. G. W. Ry., 601 Endicott Bldg., St. Paul, Minn.

The Popular Buffalo Route

this summer on account of the 1901 Pan-American Exposition will be the Nickel Plate Road. Countless thousands will visit this one of the greatest exhibitions of modern times. The Nickel Plate Road will be the popular line. The excellence of its service is well recognized by the traveling public, and the reputation of its train employes in their uniform courtesy



The Young Man in Politics

By **Grover Cleveland**

Former President of the U. S.

IN THIS WEEK'S (JAN. 26) NUMBER OF

THE SATURDAY EVENING POST OF PHILADELPHIA

A handsomely illustrated and printed weekly magazine, with a circulation of 300,000 copies. Established 1742.

Other features this week are: "How Our Congressmen Live," "How William of Germany Spent a Day in Paris Incog.," "Letters from a Congressman's Wife" (Delightful Gossip of real life in Washington), "Public Occurrences," "Men and Women of the Hour," Three Good Stories and Numerous Special Articles.

THE SATURDAY EVENING POST mailed to any address Three Months (13 weeks) on receipt of ONLY 25c. Also, two little books: "The Young Man and the World" and "The Making of a Merchant," ALL for Only 25c.

We will pay well for Good Agents

The Curtis Publishing Company, Philadelphia, Pa.

to passengers is well known. When you go East see that your tickets read via the Nickel Plate Road. Write, wire, 'phone, or call on John Y. Calahan, General Agent, 111 Adams St., Chicago, Ill.

CHOICE ALFALFA HONEY.

Two cans, 120 lbs. net, whitest \$9, slightly tinted, part from other bloom, \$8.40. Also smaller sizes; prices on application. Reference Kansas Farmer Company. Address, Arkansas Valley Apiaries, Oliver Foster, proprietor, Las Animas, Bent County, Colorado.

"It amuses me to hear Hopperdyke say he is a man of few words."

"Well, he is; but he can talk you to death with the few that he does know."
—Chicago Tribune.

"When the grip left me my nerves and heart were badly affected; but I began taking Dr. Miles' Nervine and Heart Cure and was soon all right."
—Wm. Roericht, Eau Claire, Wis.

CENTROPOLIS HOTEL.

KANSAS CITY, MO.

KUPER, CAMPBELL, MEYER,
—PROPRIETORS—

HEADQUARTERS KANSAS STOCKMEN.

The Centropolis has been remodeled entire and refurnished complete. American and European plan. Prices very reasonable. Take surface cars in front of Union Depot direct to hotel.

TREES

Ours have stood the test of 50 years. Send for price list. 600 Acres. 13 Greenhouses. Established 1862. PHOENIX NURSERY COMPANY, 1200 Park St., Bloomington, Illinois.

Fire Dried Seed Corn

ond best large white; first and second largest ears any variety or strain. For price list or samples, address (Washington County.) M. H. SMITH & SON, De Soto, Nebraska.

SEED CORN "Pride of Nishna," Yellow, "Iowa Silver Mine," White.

"PRIDE OF NISHNA" is a bright yellow dent, 16 to 24 rows, deep grain solidly set on small red cob, maturing soundly in 90 days. It was grown in 38 states in 1900. Thousands of farmers grew from 80 to 100 and 120 bushels of shelled corn per acre in all parts of the corn belt. "IOWA SILVER MINE" white, is the full counterpart of it, with white cob. Price for either variety \$1.00 per bushel, bags free aboard the cars here. FULL descriptive catalogue FREE for the asking. A 56-page Illustrated catalogue, and "BOOK ON CORN GROWING" with samples of seed for TWO RED STAMPS to pay postage. WRITE TO-DAY.

Address, J. E. BATEKIN & SON, Shenandoah, Iowa, naming this paper.

Horticulture.

KANSAS STATE HORTICULTURAL SOCIETY.

The following are excerpts from some of the excellent papers which we were unable to publish last week, on account of lack of space:

Self-Sterile Fruits.

EXCERPTS FROM A PAPER BY A. S. HITCHCOCK, MANHATTAN.

As a member of the committee on botany and vegetable physiology, I wish to call the attention of the society to the subject of self-sterility in orchard and small fruits. Although the fact has been known by fruit growers for a long time that certain varieties when planted alone, or certain trees when isolated, refused to bear fruit, yet it is only recently that the reason for this has been established. This subject is not a new one to the members of the society, but nevertheless a brief review of the subject may be of interest.

In order to understand the principle involved it is necessary to recall to mind the structure of the typical flower. That of a peach will serve as an example. There are four series of organs composing the flower; the calyx on the outside for protection; the corolla, made up in this case of five showy petals, for the purpose of attracting insects; the stamens, which furnish pollen; and in the center the pistil, which contains the ovules. The two ovules, only one of which matures, are contained in the lower part of the pistil. At the top of the pistil is the stigma, a sticky surface for the reception of the pollen. The production of seed, and in most plants also the production of fruit, depends upon the fertilization of the ovules. This is accomplished as follows: The pollen, which consists of minute grains, is transferred from the anthers, or top part of the stamens to the stigma. This transfer may be brought about by the agency of the wind, as in corn, willow, cottonwood, and pine; or it may be carried unconsciously by insects which visit the flower for nectar; or it may fall directly upon the stigma of the same flower, as in close-fertilized flowers, of which wheat would be an example. We are at present interested chiefly in the second category, to which our peach flower belongs. The flower secretes nectar solely for the purpose of inducing insects to visit it, but the parts are so arranged that the insects in obtaining the nectar brush some part of their bodies against the anthers, and then when entering another flower the same part is brought in contact with the stigma. Soon after depositing the grains of pollen germinate by sending out from the under side a tube which penetrates between the cells of the stigma and style and down into the ovary where are placed the ovules. Finally the end of the tube comes in contact with the opening in the end of the ovule. It crowds its way into this until it reaches the egg-cell situated just below this opening. Then a portion of the contents of the pollen tube passes over into the egg-cell and the latter is said to be fertilized. The fertilization stimulates this egg-cell to renewed growth, and within it is developed a small plant, the embryo. After a while the growth is suspended and we have the seed. One pollen grain will fertilize one ovule and only one. Hence there must be as many pollen grains as there are ovules. Usually there are many more grains deposited and pollen tubes formed than are necessary, in order to guard against accident and insure fertilization by the most vigorous pollen.

Without going into historical or structural details, I may say that it has been proven experimentally, first by Charles Darwin and later by others, that most species of plants produce a more vigorous growth when cross-fertilized than when self-fertilized.

In some species of plants, (how many we do not at present know) a preference for foreign pollen is carried to an extreme and the plant will not accept its own pollen. Such plants can not be fertilized unless they receive pollen from a separate individual. They are known as self-sterile plants and the condition is known as self-sterility. But what is foreign pollen and what is a different individual?

So far as its bearing on this question is concerned it seems that an individual, to be different, must have originated from a different seed. Hence, from this same standpoint all varieties of cultivated plants which are propagated vegetatively—that is, by grafts, buds, cuttings, etc.—are merely an individual cut up into many parts. There fore if the individual was self-sterile in the first place, all its bud-offerings will share in this character just as they have in other characters which mark the variety. From a horticultural standpoint self-sterility is of vast importance.

From a practical standpoint it is always safest to take the benefit of the doubt and if a variety has been proven under any condition to be self-sterile, to assume this for all conditions. It is safe to assume that under all conditions the fruit will be better when the result of cross-fertilization.

In planting there should be a mixture of varieties and such a selection that they will bloom about the same time. It is an advantage if honey bees be quartered in the vicinity of the orchard, as the trees must depend on insects to bring the foreign pollen. A great variety of wild insects aid more or less in this, but honey-bees are by far the most efficacious for orchard conditions.

Whether or not a variety is self-sterile can only be determined by experiment. If the fruit grower has the time and patience and is a careful manipulator he can determine this fact for himself. Before the bud opens, that is before the anthers shed their pollen, the stamens should be cut out of the flower and the flower enclosed in a sack. Fine netting is a sufficient protection. This is to prevent insects from visiting the flowers. A number of flowers, the more the better, are treated in this way, and half pollinated with their own pollen and half with pollen from another variety, keeping them covered a sufficient length of time for the fruit to set. The relative benefit of the crossing can be observed. To transfer the pollen a clean stick or the anther held with a pair of small forceps, is good. Great care must be observed that only such pollen reaches the stigma as is wanted.

For the benefit of those who do not have Professor Bailey's work, I append a list of fruits whose relative fertility had been determined at that time (Bailey's Principles of Fruit Growing 1898, page 229.)

Pears. (Waite)—Varieties more or less self-fertile: Angoulme, Bosc, Boussock, Clairgeau, Clapp, Columbia, De la Chene, Doyenne Sieulle, Easter, Ganset's Bergamotte, Gray Doyenne, Howell, Jones, Lawrence, Louise Bonne, Mount Vernon, Pound, Sheldon, Souvenir du Congress, Superfin, Colonel Wilder, Winter Nellis.

Varieties generally self-sterile: Anjou, Bartlett, Brockworth, Buffum, Diel, Doyenne d'Alencon, Flemish Beauty, Heathcote, Kieffer, Le Conte, Manning, Elizabeth Seckel, Tyson, White Doyenne.

Apples. (Waite and Fairchild.)—Varieties more or less self-sterile: Bellfleur, Chenango (Strawberry), Gravenstein, King, Northern Spy, Norton, Melon, Primate, Rambo, Red Strachan, Roxbury Russet, Spitzenburgh, Talman Sweet.

Varieties mostly self-sterile: Baldwin, Codlin, Greening.

Many of the native plums are notoriously self-sterile, particularly Wild Goose (Wild Goose is well pollinated by Moreman, Newman, Smiley, and Miner, according to J. W. Kerr).

Other self-sterile varieties are: Miner, Wazata, Minnetonka, Itasca.

Varieties more or less self-sterile are: Moreman, Newman, Wayland, Golden Beauty, Marianna, Deep Creek, Purple, Yosemite.

Strawberries often lack stamens altogether, whilst others, like Crescent have so few and so poor stamens that they are practically self-sterile. Ordinarily there should be a row of perfect flowered variety for every two rows of a pistillate or infertile variety.

"The quince seems to fruit nearly as well with its own pollen as with that of another variety."—Waite.

Grapes. (Beach.)—Unfruitful when planted by themselves: Black Eagle, Brighton, Eumelan, Massasoit, Wilder, Rogers' No. 5, Gaetner, Merrimac, Requa, Aminia, Essex, Barry, Herbert Salem.

Able to set fruit of themselves: Concord, Diamond, Niagara, Winchell or Green Mountain, Rogers' Nos. 13, 24, and 32, Agawam, Delaware.

Wild Currants and Huckleberries in Kansas.

EXCERPTS FROM A PAPER BY R. N. BAKER, GRANTVILLE, KANS.

Ribes prostratum, or wild currant, is found in cold, wet places as far north as British Columbia along the Rocky Mountains, to the south part of Colorado, as high as 6,000 feet; it flowers from May to June according to location; fruit ripens from July to August; mode of propagation is from the seed and runners from the root sprouts. As to taste of the fruit, it is not pleasant; it is sometimes called skunk currant. It varies in taste in location of growth; in damp, shady places it is more mild and somewhat pleasant to the taste and considered quite healthful. The fruit holds on to the stems well, becoming quite dry before they will drop off so that they furnish food for birds and animals for a long time, showing the goodness of the All Wise Provider.

Ribes Aureum.—As to general character, it is nearly the same as the many other kinds. Skin on the fruit tough and thick filled with mucilaginous pulp and succulent sub-acid juice with 8 to 32 seeds; the seeds are small, flat, with tough skin; so tough that birds can not digest them; they bloom in April. Fruit begins to ripen in June, continues until the last of July; holds on to the stems well after fully ripe; it multiplies by runners from the roots and by seeds; if dropped in damp, shady places will germinate in eight days and make a growth of 6 inches the first year; it grows best on sandy soil where it is a little damp and shaded half the time; as the hot sun will blister the fruit and dry it so as to spoil it before it gets ripe. It is greatly improved by being cultivated and mulched with straw or any kind of litter, and will hardly ever fail to bear a good crop of fruit and so attractive the children will want to go twice a day, to get all they can eat. Then they are good cooked with almost any other kind of fruit, or alone they make good pies or boiled dumplings or stewed for sauce; if the seeds are strained out they make fine jelly; they are so mild a flavor that they require but little sugar to make them pleasant to eat. They are also highly medicinal—as much so as the whortleberry; the root and leaves being used as both diuretic and astringent; it also makes a good gargle for sore mouth.

There are a good many other kinds of fruit that are called currants that I have not described. One in particular, that is worthy to be named, as it is light amber, or nearly white when it grows in the shade; a very desirable fruit if it was a good bearer.

The vaccinium resinum, or high huckleberry.—This shrub grows from 3 to 4 feet high in wet, swampy places but will soon die if the swamps are ditched so as to run the water off. There are none in Kansas that I know of, but in the Eastern and Middle States there are plenty of them. In Michigan they grow well. Berries drop off very easy, bloom in April, fruit ripens in August. Easily gathered by shaking the bushes.

The Vaccine virgatum, or blue huckleberry.—There are none of this kind of fruit that I know of growing in Kansas, but in the Eastern and Middle States they grow well in the open timber land. The bushes grow 2 to 3 feet high on dry sandy ridges. If the timber is not too thick, it will spread all over the ground in a dense thicket. Fruit ripens in July.

Keeping Fruit—Marketing After Storing.

EXCERPTS FROM A PAPER BY MAJ. FRANK HOLSINGER, ROSEDALE, KANS.

There never was a better time to plant an orchard than the present. The recent winter of '97 and '98 has destroyed fully one-half of all the orchards planted, while a large percentage of the remainder are injured to a great extent and must soon succumb, and unless great energy shall be used the apple will have passed, or will so far have disappeared as to be beyond the reach of the poorer classes. Should you determine on planting an orchard, you should remember that it will require a few years of care to bring it into bearing, and it must receive it.

Unless you are disposed to give it intelligent care, you had better not undertake it. I am so deeply impressed that the general and increasing difficulties attending fruit growing are so great that nothing but the most intelligent and watchful care can succeed in this industry. I believe that such care will succeed and that there is a boundless field of profit and enjoyment open to the man who avails himself of what is already known in selecting locations,

VICK'S SEEDS
make big loads
from the fields

The most profitable seeds because the most productive. All varieties selected from vigorous stock. If you plant little or much, send for our new Garden and Floral Guide. Every page of value to planters of plants. Tell us what you intend to grow.

JAMES VICK'S SONS,
Box No. 1590 Rochester, N. Y.

SALZER'S SEEDS RICH!
WILL MAKE YOU RICH!

Billion 5 Grass.
Marvelous grass, wonderful yield 12 tons of rich hay and lots of pasture besides. "What is it?" It's the heaviest yielding grass this side of the stars; will make you rich. First crop 6 weeks after sowing. Everybody is asking: "What is it?" Catalogue tells.

Combination Corn.
Greatest golden yellow dent corn of the age. Seed dirt cheap. Will make you rich to plant. Will revolutionize corn growing.

Speltz, Rape and Peas.
Three perfect foods. Speltz yields 80 bu. of grain and 4 tons of hay per acre; Rape 55 tons green food and Peas 8 tons of perfect food per acre.

Bromus Inermis.
Greatest permanent grass of the century. Nothing like it on earth to-day and we have secured the world for its equal. 4 to 7 tons of hay per acre.

Vegetable Seeds.
Largest growers.
Onion seed 60c lb.

For 10c Stamps
and this Notice, we will big illustrated Seed Catalog and 10 grain samples, including above, also Speltz (80 bu. per A.), Oats (200 bu. per A.), Rape, Barley (175 bu. per A.), Peas, etc. worth \$10 for a start.

JOHN A. SALZER SEED CO., LA CROSSE, WIS.

Extra Early Admiral Dewey
Originated and introduced by
HARRY N. HAMMOND SEED CO.,
(Formerly of Field) Box 74, Bay City, Mich.
Largest growers of Seed Potatoes in America. The Dewey is the most wonderful New Potato. Its merits are fully described in Hammond's 1901 catalog. Free for the asking. Address as above. Write to-day. 20 other varieties of potatoes. Also Vegetable and Flower Seeds.

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Warranted Seed

It matters not how rich the land, Or hard the labor on it, Vexation is the only crop Bad seed will raise upon it.

All seed warranted to be pure and reliable, as per page 2 of catalogue. Our trade with market gardeners is immense; and market gardeners buy none but the best of seed. Write for our new Vegetable and Flower Seed catalogue—free to everybody.

J. J. H. GREGORY & SON,
Marblehead, Mass.

FREE GARDEN SEEDS

Two packages of our choice Garden Seeds and our seed catalogue free. Send 2c stamp which is postage only, the seeds are free. This offer is costly but we want to show every reader how good and large packages we sell for 3c each and to examine our catalogue.

We know it will save you money in buying Seed Corn, Barley, Oats, Wheat, Timothy, all Grasses, Bromus, Chokes, Potatoes, Garden Tools, Supplies.

The largest seed growing establishment in the west. Wholesale Prices to Farmers. Home-grown seed for little money. 'Tis not the price but the quality that is high. Guarantee seeds to be fresh. Sample Bromus Grass and Speltz or Corn and Barley and Catalogue upon receipt of 2c stamp to pay postage. Catalogue is free. Ask on a postal card for it.

A. A. Berry Seed Co., Clarinda, Ia.
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If you Buy Seeds
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BEST SEED CATALOGUE.
Honest photographic illustrations.
Mailed free to Seed Buyers.
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CANDY CATHARTIC
Cascarets
REGULATE THE LIVER

choosing varieties, fighting insects, and other enemies, and in all other ways caring for orchards.

The markets to the west and north are unlimited and open to us for all the fruit we can produce, and however plenty and cheap earlies and wind falls may be that which is well developed and cared for will always sell for prices which will make the land and the labor devoted to their culture and preservation, more profitable than that devoted to any of the more common pursuits.

Apples should be carefully handled and only the best packed. To keep well, I think an air-tight barrel the best. If wrapped in tissue paper all the better. Our Missouri friends at the late Paris Exposition double wrapped in one of tissue and one of oil. So well did these apples keep that I am informed there was not more than 1 per cent of loss. These apples were placed in cold storage until wanted, and kept as close the freezing point as possible. Much of the loss by cold storage is in the variations of temperature. I have known in so-called cold storage, a variation of 30°. Where this condition exists it were better your apples had not been in cold storage at all.

Whatever plan you may adopt, remember that everything will depend upon the evenness of the temperature. It is the variations that do most injury.

Catching the cue from our worthy member from Greenwood County, that apples kept in dry sand preserved them, I have some 8 or 10 bushels in dry dust taken from our macadam streets. These apples at the present time (Christmas) are firm and promise to keep indefinitely.

To attempt keeping large quantities by this method is possibly not to be thought of, and yet I am not sure. To the fruit grower without the means of cold storage it affords him opportunity to keep a sufficient quantity to last him until new apples come again. Why do apples keep better in this way than in open cellar? I answer, because of the exclusion of air that fluctuates degrees of temperature. The dry dust seems always cool, no matter how high the temperature may indicate. I admit this method is new to me and I may be too sanguine. No two swallows ever yet made a summer and my friend Munger's dry sand, my dry dust, may not be the best way; yet we claim for it success to a certain degree and for one I am sanguine that it will succeed.

In the marketing of apples, if they have been carefully handled, selected, packed in barrels and kept at a proper temperature, they will not fail to command a price that should satisfy.

When apples are in the condition they were last fall, with less than 5 per cent of a crop of No. 1, it were folly to attempt to keep them. I feel sure that had we so desired to keep them, that fully 75 per cent of those sold at from 40 to 75 cents per bushel in open packages, without expense other than hauling to market, would have been worse than wasted. If, however, you are remote from market then there is no redress. You must depend on a foreign market and commission men to handle your fruit. During the last season there were surprises and surprises.

The reports from the East, North and West told the story of immense crops. Nothing, we were told, ever equalled it. The Middle West was an exception in the larger prospect before us. The apple crop was, we were told only 40 or 50 per cent of a crop, and very inferior in quality. With us, our apples had scab, codling-moth, gougers, curculio, canker-worms and wind. The latter did much to lighten the crop. The gale that swept Galveston from the face of the earth extended inland, sweeping fully one-half of all the fruit in its course from Texas to Maine. This destructive agency did much to stiffen the prices of our apple market, and apples at a drag of from 50 cents to \$1 per bushel advanced fully 100 per cent, and have continued to advance until now good apples are worth about all you choose to ask for them with few first-class apples in sight.

One other thing in handling and keeping fruit is in selecting long keeping varieties. I am glad to call attention to a new favorite, which originated in southern Missouri, that for good quality and possessing the highest merit as a cold storage fruit, having possibly no equal, always coming out of cold storage rosy and crisp and in quality the equal of Jonathan. All such new varieties will ever be welcomed by fruit growers everywhere. A hearty greeting to the "Ingram," a plate of which we herewith submit.

Reports on Irrigation.

EXCERPTS FROM A PAPER BY E. D. WHEELER, WAKEENEY.

The question that naturally arises in the mind of the eastern Kansas man when he notices that the subject of irrigation occupies a prominent place on our program is, why should the time of this society be taken for the discussion of the subject of irrigation? Is not this a horticultural meeting? Let us answer the second question first by saying, Yes, and that is the reason why we talk irrigation. We find on exhibition at this meeting apples that have been grown on a tree that has been irrigated, and we notice that they are very much larger and fairer than others of the same kind on a tree that was not irrigated, and we hear of complaints made of orchards that have been planted five, ten, and fifteen or twenty years that are dying, and that other trees are stunted, and some do not produce, while others let go of their apples before they are properly matured, and still others which are not thrifty, but sure to fall an easy victim to heat, dry winds, sunscald and the borer.

We listened to one report at this meeting that stated the fact that the best apples found in his district grew where they received benefit from the subirrigation, or underflow from the Arkansas River. In New Jersey and other states experiments have been made at the expense of the states which have demonstrated the fact that it is very profitable to irrigate small fruits in an average year, and will insure a large yield in a dry year when without it the cost of gathering and marketing would have exceeded the amount obtained for the crop, in spite of the fact that prices were higher on account of a short crop. If this is true in New Jersey, Michigan, Illinois, and Wisconsin, it must be true even in eastern Kansas. Occasionally we will have a year when irrigation is unnecessary, but I venture to say that no small-fruit grower or market gardener can afford to run the risk attending the neglect to provide himself with some means for irrigating. Not being a crank on irrigation, I was much pleased to hear the gentleman from Ottawa County tell of hunting for a porous subsoil for the orchard which he intended to plant, and that he found it seven miles from home, planted the orchard, and has made a success of it. "Where there is a will there is a way," is as true as ever, but it is not often that we will find men who will go so far to find a place where they can grow fruit without irrigation, especially if it is only for family use and their homes are already established—though I hardly expect that the members of this society will be willing to concede that any farm home is established unless an abundant supply of fruit and vegetables are adjuncts. Beyond question more care should be exercised in the selection of the home and the orchard. In all of our western counties there are locations where fruit can be grown without irrigation, but it is not often that the ideal spot can be found where there is natural subirrigation. It is in my judgment true that a very large majority of the homes in the western half of the state can not grow fruit or vegetables successfully without irrigation, and nine times out of ten it must be wind-mill irrigation or not any. The most common mistakes that are made may be safely said to be the building of large reservoirs for a limited supply of water, the erection of large windmills, and the use of large cylinders where smaller windmills and cylinders would raise more water for the reason that they would lift water in a much lighter wind, the leakage would be less, also the loss of time and money for repairs. In strong, shallow wells the larger mills and pumps will not be out of place. Sometimes where several neighbors are supplied with strong, shallow wells, or ponds, they can use a portable gasoline engine, and sometimes they can arrange for a man to keep it going every day, and even every night. Through the efforts of western men we are expecting the appropriation of at least five million dollars for the building of large storage reservoirs in a group of Western States of which Kansas is one. Surveys of sites have been made by the Government in nearly all of the states included in the group except Kansas and Nebraska. Kansas will not be apt to even get one surveyed unless we ask for it, and I suggest that a resolution expressing our desires be reported by the committee and that it be adopted by the unanimous vote of this meeting and forwarded to our representatives at Washington.

Pencilaria.

The use of fodder plants is growing greatly every year, and we have no doubt the readers of this paper will be interested in a new candidate for public favor called Pencilaria. It is a most wonderful forage plant of great productiveness, unexcelled, if equaled, by any other plant for its quick growth, immense size and splendid quality, and it is thought that it will prove of much value to stock farmers. It has been improved and acclimated so that it not only produces an immense crop of fodder, but will produce a good seed crop as far north as central Iowa.

The seeds are quite small, about the size of a pin head, but its growth is truly wonderful. It is usually planted as soon as the ground becomes warm, about corn planting time, and it begins to tiller or stool out at once, our illustration showing a plant growing to a height of 12 to 14 feet. As many as 43 large leafy stalks have been produced from one seed. At a distance a field of



PENCILARIA.

Pencilaria looks like mammoth timothy. The heads are only about an inch in diameter, but range from 10 to 16 inches in length and are closely set with thousands of small seeds. If allowed to grow until the flower heads begin to develop, before cutting, it is claimed that it will yield the heaviest crop of any fodder plant in cultivation.

The best way to handle the crop is to mow it when from 3 to 6 feet in height. It will immediately start up again and can be cut several times during the season. One farmer who made a careful test says he sowed the seed on the 15th of May in drills 18 inches apart. In twelve days he cultivated the crop once and it grew so rapidly after that time that it smothered out all weeds. His first cut was made July 1st, forty-five days after sowing the field. The crop was about 7 feet high and it weighed green, thirty tons per acre, and when dry gave six and one-half tons of hay per acre. The second growth was cut on August 14 when the plants were 9 feet high, and the crop weighed fifty-five tons per acre green, and eight tons dry. The third cutting was not made until October 1. It weighed ten tons green, and one and a half tons dry, thus making a total crop of ninety-five tons per acre of green fodder, and when dried made sixteen tons of hay. If there is any other fodder plant in existence which will afford such a yield we do not know what it is.

It is claimed to be equally as nutritious as corn fodder, which it greatly resembles, and it is greatly relished, either green or dry, by horses, cattle, and in fact all kinds of live stock.

Knowing that thousands of our readers would be interested in trying this new plant, we have made arrangements with the Iowa Seed Company, of Des Moines, Iowa, who are introducing it this year, to forward a small package (sufficient for planting a row 100 feet long) to any one who asks them for it, provided they mention this paper. A postal card request is sufficient.

"I was in bed five weeks with the grip—nerves shattered, stomach and liver badly deranged. Was cured with Dr. Miles' Nerve and Nerve and Liver Pills."—D. C. Walker, Hallsville, Ohio.

His Answer.

"Johnny," queried the teacher of the new pupil, "do you know your alphabet?"
 "Yes'm," answered Johnny.
 "Well, then," continued the teacher, "what letter comes after A?"
 "All the rest of 'em," was the triumphant reply.—Tit-Bits.



Giant Pansies, Sweet Peas, Mayflower.

Did you ever see 7 straight or circular rows of Pansies or Sweet Peas side by side, each a different color? If so, you know that the effect is charming. Did you ever see Childs' Giant Pansies and Sweet Peas, marvels in beauty and true to color? If not, you have not seen the best. As a Trial Offer we will mail for 14 Pkts. Giant Pansies and Sweet Peas as follows:

Pansy Giant—Snow White	Sweet Pea—Navy Blue.
" " Coal Black.	" " Black Knight
" " Cardinal.	" " Go'n Yellow
" " Yellow.	" " Orange Pink.
" " Azure Blue.	" " Cream.
" " Violet.	" " Scarlet.
" " Striped.	" " Pure White.

One Packet of each. THE MAYFLOWER Magazine until 1902, (devoted to Flowers and Gardening, Elegant Cuts and Colored plates), and our Great Catalogue, all for 30c. Our Catalogue for 1901.—New Century Edition—Greatest Book of Flower and Vegetable Seeds, Bulbs, Plants and New Fruits, 152 pages, 500 illustrations, 12 colored plates, will be mailed free to any who anticipate purchasing. Scores of Great Novelties. John Lewis Childs, Floral Park, N. Y.

WORTH THE MONEY.

Peach Trees Grown from Cuttings.

If you have a fine variety of Peach trees and wish to increase their number without cost of buying more trees, you can grow them from cuttings without any trouble. For fifty cents we will send instructions how and when to plant the cuttings for producing the same kind of fruit as the parent tree. Address—

M. W. ALLEN, Fruit Grower, Eldon, Miller County, Mo.

GOT A DOLLAR?

Invest it in our choice FRUIT TREES, SHRUBS or VINES. 25 Grafted Apple Trees for \$1. 25 Budded Peach Trees for \$1. 40 Concord Grape Vines for \$1. Ours will grow. They are well rooted, healthy and true to name. Send a trial order to-day. Due bill good for 25c and Catalogue in German or English free. We pay freight on \$10 orders. Fairbury Nurseries, Box 16, Fairbury, Neb.

AGENTS WANTED!

40 per cent Commission paid to rustling men to canvass for Nursery Stock. OUTFIT FREE. Address, HART PIONEER NURSERIES, Fort Scott, Kansas.

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FREDONIA, N. Y. INTRODUCER OF Campbell's Early . . . The best Grape. Josselyn . . . The best Gooseberry. Fay . . . The best Currant. Large list of Grape Vines and Small Fruit Plants. Catalogue free.

Fruit and Ornamental TREES

Grapevines, Small Fruits, Flowering Shrubs. Lowest prices, honest quality. Budded Peach 5/10 each. Plums 15c, Apple 4/10c; R. Mulberry, Black Locust, Ash, from \$1 per 1000 up. We pay freight. Send for catalogue, English or German. German Nurseries, (Carl Sonderegger, Prop.) Box P, Beatrice, Neb.

NEBRASKA TREES CHEAPEST IN QUALITY

We pay Freight. cherry, 2 to 3 ft., \$20; freestone peach, \$3; Concord grape, \$2 per 100. 1000 Ash, \$1; Catalpa, Locust, R. Mulberry, B. Elder and Osage Hedge; low prices. Catalogue free. JANSEN NURSERIES, Box 59, Fairbury, Neb.

SEEDS AND POULTRY SUPPLIES.

Seeds, bulbs, and poultry supplies. T. LEE ADAMS 419 Walnut Street, Kansas City, Mo.

STARK TREES SUCCEED WHERE OTHERS FAIL.

Largest Nursery. Fruit Book Free. Result of 76 years' experience. STARK BROS., Louisiana, Mo.; Dansville, N. Y.

STEEL ROOFING THE ONLY TOOLS YOU NEED.

5000 Squares BRAND NEW STEEL ROOFING Bought at Receiver's Sale, sheets either flat, corrugated or "Y" crimped. Price per square of 10 x 10 feet or 100 square feet. \$1.75 No other tool than a hatchet or hammer is required to lay this roofing. We furnish FREE with each order sufficient paint to cover, and nails to lay it. Write for Free Catalogue of general merchandise bought by us at SHERIFF'S and RECEIVER'S SALES. Our Prices are ONE HALF of others. CHICAGO HOUSE WRECKING CO. West 35th and Iron Sts., Chicago.

In the Dairy.

Conducted by D. H. OTIS, Assistant Professor of Agriculture, Kansas Experiment Station, Manhattan, Kans., to whom all correspondence with this department should be addressed.

Needs of the Kansas Dairy School.

A state dairy school should be the center of dairy knowledge. In order to hold this position the school must be equipped with up-to-date machinery. Not only that, but it must make comparative tests of different machinery and different methods of manufacturing dairy products. If, for instance, hydraulic separators are a fraud, as they have been proven to be, then it is the duty of a state dairy school to make known the fact and save hundreds if not thousands of dollars to the dairy farmers of the state, which would otherwise go into the hands of sharks. A separator that leaves from .3 to 1 per cent of butter fat in the skim-milk is a dear machine at any price. The farmer, if he has the knowledge, does not have either the time or the money to investigate these points. What is true of separators is also true of Babcock testers, cream ripeners, churns, butter-workers, and butter-presses. Where the dairy school tests these different utensils, the comparative cost of the test is very small.

One of the greatest needs of Kansas dairying to-day is a development of her cheese industry. Kansas is paying out thousands of dollars every year for cheese imported from other states. This cheese can just as well be manufactured upon our soil, with our own cows. It is true that considerable of the cheese that is made in Kansas is of poor quality, but this is due to a lack of knowledge of how to make, and especially how to cure a good cheese under Kansas conditions. Cheese can not be handled the same in Kansas as it is in the Northern States. The proper curing of cheese is almost entirely dependent on the temperature and the moisture of the curing room. Experiments are needed to tell us which is the best temperature and the right degree of moisture under Kansas conditions. At present our Kansas State Dairy School is unable to inaugurate these experiments. We have the curing rooms, but not the funds with which to properly equip and operate them. Our progressive creameries are to-day furnishing their plants with refrigerating machinery. In this respect our dairy school is behind the creameries. It is greatly in need of a refrigerating plant in order to carry on experiments, both in cheese-making and butter-making. In order to become and keep our Kansas dairy school equipped with the latest machinery, the modest sum of \$5,000 is asked from our next legislature. This sum properly invested will undoubtedly save many thousand dollars to the dairy interests of the state. Without it our dairy school will be hampered, and when inquiries are received in regard to dairy utensils and dairy matters, we shall be obliged to answer "we don't know," because we have not had the opportunity to test or investigate. It is sincerely hoped that every dairyman who is interested in the success of Kansas dairying and Kansas dairy schools will see to it that his representative is not only informed, but urged to lend his influence in securing the needs mentioned.

D. H. O.

Testing for Quality of Milk.

Any one who has had the least experience in making butter knows that the amount of butter that can be made from different herds or from different cows in the same herd varies to a very considerable extent. Where the butter is made on the farm no one is injured by this variation, but as soon as the factory system came into vogue the necessity for some accurate method of determining the quality of milk became apparent, as it was obviously unjust to pay as much for 100 pounds of milk that would make only 3 pounds of butter as for milk that would make 4, 5, or even 6 pounds per hundredweight.

Chemical analysis, while accurate, necessitates delicate instruments, special skill, and considerable time, and would not be practicable in creamery work.

EMPIRE Cream Separators

are placed on ten days' approval and sold under strong guarantee. Capacities, 100 lbs. to 3000 lbs. per hour.

Prices, \$40 to \$500.

Hints on butter making and catalogue free.

U. S. BUTTER EXTRACTOR CO.,
271 Orange St., Newark, N. J.

Cream guages were tried, but it was found that cream varied in composition even more than milk. After some 15 or 20 different methods had been tried, Dr. S. M. Babcock of the University of Wisconsin came forward in 1890 with a method that embodied the essential features of the others, but was so modified as to be the cheapest and simplest method yet devised.

The Babcock Test: The principal involved in this test is very similar to the principal involved in raising cream (milk in which are large proportions of the fat globules have been gathered together) by gravity. Water is sometimes added to the milk to make it less sticky and thus allow fat globules, which are lighter than milk, to float to the top and form cream. With the Babcock test concentrated sulphuric acid (H₂SO₄) is used in the place of water. Its effect is similar to water, only more intensified. The acid combines with all the portions of the milk except the fat. The mixture is then a great deal less sticky than when water is added and the fat comes to the surface much more readily. If a test bottle be allowed to stand a short time after the milk and acid are mixed a layer of fat will be seen on the surface. If this be allowed to stand long enough nearly all the fat will come to the surface. But gravity is too slow for the enterprising creameryman, as well as the busy farmer, and to hasten and also to intensify the action of gravity a centrifugal machine is used which revolves the milk at the rate of 800 to 900 revolutions per minute for a 20-inch wheel. After separating the fat, hot water is used to raise it into the neck of the bottle where it can be read. Test bottles can be made and graduated for any quality of milk desired, but usually they are constructed for 17.6 cu. cm. (18 grams). The same bulk of acid is used as milk. Any one who will be careful, accurate and use a little ingenuity can operate a Babcock test.

Sampling the Milk: As a very small amount of milk is used for the sample, it is very essential that this sample shall represent an average of the total. For this reason milk must be thoroughly stirred before sampling. This is best done by pouring several times from one vessel to another. A comparative test made by the agricultural college and the Manhattan creamery shows that there was a variation of .1 to .5 of 1 per cent between ordinary shaking and pouring milk from one vessel to another. If the milk is not thoroughly stirred the top will show too high and the bottom too low a test. Where milk is poured from the patron's can into the creamery weigh-can it is pretty well stirred. A test of this point was made by the agricultural college at the Manhattan creamery by testing samples before weighing, samples after weighing, samples from the bottom of the can, and samples after thorough stirring with a paddle. The test of these samples showed that just as good results were obtained before or after weighing as when stirred with a paddle.

D. H. O.

The Farm Separator.

During the last few years considerable interest has been manifested along the lines of the farm separator, and judging from present indications considerable more interest will be manifested in the future than at present. At first, the hand separator was seriously opposed by a large number of operators, and although opinions are changing there are still those who object to their introduction. But be that as it may, the fact nevertheless remains that the sales of the farm separators are on a rapid increase. Reports from supply houses tell us in some cases that the sales of hand separators are doubling every year. In other cases, where figures were not available, firms write that they are doing an increasing business in Kansas, and expect to do much larger the coming season.

The advantages of the farm separator are that the skim-milk is in better condition for feeding when the cream is separated immediately after milking. Less labor is required to care for a small quantity of cream than a large quantity of milk, and as the hand separator comes into more general use the expense of hauling will be materially reduced, while the territory of any one plant may be considerably increased. The objection raised against the system is the cost of the machine, the labor of operating and caring for them, together with the liability of the machine getting out of order in the hands of inexperienced operators, and the difficulty of getting all the pa-

trons to take first class care of the cream. In regard to trouble from inexperienced operators one supply house writes: "There is no reason why any farmer with ordinary intelligence should not be able to keep a hand separator in perfect running order, and we are pleased to say that the great majority of them do so. However, there are instances where the separator is never in good order, but we think in each instance the same conditions will apply to every other piece of machinery owned by the same party. There is, as a rule, a little trouble when hand separators are introduced in a community but after the machines have been in use a few months we seldom hear any complaints, as the original purchasers have learned to care for and operate their machines, and whenever a new one is started, if anything goes wrong the user can invariably get all the information and assistance he requires from his neighbors."

Another firm speaking of the same subject, says: "The amount of complaint in proportion to our sales is very small." D. H. O.

Kansas Behind Missouri.

The dairy students of the Missouri agricultural college will have 50 registered Jersey cows and nearly 100 Holstein cows as material for judging and selecting a dairy herd. In contrast to this excellent advantage the Kansas Dairy School has only one registered animal on the farm. Our students are asking for information upon the best breed or breeds adapted to Kansas conditions. They are anxious to study form and conformation of good dairy cows. Some of our students are kept from completing their course at our college for the reason that we have no facilities for practice stock judging. Kansas has excellent natural advantages for the development of the dairy industry. The crying need to-day is for a larger production of milk. One very important factor in increasing this production is the feed, but another equally important factor is the breed. For the benefit of the 1,200 to 1,400 students that attend our agricultural college each year, for the benefit of our numerous visitors and for the benefit of the 12,000 readers of the experiment station bulletins, the

	Milk lbs.	Butterfat lbs.	Value of products.	Receipts, less cost of feed.
Average of herd, 28 cows	5,554	229.7	\$43.58	\$13.72
Average of 21 profitable cows	6,205	257.2	48.92	18.01
Difference	651	27.5	5.34	4.29

Kansas agricultural college should be equipped with at least a few good specimens of our leading breeds of live stock. Every man who is interested in advancing the dairy interests of the state can make himself useful at the present time by writing to his state senator and representative and urge them to see that the agricultural college gets enough appropriation to test pure-blood stock as well as scrubs.

D. H. O.

Dairymen, Attention.

At the annual meeting of the Kansas Improved Stock Breeders' Association four of our leading breeders got their heads together and determined that the largest agricultural college in the world must have blooded stock. These men did more than talk. They put their words into action, and as a result the college will be a recipient of four first-class pure-blood beef animals (three Herefords and one Shorthorn) as gifts from the following gentlemen: Steele Bros., Belvoir, a Hereford; J. M. Foster & Co., Topeka, a Hereford; West & Son, Silver Lake, a Hereford; John Warner, Eureka Valley, a Shorthorn.

We may not have dairymen in the state who are able to perform an equally generous act, but there is not one dairyman but what can materially assist in bringing about an equivalent result, namely, write your senator and representative and impress upon their minds that the students of the agricultural college should have the chance to see, study and pass judgment upon first-class, pure-blood dairy animals as well as beef.

D. H. O.

What Cows Will Do.

O. A. SEATON.

I believe every farmer ought to keep cows, and the more of the right kind the better. They will add to the comforts of life; they will supply better food to eat, better clothes to wear; more books and papers and flowers, more happiness—which, after all, ought to be the principal object of life. Why will farmers feed steers when

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a steer will eat one-third to one-half bushel of corn per day, besides hay, to produce 2 pounds of beef worth 5 cents a pound here, while a good cow, as well fed, but not exactly the same, will make from 1 pound to 2 pounds of butter per day, worth 20 cents per pound? Or why will he put in a whole year to raise 50 acres of corn that will yield 35 bushels and sell at 15 cents, or yield 15 bushels and sell at 35 cents?

A dozen good cows, well fed, will make \$500 or more a year, besides their calves, will furnish milk and butter and beef, which go a long way toward a good living. They will turn waste straw and corn-stalks into money and make good use of beet-tops and cabbage leaves; they will trim your hedge fence and thrive at it. And besides all this, they will improve the farm they are kept upon. While a farm where only grain is raised to sell must of necessity become poorer and poorer unto the end of the chapter. They will pay the taxes when the corn falls or the hogs die of cholera. And they will pay you every month, or every week, for that matter, for their food and your labor. You don't have to trust them six months and then get nothing, as you sometimes do with a corn crop.

What a Few Unprofitable Cows Will Do.

With a herd of 28 common cows, such as compose the herd of the average farmer, it was found that there were four, or 14 per cent, that run us in debt for their feed, to say nothing about the other expenses of keep. If we charge each cow \$7.45 above cost of feed, as indicated in last week's FARMER, 25 per cent of the herd would be classed as unprofitable cows. Not only do this 25 per cent run us in debt for feed and labor, but they greatly lower the average income of the herd. This is shown in the following contrast of averages:

	Milk lbs.	Butterfat lbs.	Value of products.	Receipts, less cost of feed.
Average of herd, 28 cows	5,554	229.7	\$43.58	\$13.72
Average of 21 profitable cows	6,205	257.2	48.92	18.01
Difference	651	27.5	5.34	4.29

From this comparison we see that if the 25 per cent of unprofitable cows had been eliminated from the herd the average yield of those remaining would have been increased 651 pounds of milk and 27.5 pounds of butter fat per cow. The value of each cow's products would have been increased \$5.34, and the receipts less cost of feed would have been increased \$4.29. Deducting from the last column in each of the above averages, \$7.45, the annual cost of keeping a cow outside of feed, we have a profit in the case of the 28 cows of \$6.27 per cow over and above all expense, but in the case of the 21 cows we have a profit of \$10.56 per cow, an increase of 68 per cent. This shows not only one-quarter of the college herd were absolutely worthless as dairy cows, but indicates how it is possible for a comparatively few poor animals to lower the average of the herd in a way to make it seem that all the cows are unprofitable.

D. H. O.

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 but what USERS SAY, that TELLS the STORY.
 L. B. Robertson, Receiver,
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WEDNESDAY AND THURSDAY, FEBRUARY 13 and 14.
SHENANDOAH, IOWA.

To Breeders and Farmers:
 In announcing our closing-out sales of high class Short-horn breeding cattle and Poland-China swine we may state as the sole reason that of advanced years on the part of one and ill health in family of the other. This is our first public sale; all our surplus stock has found a ready private sale.
 There are about 75 head of cattle and about the same number of hogs—separate catalogues. Fifteen daughters of imported True Briton in the sale. All cows and heifers of breeding age safe in calf or with calf at foot. The fine Cruickshank bull Scotchman 137020 in service. Both Scotchman and imported True Briton are included in sale, together with a fine string of younger bulls. Catalogues sent to all who ask. Sale takes place at farm, two miles from town. Stop at Delmonico Hotel as our guests. Free conveyance to farm.
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 Selling latest key-ring out; big sellers; the season's bit; celluloid attachment for your name; 29-686 sold last month; one agent made \$85.00 in three days. Write us at once before others in your town get ahead of you, if you want to be my agent send 10c (silver) for sample and terms.
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56==Registered Galloway Cattle==56
At Kansas City Stock Yards New Sale Pavilion, Thursday, February 14, 1901.
 The offering will consist of the entire herd of S. M. Winslow, Oskaloosa, Mo., headed by the prize-winning herd bull, Basanio 6441. In this division there will be 20 Crusader cows; all extra good ones. Phil Grace, of Rose Hill, Iowa, will offer 8 bulls, the choice of his last year's crop, and H. H. Harris Jr., Marshall, Mo., 3 bulls, sired by the champion bull, King Hensol. Sale will begin at 10 o'clock a. m.
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155 HEAD FOR SALE—Consisting of the imported herd bull, Sentinel, 7 2-year-old bulls, 73 bulls from 8 to 16 months old, 60 yearling heifers, and 10 cows.

MY ANNUAL SALE—Will be held at Kansas City in connection with W. S. Van Natta, and Scott & March February 26 to March 1, 1901, when 160 head will be sold from the three herds at auction.

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BULLS in service, HESIOD 29th 66304; Imp. RODERICK 80155; MONITOR 52975, EXPANSION 93462, FRISCOE 93674, FULTON ADAMS 11th 52731. HESIOD 29TH 66304.
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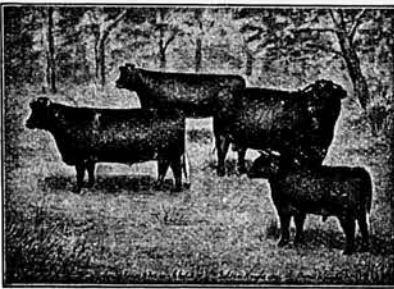
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THE SCOTCH BRED BULLS
Lord Mayor 112727, and Laird of Linwood 127149
Head of the Herd.

LORD MAYOR was by the Baron Veltor 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 bred Shetland ponies. Inspection invited. Correspondence solicited. A few young bulls sired by Lord Mayor for sale.
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HERD BULLS:
BARON URY 2d 124970. LAFITTE 119915.

I have 12 fine young bulls, ranging from 5 to 20 months, both in solid red and red roans for sale. Three of these are exceptionally fine.

C. W. TAYLOR, - - Pearl, Kansas.

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PLEASANT VALLEY SEED CORN FARM
J. B. Armstrong & Sons
SHENANDOAH IOWA.
Originalator and Grower of Early Yellow Rose and White..

SEED CORN THAT PAYS AT FARMERS PRICES. Don't fail to send 5 cents in stamps for 4 samples of the corn that was awarded Gold Medal at Omaha Exposition, and a 40-page book, "Hints on Corn Growing." The Iowa Agricultural College grew 95 bushels per acre that shelled 62 pounds from 70 pounds of ears. Many farmers are beating this wonderful yield.
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Have sold for, and am booking sales for leading stock men everywhere. Write me before claiming dates. I also have Poland-China swine, Bronze turkeys, B. P. Rock, and Light Brahma chickens. 150 birds, and a lot of pigs ready to ship. Write for Free Catalogue.



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With the Principal Prize-Winners of the World's Exposition, Paris, 1900, included in its latest importation, and with

270 STALLIONS AND 235 MARES

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Oaklawn has lately achieved another magnificent victory. At the recent INTERNATIONAL LIVE-STOCK EXPOSITION AT CHICAGO, pronounced by press and public to be the greatest live-stock exhibition ever held in America, the OAKLAWN PERCHERONS WERE AWARDED

Three 1st Prizes, Three 2d Prizes, Three 3d Prizes, Two 4th Prizes and Two 5th Prizes in the three Stallion Classes; Championship, best Stallion, any age; Championship, best Mare, any age; \$100 Gold Medal for best Group of Five Stallions; \$100 Gold Medal for best Group of Three Mares; 1st and 2d Prizes for Collections.

For more than thirty years the horses sold from Oaklawn have been unapproached in numbers, unrivalled in excellence, and the prices for which they are sold, breeding qualities considered, have never been met. Prices and terms reasonable. Catalog sent on application.

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NEW IMPORTATION

Our new importation of FRENCH PERCHERON STALLIONS was landed at our barn, at Shenandoah, Iowa, September 16. Buyers will find at our establishment 60 head of first-class Percheron stallions from which to make their selections. Prices are made right. Come and see the horses. It will do you good. Mention Kansas Farmer when you write.

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Draft Stallions. PERCHERONS, SHIRES, AND CLYDES.

Choicest collection of imported Black Percherons west of the Mississippi River. All horses personally selected by a member of the firm with the aid of our own private interpreter, and a first choice from the oldest and leading breeders of France. All fresh, young stock. If you want a Good Stallion we can suit you. Barns are in town. For further information, address

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(On C. R. I. & P. Railway, 14 miles west of Washington.)



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THIRD importation of German Coach and Percheron horses for 1900 arrived in October. At the last Illinois State Fair we took 15 prizes out of a possible 16. Our buying facilities are unsurpassed as the oldest member of the firm lives in Germany and owns a couple of big stock farms. He buys 25 per cent cheaper, taking quality of stock into consideration, than any American buyer can buy. Therefore, intending buyers of first-class stallions and mares will act to their interest by coming direct to our place. Correspondence solicited.

OLTMANN'S BROS.,
Pioneer Importers of German Coach and Percherons.
LEER, GERMANY, and WATSEKA, ILLINOIS.



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We imported more prize-winners at Universal Exposition, Paris, and the Government Shows at Amiens and Mortagne than all others combined. Our Percherons won every first prize except one at the Universal Exposition at Paris. We imported more horses from France than any other three firms in America. We are the only firm buying in France without the aid of an interpreter, hence we get the best horses for the least money. More Coach stallions, more ton black Percheron stallions than can be found in the stables of all other importers.

If you want the best, call on or write **MCLAUGHLIN BROS.,**
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SAMPSON No. 6866 is at the head of the stud. Present weight, 2,350 pounds, and for bone and quality he has no equal in this country.



We guarantee satisfaction and can undersell all competitors, as the purchaser pays but the actual producing price.

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PINE RIDGE STOCK FARM. L. M. HARTLEY, Proprietor.
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All our horses are personally selected by Mr. Watson, who buys only of the best breeders in Europe. Mr. Watson was the World's Fair Judge of Draft Stallions. Our December importation is the 25th shipment made direct from Europe by him. OUR STABLES are located corner Ninth and R Streets. Our office on the ground floor of the Burr Block TWELFTH AND O STREETS. We invite inspection. No trouble to SHOW HORSES. Visitors welcome.

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STANDARD BRED STALLIONS AND MARES. AGE, HOLT COUNTY, NEBRASKA.

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Males and Females For Sale. Inspection especially invited. Lavender Viscount 124755, the champion bull of the National Show at Kansas City heads the herd. B. R. and Telephone Station, Bunceton Mo. ED. PATTERSON, Manager

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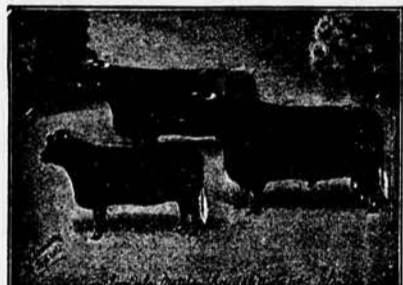
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The herd numbers 185, headed by ROYAL CROW 125686, a pure Cruickshank, assisted by Sharon Lavender 148002. For Sale just now 16 Bulls of serviceable age, and 12 Bull Calves. Farm 1 1/2 miles from town. Can ship on Mo. Pacific, R. I., or Santa Fe. Foundation stock selected from 3 of the great herds of Ohio.



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Leading Scotch and Scotch-topped American families compose the herd, headed by the Cruickshank bull, Scotland's Charm 127944, by Imp. Lavender Lad, dam by Imp. Baron Cruickshank. Twenty bulls for sale. C. F. WOLFE & SON, Proprietors.

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FOR SALE: The young Shorthorn herd bull, Glendower 2d, a half brother to Bothwell's heifer, Strawberry, that sold at the Kansas City Sale for \$700. Will also sell a few young bulls and heifers. Now offer in Poland Chinas 40 spring gilts, bred or open, and 100 fall pigs. Also 200 Plymouth Rock cockerels. Prices very reasonable as feed is too scarce to carry so many over winter.

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HORSES, JACKS, and MARES,

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25 head of Percheron Stallions and Mares, 25 head of Clydesdale, English Shire, French Coach, Standard-bred, and Thoroughbred Stallions and Mares will be sold. Send for Catalogue.

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"INTERNATIONAL STOCK FOOD" Will Make Your Hogs Grow Amazingly



PHOTOGRAPHED FROM LIFE. A 2-YEAR-OLD 60-LB. RUNT.

IT ONLY COSTS 3 FEEDS FOR ONE CENT

IF YOU WANT YOUR HOGS TO GROW RAPIDLY And to be Free From

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Be Sure and Feed

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It is the Quickest Hog

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EVERY HOG BREEDER

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Ought to write us for complete information. If we cannot make you a large extra profit we do not want you to use our food. If it will make you extra money you certainly would be glad to use International Stock Food."

YOU CANNOT DENY ACTUAL FACTS FROM LIFE

A Wonderful Growth of 360 Pounds in 160 Days by a "Runt" that had been badly Stunted for Nearly 2 Years and Only Weighed 60 lbs.

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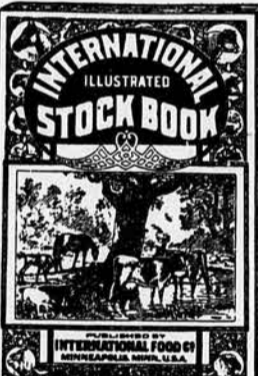
International Food Co. DEAR SIR:—I have a runt 2 years old which only weighs 60 pounds. It stands 14 inches high, 42 inches long and 4 inches wide on widest part of the back. I would like to try "International Stock Food" and see if it will make this runt grow. Four of my neighbors owned it before I got it and none of them could make it grow. I enclose a photograph which shows this hog is too weak to stand alone and it will not eat. F. C. HOWORTH.

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DEAR SIR:—I enclose a photograph of the "runt" taken five months after our commencing to feed "International Stock Food". It weighs 420 lbs. and has developed into a fine looking animal. "International Stock Food" is a remarkable preparation for making hogs grow, and the two photographs I mail are positive proof. Yours truly, F. C. HOWORTH.

This Runt Gained 2 1/2 lbs. Every Day for 160 Days.

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We will mail you a copy free, POSTAGE PREPAID, if you write us and answer 4 questions: 1st—Did you ever use "International Stock Food" for Horses, Cattle, Sheep or Hogs? 2nd—Is it for sale in your town in 25-lb. pails? 3rd—How many head of stock do you own? 4th—Name this paper. Our book is 9 1/2 by 6 1/2, and cover is in six colors. It contains 183 large colored engravings of Horses, Cattle, Sheep, Hogs, Poultry, etc., with a description of the different breeds. It also contains a very finely illustrated and valuable Veterinary Department. The engravings in this book cost us \$3000.00.

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Largest Stock Food Factory in the World. INTERNATIONAL FOOD CO. We occupy 15 floors, also 100x22 feet each, Capital Paid in \$300,000.00. Minneapolis, Minn., U. S. A. And our new addition, 6 floors 60x25 each.

Our Stallions Buttonwood 2:17 by Nutwood (600) and International Stock Food by Bartford (3574) eat "I. S. F." every day. We own the Big Horse that is 19 hands and weighs 2500 at 4 years. We own the Big Cow that is 6 feet tall, 10 feet long and weighed 2970 at 6 years. Our Big Short-Horn Steer weighed 3100 at 3 years. We have fed "International Stock Food" for years to our stallions, brood mares, colts, cattle and hogs. Beware of cheap imitations and substitutes. Write for book today.

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Corner Monroe street and Wabash avenue; located most central to the wholesale and retail stores, theaters and public buildings. The prices range from 15 cents and upwards per day. European plan. Visitors to the International Live Stock Exposition or the city are welcome.

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CRUICKSHANK-TOPPED AND REGISTERABLE.

REDS; 7, 8, and 12 MONTHS OLD. - - - WRITE FOR BREEDING AND DESCRIPTION. Also POLAND-CHINA PIGS—Summer and Fall Farrow—Of Our Best Strains.

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HIGGINS HOPE HERD

Registered Poland-China Swine.

Having disposed of my entire crop of spring pigs, I now offer 25 SOWS, bred to my herd boar, PERFECT WE KNOW. These are tried animals and I offer them to accommodate those who have not secured pigs from this sire.

J. W. Higgins Jr., HOPE, KANSAS.

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