

KANSAS FARMER

ESTABLISHED 1863. VOL. XXXII, No. 34. TOPEKA, KANSAS, WEDNESDAY, AUGUST 22, 1894. SIXTEEN TO TWENTY PAGES—\$1.00 A YEAR.

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SWINE.

D. TROTT, Abilene, Kas.—Pedigreed Poland-Chinas and Duroc-Jerseys. Also M. B. Turkeys, Light Brahmas, Plymouth Rock, S. Wyandotte chickens and R. Pekin ducks. Eggs. Of the best. Cheap.

A. W. THEMANNSON, Wathena, Doniphan Co., Kas.—Large Poland-China pigs sired by Early Sisson 11938 S. and other good boars. Write to-day. Mention KANSAS FARMER.

MAPLE GROVE HERD OF FANCY BRED POLAND-CHINA SWINE. Also Light Brahmas fowls. Owned by Wm. Plummer & Co., Osage City, Kas. Stock of all ages for sale at reasonable rates.

POULTRY.

HARRY T. FORBES—FINE S. C. BROWN LEG-HORNS. Eggs for sale, safely packed and sent by express to any part of the United States. Address 701 Polk St., Topeka, Kas.

PURE-BRED LANGSHAN, BARRED PLYMOUTH ROCK AND S. C. B. LEGHORN EGGS, one dollar per thirteen. Address Robert Crow, Missouri Pacific Railway Agent, Pomona, Kas.

A. B. DILLE & SONS, EDGERTON, KAS., breeders of choice B. P. Rocks, S. L. Wyandottes, Light Brahmas and M. B. turkeys. Chicken eggs \$1 to \$2 per 15; turkey eggs \$3 per 11. Satisfaction guaranteed.

Thoroughbred Duroc-Jersey Hogs

Registered stock. Send for 44-page catalogue, prices and history, containing much other useful information to young breeders. Will be sent on receipt of stamp and address. J. M. STONEBRAKER, Panola, Ill.

S. McCULLOUGH,
Ottawa, Kansas.
Breeder of Pure-bred BERKSHIRE SWINE. Stock for sale at all times. Satisfaction guaranteed. Write for what you want.

BREEDERS' DIRECTORY.

Cards of four lines or less will be inserted in the Breeders' Directory for \$15 per year or \$8.00 for six months; each additional line, \$2.50 per year. A copy of the paper will be sent to the advertiser during the continuance of the card.

HORSES.

PROSPECT STOCK FARM.—Registered, imported and high-grade Clydesdale stallions and mares for sale cheap. Terms to suit purchaser. Thoroughbred Short-horn cattle for sale. Two miles west of Topeka, Sixth street road. H. W. McAfee, Topeka, Kas.

CATTLE.

ENGLISH RED POLLED CATTLE AND COTSWOLD SHEEP.—Young stock for sale, pure-bloods and grades. Your orders solicited. Address L. K. Haseltine, Dorchester, Green Co., Mo.

NEOSHO VALLEY HERD OF SHORT-HORNS.—Imported Buccaneer at head. Registered bulls, heifers and cows at bed-rock prices. D. P. Norton, Council Grove, Kas.

HOLSTEIN-FRIESIANS.—From this herd were furnished some of the winners at the World's Fair. Write for catalogue. M. E. MOORE, Cameron, Mo.

H. W. CHENEY, North Topeka, Kas., breeder of HOLSTEIN-FRIESIAN CATTLE. Farm four miles north of town.

VALLEY GROVE HERD OF SHORT-HORNS.—For sale, choice young bulls and heifers at reasonable prices. Call on or address Thos. P. Babst, Dover, Kas.

HOLSTEIN-FRIESIANS

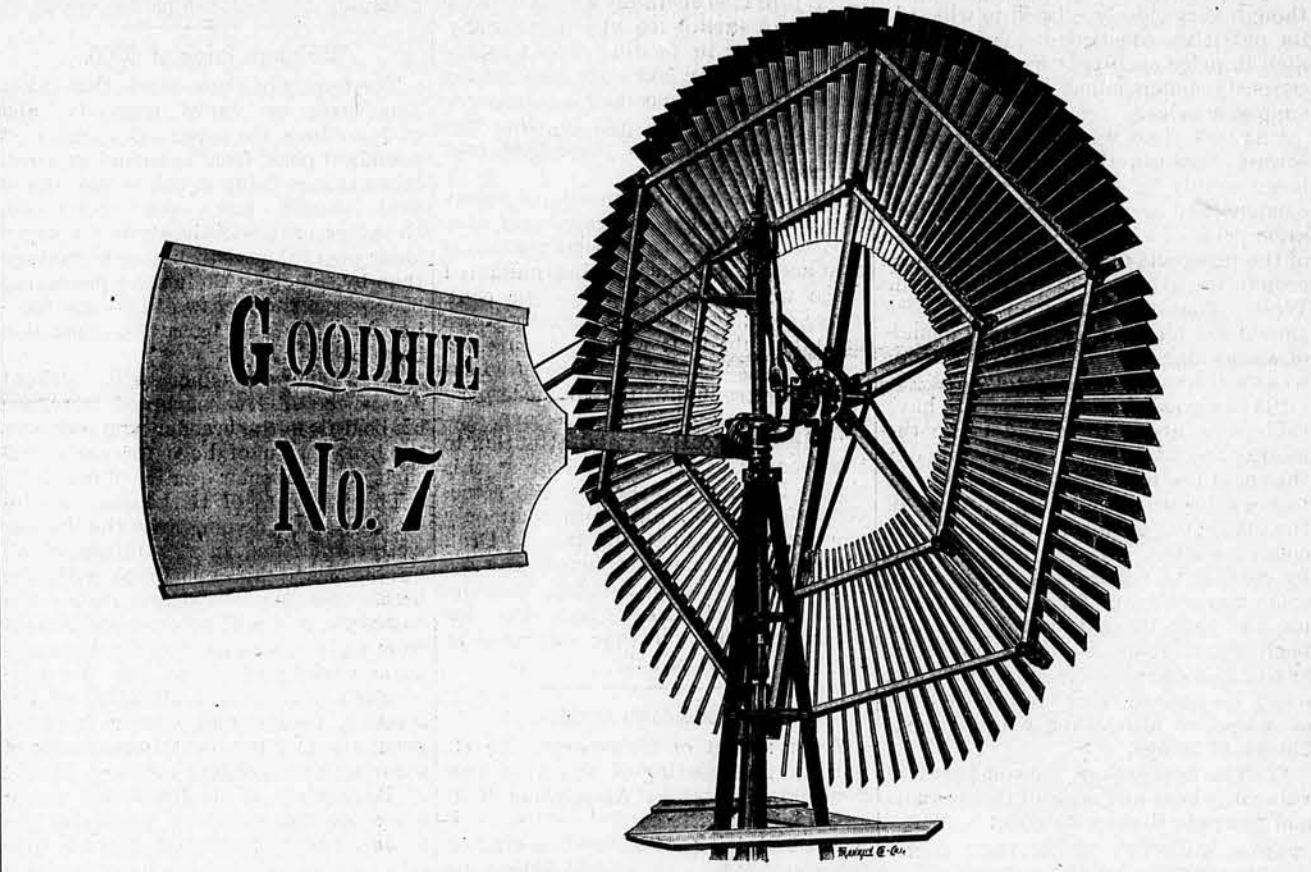
From this herd were furnished some of the winners at the World's Fair. Write for catalogue. M. E. MOORE, CAMERON, MO.

SWINE.

V. B. HOWEY, Box 103, Topeka, Kas., breeder and shipper of thoroughbred Poland-China and English Berkshire swine and Silver-Laced Wyandotte chickens.

TOPEKA HERD OF LARGE BERKSHIRES.—Breeders strong-framed, growthy and prolific; eight to fourteen pigs to a litter this year. Boars and sows of all ages ready to ship. H. B. COWLES, Topeka, Kas.

DIETRICH & GENTRY, OTTAWA, KAS.—Our Poland-China spring pigs are sired by W. Z. Swallow's Ideal Black U.S. 29605 O. Guy Wilkes 3d 12131 C. Pet's Osgood and the great Loyal Duke 29823 O. For choice pigs write us.



IRRIGATION BY WIND POWER.

The above cut represents one of the many styles of Windmills made by the Goodhue Wind Engine Co., this being their new-style ten-foot mill, made both wood and steel as desired. They make fourteen sizes and styles and adapted to all kinds of service. We wish to call the special attention of our readers to their large mills and irrigating equipments. The fourteen-foot and eighteen-foot mills are generally used for this work. Many of their mills are in use for this class of work in this and foreign countries. On one of the West Indies there are now more than fifty of their mills used for irrigating. They have special pumps for irrigation and can furnish promptly full equipments for irrigating, with capacity of 2,500 to 8,000 gallons per hour. Every part is of the simplest construction and any one can put them up perfectly. They will be pleased to furnish plans and estimates of cost to any reliable farmer on application. When writing always give height that water is to be raised, from the surface of water in well to point of discharge, number of gallons per hour required and amount of land to be irrigated. Their geared mills will raise 5,000 to 10,000 gallons per hour, and in the winter will do a large amount of work grinding, shelling, etc., their capacity being fifteen to thirty-five bushels per hour. For full particulars address **GOODHUE WIND ENGINE CO., ST. CHARLES, ILL.**

SWINE.

J. F. THOMAS, MAPLE CITY, KAS., breeder of Registered POLAND-CHINA SWINE AND FINE POULTRY. Stock for sale cheap. Mention FARMER in writing.

OHIO IMPROVED CHESTER SWINE—Pure-bred and registered. Stock of all ages and both sexes for sale by H. S. Day, Dwight, Morris Co., Kas.

BERKSHIRES.—Wm. B. Sutton & Sons, Rutger Farm, Russell, Kansas. Choice February and March pigs. Young boars ready for service. Young sows bred. Good individuals and choicest breeding.

CATTLE AND SWINE.

CHOICE Poland-Chinas **J. H. TAYLOR, Pearl, Short-horns, Kas.**

MIDLAND STOCK FARM.—F. M. Owens, Melvern, Kas., breeder of Galloway and Holstein cattle, Poland-China swine and thoroughbred poultry. Best of strains. Come, send or write.

M. H. ALBERTY, Cherokee, Kas., Registered Holstein-Friesian cattle, Poland-China and Duroc-Jersey swine, Rose-comb Brown Leghorns. Stock of all ages and both sexes for sale. Orders booked now for pigs and eggs.

ASHLAND STOCK FARM HERD OF THOROUGHbred Poland-China hogs, Short-horn cattle and Plymouth Rock chickens. Boars in service, Admral Chip No. 7919 and Abbottford No. 23851, full brother to second-prize yearling at World's Fair. Individual merit and gilt-edged pedigree my motto. Inspection of herd and correspondence solicited. M. C. Vansell, Muscotah, Atchison Co., Kas.

200 EGG INCUBATOR ONLY \$10.00
F. M. CURVEA, Box 151, Lincoln, Neb.

POULTRY.

RIVERSIDE POULTRY YARDS—Have for sale M. B. Turkeys, S. L. Wyandottes, B. P. Rocks, S. C. White Leghorns, Brown Leghorns, Light Brahmas, Pekin ducks, and their eggs in season. Chicks at all times. Lucille Randolph, Emporia, Kansas.

EUREKA POULTRY YARDS.—L. E. Pixley, Emporia, Kas., breeder of Plymouth Rocks, S. Wyandottes, Buff Cochins, B. and White Leghorns, B. Langshans, M. B. Turkeys and Pekin ducks. Chicks at all times. Eggs in season.

KAW VALLEY HERD FANCY POLAND-CHINAS.—Of the most noted families, bred for feeding qualities as well as fancy points. Bebout's Tecumseh at head of herd. M. F. Tatman, Proprietor, Roseville, Kansas.

WHITE GUINEA FOWLS—\$2 each; eggs, \$1 per thirteen. **Plymouth Rock Cockerels,** \$2 each; eggs, \$1 per thirteen. **White Holland Turkeys,** \$3 each; eggs, \$2 per thirteen. **MARK S. SALISBURY, Independence, Mo.**

SHEEP.

BUCKEYE DELAINE SHEEP FARM.

We keep strictly to the Delaine sheep—wool on a mutton carcass—and we guarantee satisfaction in size and in quality of wool. **Eighty rams and 100 ewes for sale at a low price, considering quality.** Write at once to **ALEX. TURNBULL & SON, Cedarville, Ohio.**

SHEEP AND POULTRY FOR SALE.—Some choice **COTSWOLD** and **MERINO** bucks, any age. Will sell to suit the times. The leading varieties of first-class poultry for sale at all times. Address **H. H. HAGUE & SON, Walton, Kas.**

CATTLE.

SUNNY SLOPE FARM,
C. S. CROSS, Proprietor, Emporia, Kas.

Breeder of pure-bred Jerseys. Beau Real 11055 heads the herd. Young bulls and heifers for sale. Also for sale, Poland-China swine. Choice bred young boars and sows by the World's Fair prize-winner, Longfellow 29788; and Berkshire swine of the noted Duchess and Lady Lee strains of N. H. Gentry. Bismarck and General Lee, both Gentry bred boars, in service.

Brookdale Herd of Red Polled Cattle.
Has won more prizes in 1892 and 1893 than any other herd out, including championship at six State fairs and World's Columbian Exposition on Iowa Davyson 10th 3149. His calves for sale. Write.
WM. MILLER'S SONS, Wayne, Neb.

SHORT-HORN CATTLE
Poland-China Swine,
Buff Cochins Fowls.
Inspection invited.
E. L. KNAPP,
Maple Hill, Kansas

SHANNON HILL STOCK FARM.
G. W. GLICK, ATCHISON, KAS.

Breeds and has for sale Bates and Bates-topped **SHORT-HORNS.** Waterloo, Kirklevington, Filbert, Cragg, Frincoes, Gwynne, Lady Jane and other fashionable families. The grand Bates bulls Waterloo Duke of Shannon Hill No. 89879 and Winsome Duke 11th 115,137 at head of herd. Choice young bulls for sale now. Visitors welcome. Address **W. L. CHAFFEE, Manager.**

(Breeders' Directory continued on page 16.)

The Stock Interest.

THOROUGHbred STOCK SALES.

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

SEPTEMBER 7—Bert Wise, Poland-China swine, Reserve, Kas.
 SEPTEMBER 19—W. H. Babcock, Poland-China swine, Hiawatha, Kas.
 SEPTEMBER 27—June K. King, Berkshire swine, Marshall, Mo.
 OCTOBER 2—C. C. Keyt, Short-horn cattle and Poland-China, Verdon, Neb.
 OCTOBER 3—W. H. Wren, Poland-China swine, Marion, Kas.
 OCTOBER 4—J. A. Worley, Poland-China swine, Sabetha, Kas.
 OCTOBER 5—Eli Zimmerman, Poland-China swine, Hiawatha, Kas.
 OCTOBER 24—F. M. Lall, Poland-China swine, Marshall, Mo.
 OCTOBER 24—J. B. Davis, Duroc-Jersey swine and cross-bred Short-horn and Red Polled cattle, Fairview, Kas.
 NOVEMBER 7—Martin Meisenheimer, Poland-China swine, Hiawatha, Kas.

FEEDING VALUE OF WHEAT.

The FARMER has devoted considerable space to wheat as a feed for live stock. Wheat has proven such an excellent stock feed that inquiries as to its value are quite numerous.

Prof. Henry, of the Wisconsin Agricultural Experiment Station, reports many inquiries, and answers them in the *Breeder's Gazette* as follows:

"These inquiries are stimulated by the anomalous conditions which now prevail in our markets for foodstuffs. Wheat has been gradually going down in price for some years past until it is now at a figure we would not have believed possible ten years ago. Corn, though very closely related to wheat in its nutritive constituents, has fluctuated in price each year from causes apparently independent of the wheat supply or price.

"At this time we find wheat at its lowest because, they tell us, of the large supply in comparison with the demand, and corn selling at about the same price of wheat in Chicago because of the prospects of an unusually small crop in the great corn districts of the West. That fifty-six pounds of corn should sell for as much as sixty pounds of wheat may well cause us to wonder what will happen next.

"It is a good time for feeders to have their wits about them and make the most of the situation. I do not wonder that men hesitate about feeding wheat to hogs, for we cannot help thinking of the many that must suffer for bread the coming winter. We have been taught by custom to regard this grain as in some way set apart for man's especial use and that there is a defilement in feeding it to stock, while we hold corn as the food par excellence for stock and decry its upward price toward the level of wheat as altogether wrong in the nature of things.

"Let us first look at the comparative value of wheat and some of its products and compare these with corn:

TABLE SHOWING DIGESTIBLE CONSTITUENTS IN 100 POUNDS.

	Proteine.	Carbo-hydrates.	Fat.
W. eat.....	9.3 lbs.	55.8 lbs.	1.8 lbs.
Corn.....	7.1 lbs.	62.7 lbs.	4.2 lbs.
Dark feeding flour.	16.3 lbs.	48.5 lbs.	5.2 lbs.
Wheat bran.....	12.8 lbs.	44.1 lbs.	2.9 lbs.
Wheat shorts.....	11.6 lbs.	45.4 lbs.	3.2 lbs.
Wheat screenings.	9.1 lbs.	51.0 lbs.	2.2 lbs.

"Our table shows that in the muscle-making element—proteine—the wheat leads, while corn excels in the fattening elements (carbohydrates and fat). We may hold wheat the better single food for the work horse and for growing animals—pigs, calves, colts, etc.—while for laying on fat when the animal is grown corn leads.

"In feeding wheat we have the experiments of Dr. Voelcker, of Woburn, Eng., who, after three carefully conducted trials with sheep, concluded that whole wheat produces the cheapest gain with sheep at current prices for grain and stock foods in England.

"Prof. William Brown fed wheat at the Ontario Agricultural college in 1883. This wheat was a very poor sample indeed, as Prof. Brown said the millers would probably not accept such grain as a present. This wheat, ground coarse, was fed to a steer 20 months old, along with hay and turnips, with the result of one pound of increase to five pounds of hay, twenty-three pounds of roots and four and a half pounds of ground wheat—a very good showing indeed.

"Prof. Robertson, of the Dominion

Experiment Station, Ottawa, fed wheat injured by freezing with results varying from 9.1 pounds to 11.1 pounds increase for each bushel fed to heavy hogs and a gain of fourteen and fifteen pounds from a bushel of frozen wheat when fed to pigs.

"At the Oregon Station, Prof. French fed a mixture of chopped oats and wheat, equal weights, with the result of one pound of gain for 4.8 pounds of the feed.

"At this station the writer has fed wheat, corn, and a mixture of the two, ground, to hogs with good results, the mixture of corn meal and ground wheat showing the best gains for food fed. The experiments have not yet been published in detail.

"In general we may expect a gain of from nine to fifteen pounds, live weight, from a bushel of wheat, the higher figure being for growing shoats. From twelve to fourteen pounds are what we may look for with fattening hogs under favorable conditions, the average being about twelve pounds of increase live weight from a bushel of wheat.

"We can feed whole wheat to sheep always and to horses when their teeth are good, but generally it should be ground. For hogs it should be ground and soaked. Where one has ground wheat to feed I strongly recommend mixing it with corn meal or shorts—preferably corn meal for fattening hogs and shorts for growing pigs.

"While it is certainly a most unusual practice I cannot see why there is anything wrong in feeding wheat at the prices this grain and corn stand at the present time. Especially is it better to feed wheat that is 'off' in some way than to take the low price that such grain now brings.

"As to the relative merits of wheat and corn it is hard to draw exact comparison, for we can only compare things that are alike. For growing animals I place wheat from 10 to 25 per cent. above corn; for simply fattening grown hogs I doubt if it will go any further, pound for pound. A mixture of wheat and corn, ground, will make more pork than either alone, I am quite sure.

"I desire to call especial attention to the feeding of low-grade flour at this time. In England horses are sometimes fed bread, but more commonly our low-grade flour is fed there. Prof. Primrose McConnell reports in the *Agricultural Gazette*, of London, that he has fed American low-grade flour for six months and is 'rather surprised at the beneficial results.'

The Southdown Outlook.

From report of Secretary John G. Springer, at meeting of the American Southdown Breeders' Association, held July 13, 1894:

The belief is that sheep breeding in this country will, to a large extent, be changed from a wool to a mutton-producing industry. By this change Southdown breeders have reason to expect that their sheep will be in demand, and they will have an opportunity that is not often presented for the advancement of their interests. But they must not expect that the advantages the situation presents will be of large benefit to them unless they use energetic efforts in making known the superiority of their sheep. The claims of other breeds will be forcibly and persistently presented by wide-awake, progressive breeders, so that other sheep may take the place that Southdowns should fill, if Southdown breeders fail to forward their interests by making it known in every possible manner, to all parts of the country, that the Southdown is the best sheep for the Western breeder of large flocks, as well as for the farmer keeping a small number, because:

They are hardy, will flock in large numbers, require little care, will thrive on less feed, and therefore the best of any sheep for arid and grainless regions.

They are healthy, less liable to diseases than other breeds; seldom have foot-rot or scab.

They are more prolific than other breeds, frequently bringing twins and often triplets, are good mothers, and the lambs take care of themselves at an early age.

They are early maturers, comparing

in weight at from six to ten months old with the larger breeds, and always heavier in proportion to size than other sheep.

They are the best for mutton; the meat is the best graded with fat and lean, is the juiciest and best flavored, will market more meat to the acre, and to produce its meat costs less than for any other sheep or domestic animal.

Their wool is next to the Merino in fineness and brings a better price than that of any other breed.

They are of all sheep the most beautiful in form, majestic in carriage, and are an adornment as well as the most useful and profitable of all domestic farm animals.

They have been bred in purity longer, and are certain in impressing their good qualities on other breeds; all attempts by crossing with other breeds to improve their good qualities have proven failures—they have been for many years, and remain the recognized head of the mutton breeds.

Comparing favorably with the Merinos in fineness of wool, in ability to exist with little care and in large flocks in the grainless parts of our country, and superior to them in mutton qualities as well as in less liability to the diseases that have been so hurtful to the wool-growing industry, the Southdown is in every respect the best, is the natural cross for changing the Merino from wool to mutton and yet retaining the highest priced wool.

Berkshire Prizes of \$200.

The family of Berkshires that takes the lead in early maturity, and will produce the greatest number of pounds of pork from a bushel of corn, other things being equal, is the strain that should have the preference. Breeders of Berkshires cannot serve their own interest to better advantage than by selecting their most promising boar pig of the farrow of 1894 and feeding him for the barrow competition herewith provided.

The general farmer will, without regard to pedigree or breed, purchase his boar from the breeder who produces the best strain of hogs for early maturity and superior quality of pork.

The breeders of Berkshires are invited to again demonstrate the fact so well established in the minds of all having practical experience with the breed, that the Berkshire makes the best pork, and will produce more meat from a given weight of grain, than any other variety of hogs. For the purpose of directing the attention of the breeder, feeder and dealer in pork products to the great importance of securing and breeding the best family of Berkshires of demonstrated excellence for the greatest profit for the feeder, the undersigned offers a premium for the Berkshire barrow showing the greatest average gain per day from date of birth to day of slaughter. The premium will consist of a boar and sow of my own breeding.

CONDITIONS.

First—That the barrow entered in competition for the above prize must be recorded in the American Berkshire Record, farrowed in 1894, and weigh not less than 300 pounds.

Second—That early notice of intention to compete for said premium must be filed with the Secretary of the American Berkshire Association, Colonel Charles F. Mills, Springfield, Ill.

Third—That each competitor file with his entry a full and complete statement of the method of feeding the barrow, and detailed information concerning the care and attention given the barrow from date of the commencement of the feeding test to the date of slaughter.

Fourth—The above premium is offered for the purpose of developing facts of the greatest value to every farmer who fattens a hog, and too much care cannot be given to the preservation of data as to weight and variety of the rations fed the barrow entered in this competition.

Fifth—Entries on the form prescribed by the American Berkshire Association must be filed by competitors for the above premium with the Secretary of the association prior to December 31, 1894.

Sixth—The committee to award this

international premium will consist of three disinterested and reputable citizens, to be selected by Hon. N. J. Coleman, ex-Secretary Department of Agriculture, U. S. A.; Hon. F. D. Coburn, Secretary Kansas State Board of Agriculture, and Prof. George E. Morrow, Dean Agricultural College of Illinois.

Seventh—On the receipt of the report of the committee on awards at the office of the American Berkshire Association, Springfield, Ill., the premium will be awarded and the pigs shipped to the successful competitor.

N. H. GENTRY,
Sedalia, Mo.

The object in making this offer is for the purpose of bringing out information and to widely diffuse knowledge pertaining to the Berkshire hog.

The premium for the best essay on the origin and characteristics of Berkshire swine will be considered with special reference to the information contained in the essays concerning the early maturing, superior feeding and excellent pork-producing qualities of the breed.

The premium will consist of a recorded boar and two sow pigs, bred by the undersigned, that could not be bought at private sale for less than \$100.

CONDITIONS.

First—The above premium to be awarded by a committee of three, to be appointed by the President of the American Berkshire Association.

Second—That early notice of intention to compete for said premium must be filed with the Secretary of the American Berkshire Association, Colonel Charles F. Mills, Springfield, Ill.

Third—Entries on the form prescribed by the American Berkshire Association must be filed with the Secretary of said organization for the above premium, and no essays will be received later than December 31, 1894.

Fourth—The privilege is reserved by the association to publish the competing essays in the agricultural and live stock papers. On receipt of the report of said committee at the office of the American Berkshire Association, the premium will be awarded and the pigs shipped to the successful competitor.

GEORGE W. BERRY,
Berryton, Kas.

Watering Before Feeding.

The good horseman, says a writer, will water his horse before feeding him, especially in the morning. French breeders always water their horses before feeding, and in all the large stables of horses in this country that practice is followed. Yet many horsemen and farmers never think of the advantage and necessity of it. If the horse could talk, or if man could understand him, he would ask for a drink the first thing every morning, and you will be surprised how eager they are to get it whether the weather is hot or cold. I wonder how many farmers ever think of watering their horses before feeding them in the morning, or how much they lose by not doing it. The horse comes from work at night, gets a drink, then is fed mostly on dry grain, eats hay part of the night, and in the morning another dry feed, and by this time is very dry himself, so when he reaches water he fills his stomach so full that the undigested food is forced out of the stomach, and is a damage rather than a benefit to the horse. Now, friends, try watering one horse before feeding in the morning, thus slaking his thirst, and at the same time washing the stomach ready to receive the morning feed, when, being properly moistened with saliva, it will remain until thoroughly digested. Your horse can do more work on less feed and will live healthy much longer; besides, humanity demands this thoughtful care.—*Stockman and Farmer.*

Have you ever had in the morning what is fancifully called a "dark brown taste" in the mouth? If so, it is the effect of a deranged liver and stomach, the best remedy for which is a dose of Ayer's Pills, together with a little discretion as to diet and mode of living.

See Chicago Sewing Machine Co.'s advertisement in next week's issue.

Agricultural Matters.

STATISTICS OF FARMS, HOMES AND MORTGAGES.

From Extra Census Bulletin, No. 71, just issued, is taken the following summary for the United States of mortgages on farms and homes:

A tabulation of the real estate mortgage statistics collected by the Census office is now completed, and this final bulletin is issued to acquaint the public with the chief results of the investigation. These are contained in fifteen tables presented in the bulletin.

Table 1 exhibits the real estate mortgage movement in the various States and Territories, with a summary for the United States during the ten years 1880-1889. During that time 9,517,747 real estate mortgages, stating amount of debt incurred, were made in the United States, representing an incurred indebtedness of \$12,094,877,793. The number of mortgages made during one year increased from 643,143 in 1880 to 1,226,323 in 1889, or 90.68 per cent., and the yearly incurred indebtedness increased from \$710,888,504 in 1880 to \$1,752,568,274 in 1889, or 146.53 per cent.

With regard to mortgages on acre tracts, the number made during the ten years was 4,747,078, representing an incurred indebtedness of \$4,896,771,112. The number of these mortgages made in 1880 was 370,984; in 1889, 525,094, an increase of 41.54 per cent.; while the incurred indebtedness increased from \$342,566,477 in 1880 to \$585,729,719 in 1889, an increase of 70.98 per cent.

The increase was relatively larger in the case of mortgages on lots. They numbered 4,770,669 during the ten years, and the indebtedness incurred under them amounted to \$7,198,106,681. From 1880 to 1889 the annual number made increased from 272,159 to 701,229, an increase of 157.65 per cent. During the same time the amount of annual indebtedness incurred increased from \$368,322,027 to \$1,166,838,555, an increase of 216.80 per cent.

During the decade 622,855,091 acres were covered by 4,758,268 mortgages stating and not stating the amount of indebtedness incurred under them; the number of acres covered by mortgage in 1880 was 42,743,013; in 1889, 70,678,257, an increase of 65.36 per cent.

In the case of lots covered by mortgage the increase from 1880 to 1889 was 198.25 per cent., the number covered by mortgages stating and not stating amount of indebtedness in the former year being 429,955; in the latter year, 1,282,334.

At the end of the decade, January 1, 1890, the real estate mortgage indebtedness amounted to \$6,019,679,985, represented by 4,777,698 mortgages. These mortgages are divided into two classes, as follows: Mortgages on acres, 2,303,061; amount of indebtedness, \$2,209,148,431; mortgages on lots, 2,474,637; amount of indebtedness, \$3,810,531,554. Number of acres covered by existing mortgages, 273,352,109; number of lots, 4,161,138. These numbers and details for the States and Territories will be found in table 2.

New York is conspicuously prominent as having a real estate mortgage indebtedness of \$1,607,874,301, which is 26.71 per cent. of this class of indebtedness in the United States. Nevada has the smallest amount of indebtedness of this sort, namely, \$2,194,995, an amount that is exceeded by the existing mortgage indebtedness of each county in the State of New York, except two.

It is computed that the average life of a mortgage in the United States is 4.660 years; of a mortgage on acres, 4.540 years; of a mortgage on lots, 4.749 years. The longer life in the case of both classes of mortgages is found in New England, New York and New Jersey; the shorter life in the South and in the newly settled regions west of the Mississippi river.

Since mortgages in force were made, 12.68 per cent. of the original amount of indebtedness incurred under them has been extinguished by partial payments; in the case of mortgages on acres, 11.67 per cent.; on lots, 13.25 per cent. The percentage of partial payments is highest in the South and lowest in the more newly settled regions.

Table 3 contains the foregoing figures and also the corresponding results for the various States and Territories.

Subject to all the difficulties that beset any attempt to determine what proportion of the true taxed real estate value of the United States is covered by existing real estate mortgage indebtedness, the fourth, fifth and sixth columns of table 4 are offered. It appears that the real estate mortgage indebtedness in force in the United States is 16.67 per cent. of the true value of all taxed real estate and untaxed mines. If Mayor Gilroy's estimate of \$3,495,725,018 as the true value of real estate in New York city is accepted, the foregoing percentage is reduced to 16.15, and the percentage for New York State is reduced from 30.62 to 25.06.

In thirty States the debt on acres is 12.67 per cent. of the true value of all taxed acres and untaxed mines, and in these States the mortgage debt on lots is 13.96 per cent. of the true value of all taxed lots, mortgaged and not mortgaged. These percentages are in table 4.

In table 5 the attempt is made to determine how nearly the greatest possible real estate mortgage debt has been reached by the existing incumbrance in the various States and Territories. Upon the assumption that all taxed real estate can be incumbered for two-thirds of its true value without increasing the rate of interest to cover additional risk, it follows that 25 per cent. of the real estate mortgage debt limit has been reached in the United States. A computation, including Mayor Gilroy's estimate above mentioned, reduces the foregoing percentage to 24.22, and the percentage for New York State from 45.93 to 37.59. In Kansas 40.24 per cent. of the debt limit has been reached; in New Jersey, 39.27 per cent. The smaller percentages are found in the South and in the Rocky mountain region.

The mortgage debt in force per capita in the United States is \$96; the three larger State averages (omitting the District of Columbia) are \$268 in New York, \$206 in Colorado and \$200 in California. The smaller ones are found in the South and the Rocky mountain region.

The average population to each mortgage in force in various States, the percentage of increase of debt incurred in 1889 over 1880, and the average unpaid amount of each mortgage in force will be found in table 4.

Table 6 shows the various ratios between mortgages in force and the number of acres and lots covered by them. In forty-one States 28.86 per cent. of the taxed acres are covered by mortgages in force. The largest proportion of mortgaged acres is in Kansas, where 60.32 per cent. of the total number of taxed acres are mortgaged. Nebraska stands next with 54.73 per cent.; South Dakota third, with 51.76 per cent.

In the five States, Illinois, Kansas, Missouri, Nebraska and South Carolina, 23.99 per cent. of the taxed lots are covered by mortgages in force.

The average amount of debt in force against acres to each mortgaged acre in the United States is \$8.08; of debt in force against lots to each mortgaged lot, \$916; there are 119 acres covered by each mortgage in force against acres and 1.68 lots by each mortgage in force against lots.

The average annual rates of interest to which existing mortgages are subject have been computed and the results are presented in table 8. The average rate for all mortgages in the United States is 6.60 per cent.; for mortgages on acres, 7.36 per cent.; for mortgages on lots, 6.16 per cent. These rates make the annual interest charge on the existing real estate mortgage debt of the United States amount to \$397,442,792; on the debt in force against acres, \$162,652,944; on lots, \$234,789,848.

On each mortgage in force in the United States the average annual interest charge is \$83; on each mortgage in force against acres, \$71; on each mortgage in force against lots, \$95. These numbers, with details for States and Territories, are in table 7.

Table 8 exhibits the number and amount of real estate mortgages made during the ten years 1880-1889 belong-

ing to specified classes of amounts, and in this table it appears that 6.03 per cent. of the number of mortgages made during that time were for amounts of less than \$100 each; while 45.17 per cent. of the entire number were for amounts of less than \$500 each, 68.54 per cent. of the entire number for amounts of less than \$1,000, 27.41 per cent. of the entire number for amounts of \$1,000 and under \$5,000 each, and 4.05 per cent. of the entire number were for amounts of \$5,000 and over.

All the rates of interest to which the real estate mortgages made in the United States during the decade were subject are exhibited in table 9, which is a summary for the United States without State details.

As appears in table 10, 41.89 per cent. of the real estate mortgage indebtedness incurred in the United States during the decade was subject to a 6 per cent. rate of interest; 16.06 per cent. of the debt incurred was subject to rates less than 6 per cent.; 42.05 per cent. of the debt incurred was subject to rates greater than 6 per cent.; and 14.41 per cent. of the debt incurred was subject to rates greater than 8 per cent. Further details for the United States and also for the various States and Territories are contained in table 10, and results in similar form are presented in tables 11 and 12 for mortgages on acres and lots.

Average annual rates of interest for the ten years of the decade are presented in table 13 for all the States and Territories. The results of the computations are that the average rate of interest on real estate mortgages declined from 7.14 per cent. in 1880 to 6.75 per cent. in 1889, with some interruptions to the continuity of the decline in the meantime.

In table 14 it appears that the average rate of interest on mortgages on acres declined from 7.62 per cent. in 1880 to 7.52 per cent. in 1889, subject to interruptions to the continuity of the decline in the meantime; and in table 15 it appears that the average rate of interest on the mortgages on lots declined from 6.69 per cent. in 1880 to 6.37 per cent. in 1889, with some annual interruptions to the continuity of the decline.

For the sake of including the table in this final bulletin concerning real estate mortgages, table 16 is reprinted from Extra Census Bulletin No. 64 to show the objects for which real estate mortgages are made. These objects were ascertained by personal inquiry in 102 counties in various parts of the Union; and in these counties it was discovered that 80.13 per cent. of the number of mortgages, representing 82.56 per cent. of the original amount of mortgages in force, were made to secure purchase money and to make improvements when not combined with other objects; and that 89.82 per cent. of the number of mortgages, representing 94.37 per cent. of the original amount of existing indebtedness, were made to secure purchase money, to make improvements, to invest in business and to buy the more durable kinds of personal property, when these objects were not combined with other objects.

Some Results of Subsoiling.

EDITOR KANSAS FARMER:—What a terrible illustration of the pressing need of deep subsoiling is this long dry and excessively hot spell we are passing through. The widespread disaster to the corn crop speaks volumes in favor of saving and storing up the heavy and abundant rainfalls that mostly go to waste. That the saving of all the rainfall in the soil below the surface would cure all this great evil is abundantly demonstrated by reports of those who used the subsoil plow in their ground last spring, though at a moderate depth. Their statements on the 4th of August were substantially as follows: Mr. Frank Washburn says he ran his subsoil plow only about ten or twelve inches deep from the surface, and that his corn has no appearance of suffering from drought or heat, except where the chinch bugs were working on it; and his ground is what is considered poor gumbo soil. But if he continues to use the subsoil plow the second or third time on that ground, it will be known to be the best soil in

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Kansas. He also says that on the ground he subsoiled the year before, where he planted early the crop was made and he was feeding it. Another party, Mr. Geo. Wheaden, states: "After buying my subsoiler, which was too late to prepare my corn ground, after the corn was several inches high I ran the plow between the rows in the ridge with three horses, probably not over eight inches from the actual surface of the ground, but the ridge made it appear about sixteen inches deep, and would be about three feet ten inches apart; so the subsoiler did not get in its work very thoroughly, yet the corn looks green and no appearance of damage by drought or heat." Both of the above mentioned gentlemen are men well known for integrity. There are others of like experience, which proves their dish was right side up when it rained porridge, though a rather shallow dish, to be sure. Yet I believe they can go much deeper next year, thus providing a deep dish that will hold all that comes and grow better the longer it is retained in the soil. As you have heard, bean porridge is best in the pot when nine days old, so be wise and get your deep dish right side up and don't let the porridge be wasted as heretofore.

The first time the subsoil plow is used is much the hardest part of the job. As the fine sediment from the top soil is carried into the top subsoil, stopping all the pores, and as it is near the surface, the moisture soon evaporates, leaving it cemented solid together. But when it is broken and loosened up, letting the water go below, where the soil is more porous, and being farther from the surface, is not so quickly evaporated, but softens up the soil, so that I believe the second year the subsoil plow could be run two feet deep. That certainly would provide a deep dish right side up, which is most reasonable to believe would bring great blessings to poor groaning humanity. H.

Topeka, Kas., August 13, 1894.

Upland Alfalfa.

EDITOR KANSAS FARMER:—Accompanying this find sample of alfalfa cut this date, the third cutting. The first cutting was June 5; the second, one month later, July 5. From that time to the present there has been but one rain on the field, nearly five weeks ago. The soil is upland prairie with clay subsoil and is now all full of cracks from the excessive heat and drought.

S. C. WATERS.

Berryton, Kas., August 16.

[The specimen sent is twenty inches high and has eight well-developed stems and several shorter ones on one root.—EDITOR.]

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"Among the Ozarks,"

the Land of Big Red Apples, is an attractive and interesting book, handsomely illustrated with views of south Missouri scenery including the famous Olden fruit farm of 3,000 acres in Howell county. It pertains to fruit-raising in that great fruit belt of America, the southern slope of the Ozarks and will prove of great value, not only to fruit-growers, but to every farmer and home-seeker looking for a farm and a home. Mailed free. Address,

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Get up a club for KANSAS FARMER.

Irrigation.

IRRIGATION BY THE USE OF PUMPS AND WINDMILLS.

By John M. Irwin. Copyrighted by Stover Manufacturing Co. (Published by Permission.)
(Continued from last week.)

RESERVOIRS, AND PROPER SIZES TO MAKE THEM.

When low velocities of wind are to be used a smaller cylinder will have to be used, that the mill may be able to operate the pumps. A wind velocity below fifteen miles per hour furnishes so little power, with any size of windmill, that few persons care to use pumps so small as to utilize the force of wind below fifteen miles per hour in irrigation. Substantial windmills may be adjusted to work in a wind of thirty to thirty-five miles per hour, when the power of the wind is four to five times as great as when the velocity is only fifteen miles per hour.

How to utilize this varying force is of the greatest importance to those who use the wind to operate their pumping machinery.

An irrigating windmill can make twice as many strokes of the pump in a thirty-mile wind as it can in a fifteen-mile wind, and will consequently pump twice as much water, but as its power is more than four times as great working in a thirty-mile wind as in a fifteen-mile wind, it should not only have doubled its work, but should have quadrupled the amount done in a fifteen-mile wind. Hence it is readily seen that, to utilize all of the force of the wind up to the point the mill has been adjusted to govern at, two or more pumps must be employed, and as many pumps connected up as the mill can operate with the force supplied to the windmill for the time being. A windmill working under full pressure of a thirty-mile wind has power to lift eight to ten times as much water as when working under the force of a fifteen-mile wind. To irrigate with windmills and pumps implies that the time to pump is when the wind blows.

A complete windmill and pump irrigating plant will consist of one windmill and two or more pumps.

The reservoir should be constructed in an oblong form, i. e., 50x100 feet or 100x200, and so on. Then erect the windmill near the embankment on one side, midway between the two ends; this will admit of operating one or more pumps on either side of the mill, by means of quadrants, and the pumps be close enough to the embankment to discharge water into the reservoir through short flumes or pipes.

How much water, in addition to the rainfall, has not yet been fully determined for any kind of crops. Taking the generally accepted amount of twenty-four inches of rainfall as the necessary amount of water to mature a crop, it is only necessary to deduct the average annual rainfall from twenty-four and the difference will be the amount to be supplied. When the rainfall during the year equals twelve inches, then twelve inches more must be supplied, and where the rainfall is eighteen inches the remaining amount to be supplied is six inches, and so on. One acre of ground requires about 27,000 gallons of water to cover it over one inch deep, and this amount multiplied by the number of inches necessary to add to the rainfall so as to make up the required twenty-four inches, will give the number of gallons per acre of water to be pumped, but due allowance must be made for leakage through the bottom and walls of the reservoir, leakage and loss in ditches and evaporation, all of which amounts to a great deal in the aggregate. Two hundred and fifty thousand to 325,000 gallons of water will probably mature one acre of any crops when the average rainfall is twelve inches or more. A pump with six-inch cylinder will supply 1,000 to 2,000 gallons per hour when the wind velocity is fifteen to thirty miles per hour and will probably supply water to irrigate five to ten acres. A pump with eight-inch cylinder will supply 1,800 to 3,600 gallons per hour, wind fifteen to thirty-mile velocity, and will supply water to irrigate twenty to forty acres of spring crops. When general crops are grown, so that the

pump may work the year around, twice the amount of land can be irrigated. Smaller mills can operate pumps in shallow wells, while it will require mills of larger sizes to operate the pumps as the depth of well increases, and the same mill will operate more than one pump, as the force of wind increases from fifteen to thirty or thirty-five-mile velocity, and the added pumps reinforcing the first one, increases the amount of water pumped, so that a great deal more land can be irrigated than where only one pump is employed. Water supply and how to obtain it, is a problem but little understood. Open wells and well points are contending for preference.

Where the water is found in sand stratas of twelve feet or more in thickness, the drive-well points have given best satisfaction. It is believed that even where the water is found in sand stratas four or five feet thick that the water will flow into the pump faster through sand points than through curbing into an open well—and then from the open well into the pump.

Much money and labor has been expended in the Arkansas valley where the sand stratas in which the water is found lie near the surface, to make open wells that would supply sufficient water for large pumps, and while all attempts can not truthfully be said to have resulted in failure, yet, sand points, large enough in diameter to equal one-half the diameter of cylinder used, have nearly always, when driven deep enough into the sand, furnished abundance of water to supply the largest pumps when working at twenty-five to thirty-five strokes per minute. If an open well is to be made, a substantial curbing must be used and the well made large and deep, that the pressure will cause the water to flow in rapidly, and the large area give sufficient surface to supply enough water. The lower sections of curbing should be filled with small holes—very small, to admit the water.

Where sand (drive well) points are used, an open well, properly curbed, should be made deep enough to reach down to water-bearing sand (in all sections where an abundant supply of water is found in strata of sand), and then the point or points should be pushed down until there is every reason to expect that the supply of water will feed the pump without exhausting the water from over the sand point, for should the water be exhausted from over the sand point then the pump would be denied a full supply. For the same reason the point should be lodged in such water-bearing sand or else the pumps will not be supplied, and injury may be done to the pumps, and the mill also may suffer injury through the force necessary to create vacuum. Where several points are used to supply one cylinder, these are usually small enough in diameter that they may be driven, and even where one point is to supply the cylinder of small diameter, it may be driven, but large points should be put down by first boring or drilling down into the sand, and casing to prevent the sand from caving in, then, after the point is let down to proper depth and lodged in rich water-bearing coarse sand, the casing should be removed by pulling it up and the sand permitted to fall in against the sand point. Enough suction pipe should be added to the sand point to bring the pipe up to top of water-bearing sand where the cylinder is to be located.

In all sections where the strata of water-bearing sand is thin or too poorly supplied with water to afford a supply to the pump, a well should be made and properly curbed down to the bottom of the sand strata, and a hole should be drilled down to second water, which usually supplies a sufficient quantity of water and which often rises up to the level of first water and sometimes even above it.

An unusual mistake occurred in the KANSAS FARMER of August 8. The illustration of the fine irrigating plant of Judge D. M. Frost, of Garden City, was loaned by the Stover Manufacturing Co., of Freeport, Ill., but was credited to another firm. It is hoped that those who write for information as to this plant will see that their letters are addressed to the above named company.

Irrigated Farms---\$1,000!

Out of a thousand farms in **SOUTHWEST KANSAS**, of 160 acres each, we are selling a limited number equipped with an independent and permanent irrigation plant sufficient for at least ten acres on each farm. The price at which these 160 acre farms are selling is merely about what the ten acres and irrigation plant are worth.

Before buying a farm investigate this. Special terms made for Colonies. Call on us or write for particulars.

THE SYNDICATE LANDS & IRRIGATING CORPORATION,
Room 412 New England Life Building, 9th and Wyandotte Sts., KANSAS CITY, MO.

Irrigation Congress Bulletin.

Preparations for the third National Irrigation Congress, which will assemble in the Broadway theater, Denver, September 3, are being rapidly pushed, both by the national and local committees. Indications are favorable for the most important gathering which has ever met in the name of irrigation. The times are ripe for a great forward movement, as the West is ready to say what it wants and the country, under the pressure of events, is at last ready to listen. The program of the seven days' meeting will include the following features:

REPORTS OF STATE COMMISSIONS.

Irrigation commissions have been at work for a year in eighteen States and Territories collecting facts and opinions upon which to base recommendations for a national policy and code of common State laws. These commissions will have seats in the congress and give that body the benefit of their knowledge and experience. It is already known that their reports will cover a variety of plans, ranging all the way from public to private control and from national to State supervision. These reports alone would furnish the basis for the most interesting congress ever assembled in the West.

AN IRRIGATION POLICY FOR THE NATION.

Men will come from all over the United States, from all trades and professions and from all political parties to contribute their share to the making of a national irrigation policy. It is hoped that this will be the final clash between land cessionists and anti-cessionists and that a compromise can be arranged which will unite all factions. It is hoped that the outcome will be a bill, framed in definite terms, for presentation at Washington. The bill will probably be supported by a ringing address to the American people. If these results are accomplished the Denver congress of 1894 will be historic.

PROBLEMS OF THE SEMI-ARID REGION.

This congress is most timely for the people of the semi-arid portions of the Mississippi valley, whose crops have been laid waste by recent hot winds. The congress will bring together the men best capable of dealing with the problems of the semi-arid region, and ought to result to the vast good of that section. The attendance from Kansas, Nebraska and western Texas is expected to be very large.

IRRIGATION EAST OF THE MISSISSIPPI.

This congress will mark the entrance of a new element into the domain of irrigation inquiry. Georgia has appointed an irrigation commission consisting of five of her prominent citizens and promises a delegation of fifty to one hundred delegates. Florida will also send a commission. The Governors of Eastern States are naming delegates very generally and it is probable that immense interest in the possibilities of Eastern irrigation will result from the debate under this head of the program.

A PRACTICAL EXHIBITION.

Arrangements have been made for a striking exhibition of machinery and appliances at Denver during the congress. These will be shown in practical operation, a large ground space having been engaged near the Broadway theater, the water being furnished from the city mains. This feature of the great congress alone should be sufficient to attract an immense gathering of students of the practical side of irrigation.

COLORADO HOSPITALITY.

The people of Colorado will take advantage of the opportunity to exhibit

WATER PIPE.

Our Hard Burned Vitrified and Glazed Clay Pipe is everlasting. With our Improved Joints this pipe will stand same pressure as iron and costs about one-fourth as much. Write for particulars.

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the most interesting portions of their State to delegates. At the famous Greeley colony visitors will behold irrigation as a finished product, while on the banks of the Grand river in the heart of a mighty desert they will view the raw material of irrigation. Boulder, Longmont, Fort Collins, and its experimental farms will be visited and the delegates will also participate in the festivities of Melon day at Rocky Ford and Peach day at Grand Junction. Some of the excursions will be free and for the rest very low special rates have been secured.

The third National Irrigation Congress represents the supreme opportunity of the West, and also offers the most promising solution of prevailing social unrest and industrial congestion. It should command the hearty support and attention of the people of the United States. For further particulars write to
THOS. L. SMITH,
Secretary Local Committee, Real Estate Exchange, Denver, Col.

National Irrigation Reservoirs.

The Chicago hay trade journal, *Hay There*, comments as follows:

"Senator Peffer has asked Congress to appropriate \$500,000 with which to construct reservoirs in the arid portions of the far West for storing water during the winter and early spring for irrigation purposes when needed later. Peffer is by no means the originator of this scheme for reclaiming the arid lands of the West. Portions which have been already reclaimed by irrigation have proved wonderfully fertile, but there are vast domains in the Southwest and West which cannot be brought into cultivation by the ordinary processes of irrigation which the individual farmer resorts to, but which, with the aid of the government in the construction of large reservoirs from which water can be drawn as needed, can be made to bloom like a garden. But Senator Peffer will find that \$500,000 will only be a drop in the bucket for completing the proposed enterprise. The scheme contemplated is to construct huge reservoirs in the mountainous and semi-mountainous portions of the arid countries wherein the water from the spring freshets which now serve no beneficial purposes, and in fact, contribute annually to a work of destruction in swelling the rivers and streams, can be stored for use when the hot and dry season comes on. It is advanced seriously by those who have given this subject attention that nothing will so tend to change the dry climatic conditions of these arid portions as the construction of these same reservoirs, where a constant evaporation will be taking place the year around instead of being confined to a few days in the spring in which the freshets occur. Once under cultivation, with the aid of irrigation a vast change in general conditions will no doubt take place.

"It is claimed by some that as our grazing lands are now being rapidly encroached upon by the demands of agriculture, it will be necessary to reclaim the arid regions for grazing purposes. Senator Peffer should be encouraged in the work he has undertaken. The government spends annually millions of dollars for purposes not nearly so practical as that of

reclaiming arid lands and it is doubtful if the people could become more direct beneficiaries in any enterprise in which national aid is invoked."

A Lesson of the Drought.

EDITOR KANSAS FARMER:—I think the present is a good time to impress the Western farmer with the idea that something must be done to be saved. It almost makes one heart-sick to look over the thousands and tens of thousands of acres of corn fields and see the utter destruction of the crop, after it got so near to the point of completion, when a little water, used at the right time, would have saved it and made the heart of the husbandman glad. The estimated loss is 40,000,000 bushels in the State. At 40 cents per bushel this would amount to \$16,000,000, enough to build 10,000 good irrigating plants.

And there is not a silo to save the fodder crop, which, if saved and put into the silo would be worth one-half of the entire crop of corn.

Farmers, why can't you get yourselves worked up to the starting point? At least don't wait for some one else to begin first. Don't wait for "Uncle Samuel" to do it for you. Life is too short. Commence now. You will have a good many days between now and next planting time (as this year's corn crop won't bother you). Take your team, plow, scraper and hired man and go to work. Select the most suitable place for your reservoir and go at it. Take a look every morning at your dried and parched corn field to stimulate you. It is better than whisky. You don't have to finish the whole job the first year. If you are several years building your reservoir and ditches they are all the better for it. It gives the earth-work a chance to settle. Don't commence your work with the idea that you are going to water 160 acres the first year. Lay out five or ten acres, handle that successfully and then add more at your leisure. I know a Chinaman in the city of Portland, Ore., that commenced with three town lots, 50 by 110 feet each, and in ten years had a bank account of \$10,000. J. S. SHERMAN.

Irrigation in Kansas.

EDITOR KANSAS FARMER:—The matter of supplying water to growing crops in almost every part of Kansas by artificial means is, it seems to the writer, of such vast importance that it should be made the subject of constant investigation until a large share of the water beneath the surface can be brought to the top of the ground and utilized to the financial benefit of the agriculturists of the State. In all probability, in some localities the water is so far below the surface that to raise it to the top of the earth and make it profitable, is, with our present stock of knowledge, entirely out of the question. But there are, I understand, very few if any counties in the State, where, on some part of many quarter sections, a fair supply of water cannot be had at a depth of forty feet; and it is claimed that water can be raised with the gas and other irrigating pumps from the above, and even greater depths, at a profit. One pump will, it is almost certain, raise water sufficient to irrigate ten to fifteen acres of land in the driest part of the State. This being true, it will pay four-fifths of the farmers of the State to have at least one plant on his farm. It can be put up for less than \$200, outside of the farmer's own labor in constructing his reservoir, which he can do with two horses, a plow and an ordinary road scraper.

The reservoir is to be built by scraping the soil up into a ridge or bank, say four to five feet high. But in doing so, it is not meant to get much of the dirt from the bottom of the reservoir. The surface dirt only, to the depth of the native sod, is to be scraped off, and may be used on the outer surface or side of the banks, but not in the bottom of the banks, as it will not hold water. The size of the reservoirs, as I have seen them about Garden City, will average from seventy-five to eighty feet square, I think.

Let us see what crops can be grown with almost absolute certainty on twelve acres of irrigated land, all by

the use of one mill and one pump: Five acres of alfalfa, five acres of oats, one-fourth acre of cabbage, three-fourths of an acre of Irish potatoes, and one acre of all the different garden vegetables, small fruits and vegetables peculiar to the climate of Kansas. The alfalfa, at the moderate yield of four tons per acre, will give the farmer twenty tons of fine hay for his stock, besides a quantity of seed which always commands a remunerative price. The oats, although not a profitable crop for the market, will give him, at the low estimate of thirty bushels per acre, 150 bushels of oats, besides several tons of good straw. Add to all this the potatoes and all other vegetables and fruits that can be grown on two acres of ground, and the farmer will be hard to starve out. But the program can be changed so as to render his situation still more impregnable. Let him raise five acres of corn instead of this amount of oats, and, at forty bushels per acre, he has 200 bushels of sound corn, besides the fodder. With twelve acres thus farmed, as an almost absolute certainty, added to what can ordinarily be raised on the balance of the farm, and two-thirds of Kansas can be truthfully called the finest and most successful agricultural district, either great or small, in the known world.

In the foregoing estimate no extravagant figures have been indulged in, but, on the contrary, an under-estimate of fully one-third will be found to be true, when the matter is fully tested. Our lands for the most part being the most fertile in the world, will produce in a corresponding degree with the required amount of moisture, and proper cultivation. But, in addition to what I have stated, I will add, that I am fully convinced that where the farmer is able, financially, to have an irrigating plant to water not only his growing crops on a small scale, as herein described, but also irrigate his orchard, it will make his fruit larger, more juicy and more perfect in every respect, besides his trees will be harder and live longer. G. BOHRER.

Spread of the Russian Thistle—How to Eradicate It.

The Division of Botany in the United States Department of Agriculture is in receipt of authentic advices on the appearance of the Russian thistle in various new localities. Bulletin No. 15 of that Division contains colored maps showing the Territory in which it had been found to the close of 1893. It has since been reported from the following places.

Hammond, Lake county, Indiana; Cannon Falls, Goodhue county, Minnesota; Marshall, Lyon county, Minnesota; Northwestern, Jefferson county, Nebraska; Blue Hill, Webster county, Nebraska; Stockville, Frontier county, Nebraska; Parks, Dundey county, Nebraska; La Salle, Weld county, Colorado; Nampa, Ada county, Idaho, and Manitoba, Canada.

In almost all these localities it has appeared only along the line of railroads and, with the exception of Nampa, Idaho, is now officially reported for the first time.

From about the 15th of August to the 1st of September the Russian thistle begins to produce its seed, and, being an annual, the effectual method of checking its progress is to kill the plant by cutting, plowing and harrowing during or before this time. In the case of wheat fields which are already infested the grain should be harvested as early as possible, the stubble left long, the whole field mowed close to the ground, and after a few days drying burned over. Fields thickly infested may require in addition plowing and thorough harrowing. A copy of Bulletin No. 15 will be forwarded to any applicant, and a specimen of any plant supposed to be the Russian thistle will be positively identified upon receipt by the Department of Agriculture.

An Old Soldier's Selection.

He wants to make the trip to the G. A. R. national encampment at Pittsburg in a satisfactory way, hence selected the Vandalia & Pennsylvania Short Lines. Through trains arrive in Pittsburg Union station, convenient to headquarters, hotels and boarding houses. Connecting lines in West will sell low rate tickets over these lines via St. Louis or Chicago to Pittsburg September 5 to 10, inclusive.

Garden City Fair.

The Finney County Agricultural Society and Fair Association will hold their second annual fair on October 4, 5 and 6, 1894, and as a special feature of the fair, have wisely consented to make a special department exhibit of irrigation pumping machinery, which exhibit will include any pumping device known or utilized at this date for raising water to the surface—for irrigation purposes—from one foot to 200 feet in depth. An ample water supply is assured on the fair association grounds, either in open wells, ponds, or may be had through drive wells, at a depth of less than twenty feet from surface. Since this fair is to be held in the very midst of the great irrigation district of the plains, where a hundred or more individual irrigation plants are already in operation, which may be seen in one day's drive, affords an exceptional opportunity to the visitor to study the irrigation problem and the methods thus far employed.

The association is very solicitous to have manufacturers and dealers present with such machinery as they may have to offer for exhibit during the fair, fully assuring them that every possible effort will be put forth by the members of the association that their machinery shall have an acceptable location in the display, and the person in charge shall receive every assistance possible in so arranging it, as well as fair and courteous treatment in all competitive exhibits made. You are especially invited to attend this fair, if for no other purpose than to more fully inform yourselves as to the vastness of the field of irrigation, the manner in which it is done, and how to improve the system. D. M. FROST, Superintendent.

A Grand Berkshire.

Every Berkshire breeder in Kansas will be pleased to know that we have within our borders a full brother to the world-beating Lord Windsor, the winner of fifteen champion cups and first prizes last year in England and America. This boar, Earl of Wantage, is the highest-priced boar without a show yard record ever sold in America. That his individual excellence is equal to his aristocratic lineage, the following letter would indicate:

TOPEKA, KAS., July 18, 1894.

Messrs. W. B. Sutton & Son, Rutger Farm, Russell, Kas.:

GENTLEMEN:—Permit me to say that the courage and enterprise displayed by you in having sought out and brought to this State the most promising Berkshire sire that money would buy or that England possessed, would appear surprising to many of us were it not so thoroughly characteristic of Kansans and Kansas. Its doing exhibits a faith in the breed and the business, together with a determination to maintain leadership, that cannot fail to greatly enhance the prestige of Rutger farm herd. Although travel-worn, stiff and sore as he was when I saw him, at the end of his long journey on land and stormy sea, I am persuaded that you have in him a wonderful individual, strong in the better characteristics of one of the most phenomenally excellent Berkshire families yet developed. The pedigree which shows him a full brother of the world-beating Lord Windsor tells much, and his meaty quality, style and tremendous scale apparently do credit to all his pedigree would imply.

Yours very truly,

F. D. COBURN.

Its either Direct Legislation through the INITIATIVE and the REFERENDUM or another Revolution. Which shall it be? For books, information and plan write W. P. BRUSH, Topeka, Kansas.

PIERRE S. BROWN'S School of Business and Shorthand

We make specialties of rapid calculating and simple and concise methods of recording and posting as they are used in actual business. Commercial course, six months, \$30; Shorthand and Typewriting, six months, \$40; English course, three months, \$10. Bayard Bld., 1212-14 Main St., Kansas City, Mo.

An Opportunity for Settlers

The Orchard Irrigation Co., located at Orchard Farm, Idaho, on the Union Pacific railroad, can employ a large number of men and teams, beginning about August 15 and continuing as late as weather permits. This work will be given to settlers living upon the land, allowing them to work out their water rights. The company will pay current wages. The finest fruit land in the West opened to government entry can be secured with no expense in money. A little work each year pays for the land. Secure a home and be independent of rain. Send for circular and full particulars to ORCHARD IRRIGATION CO., Box 162, BOISE CITY, IDAHO.

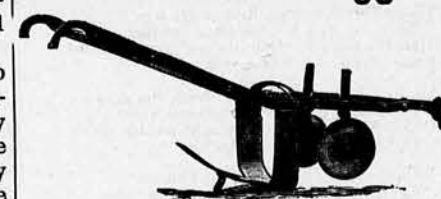
CHEAP HOMES

In San Luis Valley, Colorado, the Garden Spot of the Rocky Mountains. Sixty thousand acres of fine land, all under first-class irrigation canals, with perpetual water rights, for sale cheap, six years time, 6 per cent. interest. Grains, Grasses and Vegetables Grow Here to Perfection. Crops sure; no droughts, no cyclones, no blizzards; abundance of pure artesian water; climate unequalled. We have churches, schools, railroads and good markets. For maps, circulars and full information, address JAMES A. KELLY & CO., Agents Colorado Valley Land Co., Monte Vista, Colo.

OUR WELL DRILLS

awarded Highest Medal at the World's Fair. All latest improvements. Catalogue free. F. C. AUSTIN MFG. CO., CHICAGO, ILL.

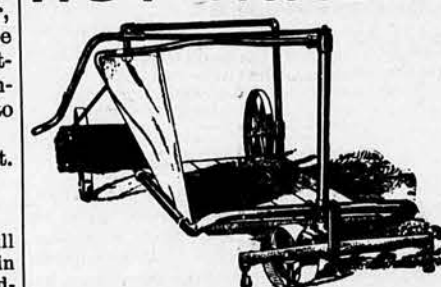
PERINE'S Sweet Potato Digger.



Has gone to the front and holds that honorable position against all rivals. Is simple, effectual and cheap. Is a boon to sweet potato raisers. Call and see it or write for illustrated catalogue.

PERINE'S PLOW WORKS, Topeka, Kas.

HOT WINDS!



Save Your Fodder with the Improved **BLUE VALLEY CORN HARVESTER!**

Send at once to **BLUE VALLEY FOUNDRY CO.,** Manhattan, Kas.

Freeman's HENSILAGE AND FEED CUTTER

Strongest, Most Durable, Easiest Running, and in every way **THE BEST FEED CUTTER MADE**

All sizes, for Hand or Power. Carriers any length. For Low Prices and Best Discounts, send for Illustrated Catalogue. Also Manufacturers of the **CELEBRATED FREEMAN WIND MILL CENTENNIAL FANNING MILL** and a full line of Horse Powers and Horse Power Jacks, Seed Sowers, Feed Grinders, Bollers, Engines, Etc. **S. FREEMAN & SONS MFG. CO.** NO. 117 BRIDGE ST., RACINE, WIS.

C.O.D. \$2.98

FREE! An EXTRAORDINARY OFFER! **\$10.00 FOR \$2.98**



CUT THIS ADVERTISEMENT OUT and send it to us with your name and address and we will send you by express, C. O. D. a box of our Very Finest Cigars, retail price \$5.00, and this beautiful 14 Karat Gold Finished Watch for only \$2.98. We send the watch and box of cigars together. You examine them at the express office and if satisfactory pay the express agent our Special Extraordinary Price, \$2.98, and they are yours. The watch is beautifully engraved and is equal in appearance to a \$25.00 gold filled watch and a perfect time keeper. We make this extraordinary offer to introduce this special brand of cigars and only one watch and one box of cigars will be sold to each person at this price. Write to-day. **THE NATIONAL MFG. & IMPORTING CO.,** 324 Dearborn St., Chicago, Ill.

In writing to our advertisers please say you saw their advertisement in the KANSAS FARMER.

KANSAS FARMER.

ESTABLISHED IN 1863.

Published Every Wednesday by the KANSAS FARMER COMPANY.

OFFICE: No. 116 West Sixth Street.

SUBSCRIPTION PRICE: ONE DOLLAR A YEAR.

An extra copy free fifty-two weeks for a club of six, at \$1.00 each.

Address KANSAS FARMER CO., Topeka, Kansas.

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 line for one year.

Annual cards in the Breeders' Directory, consisting of four lines or less, for \$15.00 per year, including a copy of the KANSAS FARMER free.

Electros must have metal base. Objectionable advertisements or orders from unreliable advertisers, when such is known to be the case, will not be accepted at any price.

To insure prompt publication of an advertisement, send the cash with the order, however monthly or quarterly payments may be arranged by parties who are well known to the publishers or when acceptable references are given.

All advertising intended for the current week should reach this office not later than Monday.

Every advertiser will receive a copy of the paper free during the publication of the advertisement.

Address all orders KANSAS FARMER CO., Topeka, Kas.

The first Monday in September—Labor day—is now a legal holiday, and is almost universally observed by wage-earners, and is receiving each year more attention from everybody.

NAMES WANTED.

It is not often that this paper makes a special request of its readers, but we want the name and address of every farmer in Kansas who is not a subscriber.

Chas. F. Mills, Secretary of the American Berkshire Record, writes the FARMER: "Kansas, according to the last census, was third in prominence according to number of swine.

The world's visible wheat supply, according to Beerbohm's computation, was as follows, for dates stated, representing bushels:

Table with 4 columns: Year, 1894, 1893, 1892, and Wheat Supply (bushels). Rows include Jan 1, Feb 1, March 1, April 1, May 1, June 1, July 1, and August 1.

Late reports received by Secretary Coburn show that the dreaded Russian thistle has, in addition to the localities previously reported, been found in Hamilton, Greeley, Logan, Phillips, Mitchell, Riley, Smith and Jefferson counties.

Charles Robinson, the first Governor of the State of Kansas, died at his home near Lawrence, at 4:20 p. m., August 17. Governor Robinson as a public man and as a private citizen commanded to an unusual degree the respect and confidence of the people.

Col. Frank P. Holland, publisher of the Texas Farm and Ranch, Dallas, Texas, has been properly punished for mixing up in those demoralizing editorial junkets. He was elected President of the Texas Press Association.

NOT A PROPHECY.

A subscriber, who is an enthusiastic friend of the KANSAS FARMER, thinks that with one improvement the paper would be just perfect. This little addition he would have consist simply in "telling farmers when to sell and when to hold their products."

The best the KANSAS FARMER can do is to present the more important facts which influence honest and capable men's judgments, together with such observations as may assist those too busy to fully digest the information.

IRRIGATION MEETINGS IN THE SIXTH DISTRICT.

The Sixth Congressional District Irrigation Association held a meeting at Colby on the 14th, Hoxie on the 15th, Hill City on the 16th, Oakley on the 17th and Sharon Springs on the 18th.

These meetings were addressed by Prof. Robert Hay, State Geologist; Hon. Wm. B. Sutton, President of the association and member of the State Board of Agriculture, and by Hon. E. D. Wheeler, State Forestry Commissioner, and others.

Prof. Hay, at the Oakley meeting, summed up the situation and prospects of western Kansas as follows: "I repeat, that in these western counties there is water enough from all sources—the conservation of the storm waters, the utilization of springs and streams, and the recovery of the underground waters, both the underflow of the valleys and the sheet water of the uplands, to irrigate on an average ten acres for every quarter section of land.

The aggregate of the business done in the United States last week, as shown by the statement of bank clear-

ings, was 8 per cent. greater than for the corresponding week last year. New York city showed a decrease. The country outside of New York city showed an increase of 24 per cent.

TARIFF BY THE NEW BILL.

The following is a statement of average ad valorem rates of duty of the McKinley law and the Senate bill on a number of principal items, as compiled by the Treasury department.

Table comparing McKinley and Senate tariff rates for various goods. Columns include item name, McKinley rate, and Senate rate. Items include Camphor, Whiting, White lead, Bichromate of soda, etc.

Under the McKinley law all raw sugar was admitted free of duty and the government paid a bounty of two cents per pound for that manufactured in the United States.

LUCKY THE LAND THAT CAN IRRIGATE.

Not long since, a gentleman was returning from a tour of inspection of the irrigated farms of Colorado, and was, as is universally the case, enthusiastic as to the profits and certainties of that kind of farming.

Undoubtedly the time is coming when the envied of all tillers of the soil will be the man whose land is so furnished with water that it can be applied at the will of the farmer.

cinnati Price Current's recent crop report from the Sucker State:

- Bureau County—6,005,400—Suffering severely for want of rain. Jackson—1,118,000—If it don't rain soon corn will be a total failure on uplands. Morgan—4,587,300—Almost a failure for want of rain.

BUSINESS PHILANTHROPY.

A strong company has undertaken in a rational and business way to supply irrigated farms to actual settlers in such a way as to place them within the reach of people of small means.

"One hundred and sixty acres of land for \$1,000. On each farm is to be a separate and independent system for irrigating at least ten acres. The plant consists of a storage reservoir, a well or other sufficient water supply, a pump and a windmill or other power device of sufficient capacity for lifting the water into the reservoir.

This proposition is made by the Syndicate Lands and Irrigating Corporation, of Kansas City. The company's agent at Garden City, the most advanced irrigation center on the great plains, is L. M. Pickering.

Weekly Weather-Orp Bulletin.

Issued by the United States Department of Agriculture, in co-operation with the Kansas State Board of Agriculture, for the week ending August 20, 1894, T. B. Jennings, observer:

Good rains have fallen in the extreme northern counties of the eastern division and in Cloud and Republic, and in the southern part of the middle and eastern divisions except in Cowley, Chautauqua, and the southern part of Montgomery, while over the rest of the State little or no rain fell.

The average daily excess of temperature has been from 4° to 9° with about a normal amount of sunshine.

Pastures and some fields of late corn have been benefited in the localities where rain has fallen, while over the larger part of the State pastures are suffering, the ground is too dry to plow, and corn generally is beyond help except in Cherokee, where it is in good condition and promises a full crop.

Prairie hay is about all in the stack and corn-cutting and threshing are in progress over the entire State.

Stock water is becoming very scarce as the rains were not heavy enough to affect creeks and wells.

Late potatoes will generally be a short crop. Apples continue to fall badly.

The Kansas Weekly Capital publishes more Kansas news than any other weekly paper. A free sample copy will be sent on application to THE TOPEKA CAPITAL CO., Topeka, Kas.

CONCERNING PARTITION FENCES.

EDITOR KANSAS FARMER:—I would like to have printed the law in regard to division fences. We will say that A. and B. own adjoining farms. A. has stock on his side, while B. farms his side. Now is B. compelled to keep his part of the fence good, so as to protect his crops from A.'s stock, or is it A.'s duty to keep the whole of the fence and care for it? Would B. be at liberty to remove his fence and compel A. to take care of his stock by owning the whole of the fence so long as B. does not use it as a pasture? What is a lawful fence? How many wires and how far apart are the posts to be set, and if boards and wire, how many of such? S. T. H.

By referring to General Statutes of Kansas, compilation of 1889, chapter 40, article 3, from section 3068 to 3085, inclusive, you will find what the law provides with reference to partition fences. As this can be readily found and read in any county office or by calling on your nearest Justice of the Peace, it would scarcely be necessary for the whole of it to be copied here.

Section 3068 provides: "The owners of adjacent lands shall keep up and maintain in good repair all partition fences between them in equal shares, so long as both parties continue to occupy or improve such lands."

Section 3076 provides: "No person not wishing his land inclosed and not occupying or using it otherwise than in common, shall be compelled to contribute to erect or maintain any fence dividing between his land and that of an adjacent owner."

If A. uses his land for pasturing his stock and B. uses his land for farming purposes, they both are "using and occupying" and should equally contribute to making and repairing fences. Either one may shirk this responsibility by totally abandoning the land—not using it for pasture nor farming, but open to the public generally.

Section 3061 provides: "All fences composed of posts and rails, posts and palings, posts and planks, or palisades, or of stone, or composed of posts and wires, or those composed of turf, shall be at least four feet high; those composed of rails, commonly called a worm fence, shall be at least four feet and one-half high to the top of the rider, and shall be thoroughly staked and ridged, or if not staked and ridged, shall have the corners locked with strong rails, stakes or posts; those composed of stone shall be at least eighteen inches wide at the bottom and twelve inches wide at the top; those composed of turf to be thoroughly staked and ridged, and shall have a ditch on the outside not less than two feet wide at the top and three feet deep. All fences composed of rails or lumber, the bottom rail, board or plank, shall not be more than two feet from the ground in any township, and in those townships where hogs are not prohibited from running at large, it shall not be more than six inches from the ground, and all such fences shall be substantially built and sufficiently close to prevent stock from going through. All hedge fences shall be of such height and thickness as will be sufficient to protect the field or inclosure."

Section 3062: "In fences composed of posts and wires, the posts shall be of ordinary size for fencing purposes, and set in the ground at least two feet deep, and not more than twelve feet apart, with holes through the posts or staples on the side, not more than fifteen inches apart, to admit four separate strands of fence wire, not smaller than No. 9, and shall be provided with rollers and levers, at suitable distances, to strain and hold the wire straight and firm."

When a farmer has fences as above described and still suffers damage by reason of cattle or other stock breaking through or jumping over, he may proceed to obtain redress as provided in article 4, chapter 40, section 3086 to 3093, inclusive.

In counties where the "herd law" is in force, the owner of stock is liable for damages they commit without reference to fences. The herd law you will find in chapter 105, article 10, section 6791.

Publishers' Paragraphs.

Anyone entitled to "World's Fair Views," "Picturesque America," etc., who has not received his copy, should promptly notify

this office in order that we may trace and correct the error.

"Striking for Life," is the title of a book soon to be brought out by the National Publishing Co., of Chicago. The book is to deal with the laborer's side of social problems, and under the authorship of John Swinton, of New York, is likely to prove a revelation as to present events and those of the immediate past and prospective future. The publishers want agents and will furnish outfits prepaid on receipt of 10 cents.

How Shall Wheat be Fed?

EDITOR KANSAS FARMER:—Will you have some of your readers give, through your paper or to me direct, their experience in feeding wheat to hogs? There is a controversy among the farmers here as to the proper manner of feeding wheat to hogs. Some insist that to feed it dry, without grinding, is the proper method, while others contend that the greatest benefit is derived by soaking the wheat about twelve hours and then feed; while still others claim that the only way to feed wheat to hogs, from which the greatest benefit can be derived, is to crack the wheat and feed it dry. I have about 1,500 bushels of wheat and I want to feed it to hogs rather than to take 35 cents for it. I will be very grateful to any one who will give me his experience, and not theory, in feeding wheat to hogs. Guthrie, Okla. H. H. HAGAN.

In the Stock department of this paper will be found a paper, from one of the best informed experimenters in the country, covering very thoroughly the inquiries of our correspondent. The KANSAS FARMER will, however, be pleased to publish the results of feeding as experienced by any of its readers.

The Kansas City Drovers' Telegram says: "It is estimated that from forty to fifty cars of wheat are leaving daily to the feeders in Iowa, Nebraska and Kansas, and a low grade flour is also being brought here for feeding purposes. It is said to make a good chop feed. It seems to be pretty well agreed by those cattlemen who have tried it that a bushel of wheat is equal to a bushel and a third of corn for feeding. That is, sixty pounds of wheat is equivalent to seventy-five pounds of corn. With No. 4 wheat selling here at 45 to 46 cents and corn at 53 cents, it is no wonder that stock is being given more wheat and less corn and that it is being bought so freely for the country. The present difference in the price of the two grains and the greater value of wheat as a feed make it 24 cents a bushel cheaper than corn, or wheat at 46 cents equal to corn at 29 cents. But a better feed than straight wheat is corn and wheat mixed, say two-thirds wheat and one-third corn, which at 46 cents for wheat and 53 cents for corn, would cost about 48 cents, and would make a most growing and fattening feed. As many stockmen can buy wheat in the country cheaper than here this ration can be still further cheapened. Of course, these grains should be ground before fed, as it is waste to feed wheat straight. The abundance of cheap wheat must do much to mitigate the hardships of feeders this winter, and the effect of the shortness of the corn crop on feeding operations greatly overcome."

Sowing Alfalfa in the Fall.

EDITOR KANSAS FARMER:—Have any of your readers had any experience with sowing alfalfa in the fall? If so, will they please inform me, through the KANSAS FARMER, the manner of sowing and the result? GEO. A. GOULD.

Solomon City, Kas. During the last few months the KANSAS FARMER has contained letters from several farmers, giving their experience with fall seeding of alfalfa. Their statements may be summarized by saying that those who have reported on this time of seeding have uniformly spoken in its favor. It is best to plow the land thoroughly and as early as convenient after harvest. It should be harrowed until a good seed-bed is obtained. As soon as the land shall have been thoroughly soaked by rain or artificial irrigation and shall have again settled sufficiently to be in good working condition, sow the alfalfa, about fifteen or twenty pounds of seed per acre, using either a broadcast seeder or a press drill. Let the seed be covered about two inches deep on light land. Experience indicates that it may be sown at any time from the beginning of May to the end of October, although for late seeding a preference is expressed for August and the

first half of October. The writer has about twenty acres of land in readiness and will sow as soon as the proper condition of moisture can be obtained.

Alfalfa comes up almost as readily as radishes and makes a rapid growth from the start under favoring conditions. Native grasshoppers are very fond of it and if numerous should be either poisoned or caught.

An advantage mentioned for fall over spring seeding is the lessened liability of choking by weeds while the plants are small. If a good stand of alfalfa is obtained it smothers out everything else on the land after obtaining a good start.

Kansas Cities and Towns.

The table herewith, compiled by the Secretary of the State Board of Agriculture, gives in the order of their rank the population of Kansas cities and towns having 1,000 or more inhabitants in March of the present year, as enumerated by assessors. The cities that have become eligible to this list during the year are Osage Mission, Frontenac, Caney, Alma and Ellis. Those dropping out within the year were Lincoln, Miltonvale, Smith Center and Downs.

Table listing Kansas cities and towns with their populations in 1893-94 and 1892-93. Includes cities like Kansas City, Topeka, Wichita, Leavenworth, etc.

European Wheat Requirements and Resources.

Berbohm's London List of August 3, as quoted by Cincinnati Price Current, submits the following: What may be called the season of the exporting countries being now over, it is interesting to compare the total shipments of wheat to Europe in the past two seasons:

Table comparing European wheat requirements and resources for 1893-94 and 1892-93. Lists countries like United States and Canada, Russia, India, etc.

At the opening of the season, viz., last September, we gave our usual forecast, showing that only 41,000,000 quarters might be expected for Europe; but America and the Argentine have both exceeded any reasonable estimates possible at that time. We may point out, however, that in our review of December 29 we drew attention to this fact, viz., that America and La Plata were both likely to greatly exceed all previous estimates.

With regard to the importing countries, we of this List consider that the season does not end till August 31. Mr. W. S. Patterson, of Liverpool, however, writing us this week draws our attention to the fact that the letter he wrote to us last January, and published in our columns, regarding the European requirements apart from the United States, and which he estimated would not exceed 430,000 quarters per week (a figure which we at that time

had adopted), has been amply justified, the result being about as follows:

Table showing quarters of wheat requirements for various countries: France, Switzerland, Belgium, Holland, Germany, Italy, Spain, Portugal, Greece and Scandinavia.

Total... 22,250,000 or per week... 428,000

Mr. Patterson then goes on to say: "With regard to the coming season, it is more and more evident that the American Bureau is again underestimating the winter crop. When California is put at its proper percentage, and a few points added to the Kansas figure, it will not be short of 90 per cent. of a full average crop, and in all probability 350,000,000 bushels. The spring crop will evidently be a moderate one, perhaps only 130,000,000 bushels, so that a very reasonable and conservative estimate for the whole is 480,000,000 bushels.

Table showing reserves of wheat estimated at: 1) In farmers' hands, 2) In dealers' hands, 3) In known warehouses, 4) In Pacific warehouses.

"It is evident, therefore, that there is available for all wants about 630,000,000 bushels, of which about 365,000,000 are required for food and seed; about 115,000,000 will remain in the country at present low prices, and about 150,000,000 are available for, and will be exported in the form of wheat and flour.

"Touching on European wants, I estimate that only two countries will show any material change from last season, viz., France and Spain, but the deduction therefor, from all the evidence before us, cannot be put at less than 3,000,000 quarters. Putting United Kingdom takings at 22,000,000 (which is quite full), and extra-European wants at 3,000,000, we have a grand total required of about 45,000,000 quarters compared with 48,000,000 last season. How will 45,000,000 be obtained? I submit the following table as a reasonable one:

Table showing wheat resources for various regions: United States and Canada, Russia, Other Black sea countries, India, etc.

"These figures seem to show that the supplies required can be obtained, and that without straining the resources of the exporting countries. As against this, however, it must be admitted that prices are very low, and can not reasonably be expected to give way more than fractionally. One shilling per quarter at these prices must be accounted a good deal in the way of reduction.

"I think a reasonable conclusion might be that an advance would not take place at present, but would easily occur if anything happened prejudicial to any important crop growing in the late autumn either north or south of the equator."

Bethany College, Lindsborg, Kas.

Large, modern, well equipped. Just the place for farmers' boys and girls. Seven departments. Best and largest music school in the State. Fine Art department. A splendid business college. Hard work and rapid success are always popular at Bethany. 175 rooms, all steam heated. Board only \$2 per week. 440 students, twenty-five instructors. Fine catalogue and lithograph free on application. Surroundings safe and pleasant. Write the President, DR. C. A. SWENSSON, Lindsborg, Kas.

Excursion to Washington, D. C.

On account of the Knights of Pythias Conclave at Washington, D. C., the Baltimore & Ohio Southwestern Railway offers a rate of one fare for the round trip from all points on its lines. Tickets on sale August 22 to 26, good returning until September 15. Splendid opportunity to visit the National Capital at low rate. For particulars apply to any agent Baltimore & Ohio Southwestern Railway, or address A. C. Goodrich, Western Passenger Agent, P. O. Box 264, Kansas City, Mo., or O. P. McCarty, General Passenger Agent, St. Louis, Mo.

Get up a Club for KANSAS FARMER.

Horticulture.

PECANS AND CHESTNUTS.

The man of to-day remembers few incidents of his boyhood with more pleasure than the times when he went a-nutting in the wild-woods and came home with a bountiful store to be cracked of winter evenings. The days of wild-woods nutting are rapidly disappearing in the vistas of the past and are being supplanted by the days of commercial nut orchards. The demand for nuts is rapidly increasing.

William Parry, of Pomona, N. J., has recently published some interesting observations on nut culture, from which the following is taken:

"Nut culture is an industry that until recently has received but little attention. The large returns of \$25 to \$50 from individual trees and the immense profits from established orchards have stimulated the interest, and our foremost enterprising fruit-growers are planting NUT TREES largely for market purposes; and others who enjoy the nuts during winter are realizing that in order to have an abundant supply it is only necessary to plant the trees, as hardy varieties are now grown that succeed in all sections of the United States.

"A Kentuckian, who has 200 chestnut trees and about 300 walnut and butternut trees, says his income from them year by year is larger than that of any farmer cultivating 300 acres of ground. He sells his crop on the trees for cash and the only expenses are for taxes.

"Pecans.—The impression that the pecan can only be grown in certain favorable, moist locations is rapidly being dismissed, as they are being continually discovered throughout the Middle and Western States in locations which have not been considered favorable to their growth. Here in Burlington county, New Jersey, are a number of large, handsome trees, two or three feet in diameter, on high, dry ground, and producing annually five to six bushels of delicious thin-shelled nuts; and a writer in the *American Agriculturist* states 'they can be grown wherever the hickory thrives.' The wild pecans commence bearing at six years; at ten they yield four to five bushels, and increase with age, and the nuts sell rapidly at \$4 to \$5 per bushel. The tree is hardy, tough, free from blight, insect scales or any of the usual ailments common to orchard trees.

"A gentleman in Georgia, Mr. H. C. Daniels, has a pecan tree which bears annually from five to ten bushels of nuts, which sell readily at wholesale at \$4 to \$5 per bushel. An orchard of pecans set thirty feet apart each way, requiring forty-eight trees to the acre, at above rates would give handsome returns.

"Don Bernardo Guirado, of California, owns an English walnut orchard which he reports yields him a net profit of \$15,000 every year. As the orchard contains 100 acres this is at the rate, year in and year out, of \$150 from each acre.

"J. H. Burke has a forty acre orchard near Rivara, which, although not in full bearing, last year gave him a return of within \$40 of \$6,000.

"These figures show that the English walnut is a good tree to plant in California and they are now being successfully grown over a large portion of the country.

"The chestnut is also very valuable, not only for timber purposes, but for market.

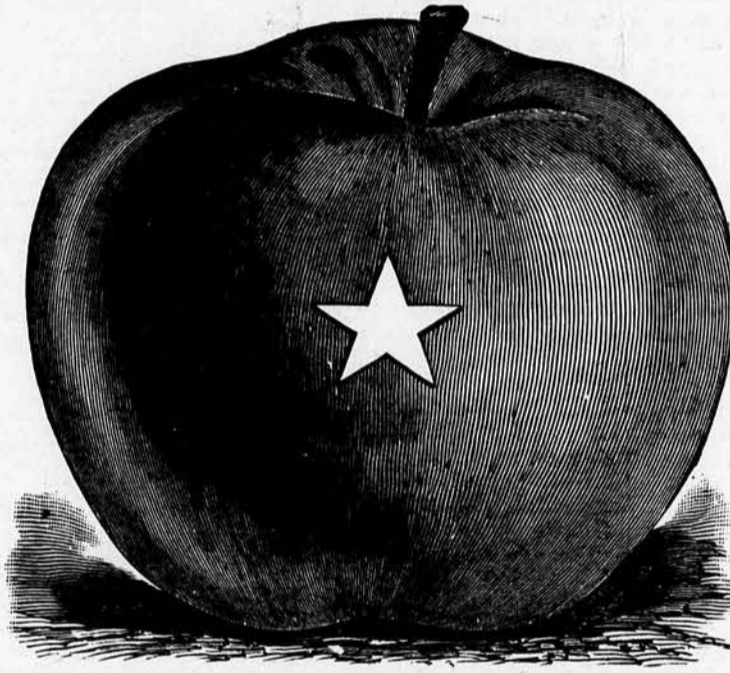
"Of the improved varieties of large nuts two to three bushels per tree is but an ordinary yield, and as they come to bearing at two or three years of age, or as young as a peach tree, and the nuts sell at 25 to 40 cents per quart, the profits must be very gratifying and the business pleasant and popular. When the culinary uses of the chestnut are more generally appreciated in this country, as they are in Europe, the demand for those of large size will be immense. European cooks know how to utilize them in a number of ways.

"Realizing the importance of this new industry and the increased demand for large chestnuts for culinary purposes, a stock company has been formed in the vicinity of Philadelphia, having

150 acres devoted exclusively to chestnut culture, and although a part of it was set only in spring of 1891, they produced some handsome nuts of the Japan varieties the same year.

"*Rural New Yorker*, August 29, 1891, states: 'The Paragon chestnut tree, planted in spring 1888, and now about nine feet high, is bearing forty-three burrs. Another, planted in 1889, and seven feet high, bears seven burrs. A Reliance chestnut tree, but two feet two inches high, bears three burrs. It bore several the year before in the nursery row.'

"Chestnuts are best prepared for market by bathing in scalding water as soon as gathered and thoroughly drying till all surplus moisture is gone, so that molding is avoided. The method is to place say a bushel of nuts in an ordinary washtub and on these pour boiling water in quantity sufficient to just cover the nuts an inch or two; the wormy nuts will float on the surface and are removed; in about ten or fifteen minutes the water will have cooled enough to allow the nuts to be removed by the hand; at this stage of the process the good of scalding has been accomplished, the eggs and larva of all insects have been destroyed, and the condition of the meat of the nut has been so changed that it will not become flinty hard in the curing for winter use. The water is drained off, nuts placed loosely in sacks, frequently turned and shaken up as they lay spread in the sun or dry house, and after perfectly dry so as not to mold



THE STAR APPLE.

Propagated and introduced by WM. PARRY, of Pomona Nurseries, Parry, N. J.

they may be packed in barrels or boxes and stored for winter, when they will be found very tender, sweet and delicious.

"There are no other trees so well adapted for avenues, that will at the same time yield profitable returns, as our native nut-bearing trees, and none more suitable for shade and ornament about farm buildings, along farm lanes or in pasture fields."

Soil and climatic conditions have much to do with the success of given varieties of strawberries. Plant largely only of those that have done well with you or in your locality on soil and in situation like yours.

The general law of forestry is laid down as follows in the forest laws of the Duchy of Baden: The forests are to be so cultivated by the cutting down and removal of old large trees that, without loss of time, a young forest can take their place.

The Star apple, propagated and introduced by Wm. Parry, of Pomona nurseries, Parry, New Jersey, is well represented in the illustration. A sample of the fruit sent to this office was as nearly like the engraving as it is possible for a rich, sub-acid, smooth, light green and well matured apple to be like a picture printed in black and white. A peculiarity of this apple is that it ripens early and keeps a long time. Its size is admirable, and the tree is reported to be a strong grower and a free bearer.

Preparing Large Trees for Removal.

Those about to plant trees, and who desire to set out large ones, are often persuaded not to do so by those who believe only small trees thrive. Indeed, to the general observer there can be but one opinion formed from what is seen, which is, that the best results follow the planting of trees of small size. But while this is so, it need not be so. Large trees, if properly prepared, can be planted with as much chance of success as attends the setting of smaller ones. In a general way it is understood that the life of a tree depends upon its roots. Yet how surprising it is that with this knowledge there should be such indifference to the preservation of them when trees are dug up. The life of a transplanted tree, be the specimen large or small, depends on the roots, their number and their vitality. Forest trees, and other ones, which have stood a long time without removal, have but a few thick roots, and when removed it is next to impossible to get but a small portion of them. With small trees there is no trouble in getting nearly all they possess, and this is the only reason why small trees do better than large ones. When this matter is well understood, the one who desires large trees will set himself to work to produce more roots on them before he removes them.

Fortunately, this is not very hard to accomplish. At almost any time of the year the trees can be root-pruned, and the heads shortened in at the same time, which brings about the desired

A Gentleman

Who formerly resided in Connecticut, but who now resides in Honolulu, writes: "For

20 years past, my wife and I have used Ayer's Hair Vigor, and we attribute to it the dark hair which she and I now have, while hundreds of our acquaintances, ten or a dozen years younger than we, are either gray-headed, white, or bald. When asked how our hair has retained its color and fullness, we reply, 'By the use of Ayer's Hair Vigor—nothing else.' "In 1868, my affianced was nearly bald, and the hair kept falling out every day. I induced her to use

Ayer's Hair Vigor, and very soon, it not only checked any further loss of hair, but produced an entirely new growth, which has remained luxuriant and glossy to this day. I can recommend this preparation to all in need of a genuine hair-restorer. It is all that it is claimed to be."—Antonio Alarrun, Bastrop, Tex.

AYER'S HAIR VIGOR

colors are said to act favorably upon the nervous system. Red blossoms are stimulating, while delicate blue flowers are soothing.

"What is home without a newspaper?" It is a place where old hats are stuffed into broken windows; where the wife looks like a bag of wool with a string around the center; where the husband has a tobacco juice panorama painted on his shirt bosom, and the neglected children wipe their noses with their jacket sleeves.—*Ex.*

REDUCED RATES TO WASHINGTON, D. C.

Grand Encampment of the Knights of Pythias of the World.

The biennial encampment of the Supreme Lodge and grand encampment of the Knights of Pythias of the world will be held at the national capital, August 27 to September 5.

For this occasion the Baltimore & Ohio railroad company will sell round-trip tickets from all points on its lines, August 22 to 26, inclusive, valid for return-trip until September 8; a further extension of time to September 15 can be secured, provided the ticket is deposited with the joint agent at Washington, D. C., on or before September 6.

The round-trip rate from Chicago will be \$17.50, and correspondingly low rates from other points. Tickets will also be sold at all principal points throughout the West and Northwest. No matter where you start from, ask for tickets via B. & O.

For information in detail, address L. S. Allen, Assistant General Passenger Agent, B. & O. Railroad, Grand Central Passenger Depot, Chicago, Ill.

"The Great Leak On The Farm"

is a valuable pamphlet relating to corn fodder, and also descriptive of that wonderful machine, the

"Keystone" Corn Husker and Fodder Cutter, combined.

It is sent free.

KEYSTONE MFG. CO., Sterling, Ill.
(Mention this paper.)



BUY DIRECT AND SAVE DEALER'S PROFIT. Buy our Oxford Boss Bicycle, suitable for either sex, made of best material, strong, substantial, accurately adjusted and fully warranted. Write to-day for our large complete catalogue of bicycles, parts, repairs, etc., free. OXFORD MFG. CO. 338 Wabash Avenue, - CHICAGO, ILL.

Strong-scented flowers in the sick room are objectionable. The presence, however, of flowers with delicate fragrance is generally beneficial. Certain

In the Dairy.

Conducted by A. E. JONES, of Oakland Dairy Farm. Address all communications Topeka, Kas.

THE JERSEY AS A "TOWN COW."

(Prize essay, by Mrs. Allie Priest.)

The term "town cow" recalls to my mind thoughts of other days, when the hungry cow, chased about by the boys and dogs, strayed unforbidden over our village streets, stealing hay from the farmer's wagon, or picking the grass on the common, then venturing through every open gate to carry destruction to unguarded lawns and shrubbery. But those days are long since gone; our little village has grown into a city, where even the town cow must keep her place, or her owner pay for all of her trespasses.

There are many persons in every small city who keep a cow to supply the family with milk and butter, and how often do we see some poor scrub that gives but a scanty flow of milk for about half, or at the best not more than three-fourths, of the time! The people who have tried such cows will always tell you that it does not pay at all to keep a cow in town. I have been in the city several years, and have always kept a cow. I am satisfied that it pays no one with small children, or a family that likes milk and butter, to do without a good cow; and one that will supply you with plenty of the best quality of milk, cream and butter almost the year round at the lowest possible cost of production should be considered the best and cheapest cow, no matter what her first cost may be. I have been familiar with the Jerseys on my father's farm for nearly ten years, and we have kept our Jersey cow in the city about two years. From this knowledge of their good qualities and characteristics, I claim without the least reserve that the Jersey is the best and most profitable cow that can be kept in town. This is saying a great deal for the Jersey, but I think the number of them that are to be seen in the barnyards and on the common goes far to prove that I am not alone in this belief. There are so many reasons why this breed is to be preferred to all others in town that I hardly know where to begin to mention their points of excellence. They usually milk very easily and give a good quantity, and if well managed and cared for they will never go dry. Our cow began giving milk when 18 months old, and has calved once since then, but has never gone dry, though we did not use the milk for a few weeks. The quality of the milk is the superior point of the Jersey cow, the new milk being almost like cream. The milk and cream separate quicker, and there is much more cream than on the milk of any other cow; this cream churns very easily and a much greater amount of butter is produced, and the butter is always a rich, golden yellow that requires no butter color to make it marketable. The butter is also unusually firm, making it very much easier to handle in warm weather. These all combine to make the butter more desirable than any other, and it is very easily sold at two or three cents above the market price. Thus, by keeping a Jersey cow, if you wish to sell milk, you have a more salable article than the milkman, one that finds its own customers among your neighbors. If you wish to sell cream or butter, you have more of it and of much better quality; or, if you only wish to provide for your own use, you have the satisfaction of knowing that your family are using the best milk, cream and butter that can be obtained anywhere.

Of course, it will cost more in the beginning to buy a good Jersey cow than it would to get a scrub, but get a first-class cow and she will soon pay for herself in milk and butter; you have no idea how soon until you try it.

Then they mature so young that even in the city you can afford to raise the heifer calves, and soon have a high-priced cow to sell. It is easier to keep a Jersey than any larger cow, as they do not require so much feed, a point which will not be overlooked in a place where all feed must be bought. Being small, they do not require so much room, and they are much more cleanly

in their habits than the common cow, two points that will commend them where they must be kept confined to a small space. Their natural traits, gentleness and docility, which make them all appear to be pets, recommend them more than anything if one intends to keep a cow in the close quarters of the city lot or stable, or staked out on the common.

Besides all these practical points in this question, in conclusion I would say there is a satisfaction in owning a really good animal, one of the best of its kind, that the average person fully appreciates, and no red or brindled scrub can ever give that attractive look of comfort and gentility to your city home that is imparted by the presence of the meek and gentle Jersey cow.

Dairy Notes.

Butter-making is an art that will pay well for the learning.

The hot weather of last week was hard on pastures, and the dairyman who had the forethought to sow a patch of sorghum or Kaffir corn was in luck.

Under the rules of the Oregon Dairy Commission all butter or milk shall be considered adulterated that fall below the following standards: Butter that contains more than 14 per cent. water. Milk that contains more than 87 per cent. water. Milk that contains less than 3 per cent. butter fat. Milk that contains less than 12 per cent. volume of cream, or less than 1,035 specific gravity after the cream has been removed.

Streaked butter indicates a retention of buttermilk. It may be prevented by adding a quart of water to every two gallons of cream after the granules of butter begin to appear and before churning is completed. Washing the granulated butter in the churn with cold water several times after drawing off the buttermilk is also a cure. Streaks sometimes result from uneven mixing in of salt. Reworking after the salt has dissolved will correct this.

The average farm dairy-room is the pantry, and when the thermometer registers 90° to 100° outside, the milk and cream are deteriorating in the heat of from 80° to 90° inside. Nearly every one has plenty of cold water that can be utilized at very little cost, in order that the temperature of the milk may be held below 60° and insure its being kept sweet for twenty-four hours. Nature has placed these conveniences at our disposal and those that fail to take advantage of such will be counted as a failure at any kind of business.

Standard butter contains from 80 to 82 per cent. butter fat. The rest is moisture, salt, caseine and buttermilk. Only an expert by the use of a sponge can get the moisture out below 10 per cent. Most people in trying to work the butter to below that per cent. of moisture will spoil the grain and not improve the butter. From 12 to 15 per cent. of moisture is about the right amount. Caseine, buttermilk and other foreign substances in the butter help to make it rancid and the more of these foreign substances the sooner the butter goes to the bad.

Let the same milkers milk the same cows every night and morning, and as a rule in the same order. It results in more milk and better milk. Cows become accustomed to regular milkers and respond better. Milking in the same order brings the milking time of each cow more uniform than when milked first at one milking and last at another. Milk in the barn the year around, allowing each cow to go to her accustomed place and give her something to eat when she needs it, which is more of the time than most persons think. Don't dawdle when milking, nor rip and tear. Don't yell nor pound nor jerk. Get right down to business; be firm but tactful in your grasp and relieve the udder of its treasures in a way agreeable to the cow. Don't put in full time in the field and then come home tired, and sweaty, and dirty, and irritable, and peevishly chase the cows around the yard and threaten to smash their ribs if they don't stand still and "so" to suit. That is poor tact, poor fun, and brings poor results.

IN paint the best is the cheapest.—Don't be misled by trying what is said to be "just as good," but when you paint insist upon having a genuine brand of

Strictly Pure White Lead.

It costs no more per gallon than cheap paints, and lasts many times as long. Look out for the brands of White Lead offered you; any of the following are sure:

"Southern," "Red Seal," "Collier."

FOR COLORS.—National Lead Co.'s Pure White Lead Tinting Colors.

These colors are sold in one-pound cans, each can being sufficient to tint 25 pounds of Strictly Pure White Lead the desired shade; they are in no sense ready-mixed paints, but a combination of perfectly pure colors in the handiest form to tint Strictly Pure White Lead.

A good many thousand dollars have been saved property-owners by having our book on painting and color-card. Send us a postal card and get both free.

St. Louis Branch,
Clark Avenue and Tenth Street, St. Louis.

NATIONAL LEAD CO.

In fly-time, darkening the stable permits the cows to be freed from annoyance while being milked, and that also means comfort for the milker. Comfort for both cow and milker means cash in the pocket. This is not mere theory. We know it by actual personal experience.

To teach a young calf to eat oat meal, first give it a little in the hand; it will soon learn to eat it, and then a small feed-box may be fixed in the pen, in which the meal is placed. At first the calf cannot digest this kind of food, and not until it is three weeks old and its teeth are beginning to appear, because the saliva is not secreted until then, and this is needed to digest solid food. The quantity given at first should not be more than one ounce, and this may be gradually increased until six ounces daily are given at the end of a month. The increase should be gradual after that.

The next meeting of the Kansas State Dairy Association will be held at Topeka on the 21st, 22d and 23d of November, next. Matters of great importance will come before this meeting. The full program will be announced in this paper later on.

The Poultry Yard

Incubator Chicks.

The following is taken from a paper read by Dr. G. L. Shepard before the Sedalia Poultry Club, Sedalia, Mo.:

"Poultry-raising for profit may be divided into three distinct branches, each with a special object in view, viz.: Raising for the general market; for egg-production (eggs to be used as food) and the raising of pure-bred poultry to supply the demands of market breeders or other fanciers. Doubtless the most pressing demand for the use of the incubator is from those engaged in raising broilers for market, to whom it is almost a necessity. To other raisers it may prove a convenience or a hindrance, with the chances largely in favor of the latter result. The conditions absolutely necessary for success are such that few will be likely to attain them, without a large experience in the way of labor cost, patience tried and a general condition of affairs calculated to dishearten any but the most persistent character.

"About the most sensible and practical advice I have yet read in poultry papers on this subject is to the effect that if a person does not wish to raise more than 300 chickens he would better trust the old hen than an incubator. We read in the circulars, catalogues and recommendations regarding incubators the most flattering reports of success, almost outdoing (on paper) the hen's best efforts; but these reports should generally be taken with an allowance of a very wide margin. Reliable and practical men of large experience state that a hatch of 50 per cent. of eggs used is satisfactory and as good as can be depended upon. Again, some writers claim to have but little difficulty in hatching chickens, but find it exceedingly difficult to raise them. Doubtless this department of the work would be greatly modified by circumstances and surroundings. If the chicks

—always tender during the first week or two of life—should be especially feeble, and the season of the year be cold and changeable, much greater difficulty would be experienced. Greater care and more frequent attention would be required than in mild weather with plenty of genial sunshine. With fairly vigorous chicks when hatched, suitable warmth and ventilation and proper food at right intervals, this including, of course, pure water and a good supply of grit to aid digestion, I believe a larger per cent. of chickens can be raised without than with hens, and, too, with less trouble. Your fowls will grow up also much tamer and more gentle, which is a most desirable feature. My own plan would be (and it is followed by some very successful breeders) to set as large a number of hens at one time as may be practicable, and take them from the hens to a brooder as soon as hatched.

"One especially valuable feature of incubator-hatched chicks is, that they commence life absolutely free from vermin, and they can certainly be kept free from this great pest much easier in a brooder than when running with hens."

Preserving Eggs.

Preserving eggs so as to have them fresh and in good condition for several months is a difficult matter. Eggs can be preserved, but when they reach the market they cannot compete with those that are newly-laid. There is a freshness in the appearance of a newly-laid egg that cannot be counterfeited, and though eggs may be preserved (prevented from decaying), they will not be what is termed fresh.

It is not so much a matter of process as in the kind of eggs. Eggs from hens not with males will keep three times as long as those that contain the germs of chicks. In the incubators eggs that contained no chicks have remained for three weeks at a temperature of 103°, coming out in a condition not unfit for use in custards and cakes, and having no odor, while fertile eggs would become rotten as soon as the germ was dead. The main point, therefore, is to take the males out of the yards, as the hens will lay as many eggs without their presence as with them, while the keeping qualities of the eggs will be extended to a much longer period.

The next point is to keep the eggs in a cool place, such as a cellar. If they can be kept at 50° above zero, so much the better, but 60°, or even 70° will answer, though the cooler they are kept the longer they will remain fresh. Place the eggs on racks or trays, or in any position which will permit of turning a large number at once. Turn them half over twice a week. There are just three points to remember, and they are: First, keep the eggs cool; second, turn them twice a week; third, use only eggs from hens not with males.

We are aware that there are many other methods, such as storing in lime and salt, placing them in solutions, greasing them, etc., but the above is the best method known, and the eggs are not stained or changed in appearance. No method will answer if fertile eggs are used. To be successful one should not buy eggs, as a decomposed egg among a lot will affect the whole, and stale eggs will find their way into the basket despite all precautions, when eggs are collected from neighbors.—*Mirror and Farmer.*

GOSSIP ABOUT STOCK.

J. F. Thomas, of Maple City, Kas., writes that owing to drought, he is desirous of selling some of his fine swine and poultry. See his card on first page and write him for prices.

An error crept into our write-up of Mr. Wise's Poland-China herd that appeared in last week's issue of the KANSAS FARMER. In giving the heart girth of Roy Wilkes Jr., it read fifty-six, whereas it should have been sixty-five inches. The reader will observe that it was not an intentional error but one that sometimes happens. This young fellow is one of the best representatives of the Wilkes family and just what every breeder should be possessed of that is desirous of infusing and stamping prize-winning blood and type in his herd.

W. S. Tough & Son, managers of the Kansas City stock yards horse and mule department, report the market during the past week as showing quite a downward tendency. The receipts from the burnt district were quite large, although of a very inferior class of stock. Prices were lower than the preceding week. There was a fair attendance of buyers, but they were of one idea, and that was to buy them cheap or not at all. The most of the buyers were from Texas and Louisiana. There is little prospect of an increase in prices before spring, and farmers and breeders who have a surplus stock on hand are making a mistake in feeding 50-cent corn. There is a fair demand for some nice drivers and shapely 900 to 1,000-pound mares. There was quite a run of Western horses, but they sold very low, all the way from \$10 to \$20 in the car-load lot. The mule market was very quiet. Little or no trading in anything except the fattest of the larger grade of mules. Dealers cannot afford to put the flesh on the thin stuff at the present prices of feed.

Mr. B. R. Adamson, of Fort Scott, Kas., shies his Poland castor into our "stock gossip" ring this week and briefly announces something of his six years experience in building up his herd of Poland-Chinas. Our field man, among other things, reports that the herd now consists of about one hundred head, all ages. The brooder division, consisting of twenty-two head of well-bred individuals, are now presided over by two harem kings, Black Dandy 8809 S., sired by Jim Dandy 7831 S., and out of Kansas Beauty 4th (20184), and was bred by Baldrige & Sons, of Parsons, Kas. He is a large, growthy and typical Poland fellow and his numerous get demonstrates his strong and toppy blood lines. He is assisted by Black Stop 15555 S., a son of the noted World's Fair boar, Short Stop, that was shown by Dorsey & Sons. His sons and daughters sustain the reputation of their noted grandsire and at once places them as worthy of association in any Kansas farmer's herd. In a future "gossip" note we will give a more extended description of the many well-bred and very excellent females now in the herd. The spring pig crop of 1898 was a successful one. A major portion of the early farrow have been sold. About thirty head, both sexes, that came in the late spring and early summer are coming on nicely and will do to go in the near future. A part of these were sired by Bob Waldo, a first-class sire that has left the herd to do service elsewhere. Mr. Adamson has been six years in building up his herd and proposes from now on to join the ranks of the older Kansas breeders.

R. Baldrige & Sons, of Parsons, Kas., will be out again this fall with a very strong show herd of Poland-Chinas and will endeavor to show up what the experience of a lifetime will do in common with their fellow Western breeders. Among others now comprising their herd are the two harem kings, one that was farrowed in March, 1898, bred by F. M. Lail, of Marshall, Mo., at his sale October 19, 1898. He was sired by U. S. Tecumseh 9422, and out of Marshall Maid 4th (10022). As a yearling he scales well—heart sixty-two, flank sixty-two, and length fifty-two and one-half inches. He has come out tip-top since March last, when we looked him over. Several of the best females in the herd are in farrow to him and something extra is expected the coming fall pig crop. Ranch King (Vol. 16), of an October, 1892, farrow, and sired by Hard to Beat 10653 C., and out of Belle Parsons 2d (27072) C., is a remarkable square, blocky, fellow and well after his noted sire. His scale runs sixty-five and one-half in heart, flank sixty-six and one-half, length fifty-nine, and front and rear bone seven and one-half and eight inches, respectively. The brooder division is perhaps a little stronger than at any time in several years. Of course the five-year-old Lady Lail B. leads the string and is without doubt one of the best individuals on Kansas soil, being remarkable, too, for large litters, running from eleven to fourteen, and always raising them. Space forbids more extended notes on the show ladies, but enough can be said when saying that Baldrige will worry along with the boys with a little more confidence than he did at the St. Joseph, Kansas City and Topeka fairs of

1898. A major portion of the spring pig crop are gone, but there are about an even dozen of young fellows there yet, three extra good ones and nine whose breeding and individuality is such that they should be distributed out over the farms of Kansas and a higher standard thereby reached in Kansas swine husbandry.

The first prominent public sale of pure-bred registered swine that will take place this fall will be that of Mr. Bert Wise, of Reserve, Brown county, Kansas. No better can be found anywhere in the West, and every farmer that intends improving or infusing new blood into his herd should make it his especial business to attend and secure just what he needs. The breeder, too, will find that he can get just what he has been looking for. Let every one that can, in any possible way, make up his mind to attend and make the first sale of the season a success. Remember the date—Friday, September 7, 1894—and consult Mr. Wise's sale advertisement elsewhere in this issue for further particulars, and don't forget that the sale will take place on the Brown county fair grounds, near Hiawatha, Kas.

Mr. J. B. Davis, whose farm of 160 acres adjoins the sprightly little town of Fairview, Brown county, informed our field man, while there on a visit last week, that he had decided to close out his breeding and general farming operations at a public sale on Wednesday, October 24, next. He is well known as one of the successful breeders of Duroc-Jerseys, also Short-horn and Red Polled cross-bred cattle. His herd of Durocs consists of about sixty-five head, all ages, and among the more developed ones are several prize-winners. The spring of 1898 crop were sired by Sweepstakes Jr. 1718, Duke of Veragua 409, and the excellent Grover. They are a broad-backed, wide out and rangy set of youngsters. The Duke of Veragua is of Exchanger blood and has a conformation character that ought to please anybody, especially those that desire to cross with the black or white breeds. If the general conformation ideal runs to individuals that show in their younger forms broad backs, full loins, good square, thick hams, and an almost level sprung rib, then the get of Grover will attract close attention. The stickler after type will find something nice in the fourteen head of cross-bred cattle. One cannot help but say that all the usefulness of both original breeds have been happily blended and no more smooth and more profitable cattle stock can be found on Kansas soil. The sale will include everything connected with his stock-breeding and farming operations, and while it is with great regret that his labor of ten years must be sacrificed, as it were, these hard times, it arises from necessity, he having lost his very estimable wife and partner of his joys, leaving a large family of little children that demand his personal care. Col. Eli Zimmerman, the well-known Kansas sales block orator, will do the honors of the occasion. More will appear later on before the sale.

One of the oldest breeders, resident of southeastern Kansas, is the venerable Mr. A. Magers, whose 400-acre farm lies about four miles from LaCygne, Linn county, on the Kansas City, Ft. Scott & Memphis railroad. A native of Ohio and interested since the inception of improved American swine husbandry, his thirty-five years of experience makes him a veteran breeder on Kansas soil. His herd of Berkshires now consists of seventy head, all ages. The aged boar Warwick Hope 31741, by Waterloo 31474, out of Warwick Poetess 30462, heads the herd. Among others of his get were two litters aggregating twenty, sixteen of which were raised, surely attract the visitor. One of these sixteen, a young fellow that stands a peer among heirs apparent, is one of the promising things that every progressive breeder wishes for. Ten of these youngsters are as handsome and even a lot of gilts as one ever sees on a breeding farm. Faces, ear, head, neck, broad backs, good low rear quarters, top and bottom lines, well up on toes, fine, close coats and standard points. In short, it's hard to tell one from another, so good are they all. They are out of Lady Titania X. 32575, by Black Knight 29679, dam Titania 29677, and the other excellent brooder, Fair Beauty 32573, by Black Knight, dam Hambook's Beauty V. 10750. One of the mother sows whose little ones are sure to catch the eye is Queen of the West 32580, a full sister of Lady Titania. Her last litter of eleven are a square, well-turned set of youngsters. Another good brooder is Minnie Oxford II. 32575, by Victor Duke 25715; dam Oxford Belle XXX. 25760. One equally as good is Minnie Oxford IV., a full sister of Minnie Oxford II. Stumpy Girl has proven herself a good profitable brooder. She is known in the register as No. 29579. Among the gilts now on the farm are four that were farrowed September 22, 1893, by Royal King Lee II. 29188, and out of Oxford Belle XXX. 25760, that are worthy a place in some foundation herd. In an adjoining paddock, six young fellows ready for fall service, were seen that ought to be used by the general hog-raiser and thereby gain something, both in

weight and early maturity. Running out in the mast field were about twenty-five gilts, out of which the visitor desiring something nice could select animals to suit his fancy. One that merits special mention is a ten-months gilt by Lord Fullham, he by Imp. Black Knight, and dam Sally Royal, that some show ring aspirant should get possession of. More in the future will appear concerning this herd and the experiences of Mr. Magers.

Among others visited last week in northeastern Kansas, by our field man, was Mr. J. A. Worley, proprietor of Pleasant View stock farm, that lies near Sabetha, in Nemaha county. The visitor will find on the farm Poland-China swine, Short-horn cattle and White Brahma fowls. The swine and cattle herd foundations were laid about ten years ago, and no effort by Mr. Worley, whose portrait appears herewith, has been spared in improving by the best blood obtainable. The Poland herd now consists



J. A. WORLEY.

of about one hundred and sixty head, young and old. Among the boars lately used in the herd were King Sunset 7162, Hiawatha Boy 10284, and those comprising the spring pig crop of 1894 were mainly got by America's Equal, that was bred by Hugh Craig, Guilford, Mo. He was sired by Andrew 7177 S., dam Lady Star 3d (10852). The youngsters by this well-conformed boar that are seen mingling in the herd are long, broad-backed, blocky, smooth-turned thrifty ones, and are sure to attract the attention of one when looking over the herd. About forty-five in the youngster array were sired by Lail's Victor 2d 12148 S. They belong to that square, blocky, early-maturing type that at ten months their weight hovers around 325 pounds and usually bring the day's top price on the market. He was bred by F. M. Lail, Marshall, Mo., and sired by Lail's Victor 4298 S., dam Black Nery (6690). His sire traces back to Stemwinder and his dam two crosses to Give or Take. The female division is one of excellence, and among the front array ones is White Face (20004), bred here on the farm and sired by Climax 2d 3892 S., dam Jewel (20010). The blood of Tom Corwin 2d on the side of the sire, and that of U. S. (1195) in the maternal line. The best description of her in the fewest words is, "She's a good one," and tells the story. Her two litters of 1893 were seven and eleven, respectively, and that of 1894 spring was eleven. She not only farrows large litters, but raises them successfully. Two of her fall farrow of 1893 (sons) are now showing up well, and four of her last litter will bring at Mr. Worley's sale we predict high prices. Profit, another aged and profitable brooder, that was farrowed May 24, 1891, got by Climax 2d 3892 S., dam Prize (20009). Her youngsters are hard to excel, and among others is the fifteen-months-old Profit 2d, that is now raising a May of 1893 litter of seven that are all nice, straight, smooth ones, and sure to be among the first letted for a special inspection. White Stripe (28339), a daughter of White Face (20004); she was sired by Hiawatha Boy 10284 S., he by Prince Salem 7864 S., out of Mollie's Black Choice (17901). Her litter of six are all good ones and they and dam good enough for the show ring. Sylvia (28884), the last one of the score or more of good brooders that will be mentioned at this time, was sired by King Sunset 7162 S., that was bred by W. P. Hayzelett, one of Missouri's noted breeders. He was by King B 2455 S., out of Sunset (430); dam Sylvia (20301), by Modoc 8996 S., out of Young Black Beauty (8643). Sylvia produces litters of sure-enough show pigs, and two daughters of her January 1894 farrow will be out in show ring attire for honors in class, six months and under twelve. Space forbids a further review until our next, when more particulars will be given of the make-up that will comprise the sale offerings, aggregating about one hundred head, which will take place on

Thursday, October 4, next, on the farm. A future "Stock Gossip" notice will also appear, giving points on the cattle and poultry.

Mr. J. S. Magers, of LaCygne, Linn county, Kansas, who has been a breeder of swine from his early youth up, was visited last week by our field man, who found about forty head, all ages, of excellent Berkshires. His twenty years of Kansas experience has taught him that the best way to reach the top was to start right and then endeavor to stay right. The very toppy Imp. Western Prince 32302, farrowed August, 1893, and sired by Imp. Royal Hayter, and he by Lord of the Isle; dam Highclere B. 30463, and she out of the noted dam Rhoda, heads the herd. The mother of this young fellow, Highclere B., is the most noted show ring winner in English Berkshire swine history. His general conformation is such that it attracts the attention of the visitor for a second inspection. He has all the typical standard requirements of the modern Berkshire leaders and is worthy of a first-page illustration. Among the harem queens is the Imp. Western Princess, a full sister, that is perhaps the strongest ideal Berkshire female in the herd, but when the visitor will have carefully looked over the three young lassies that were farrowed at the World's Fair out of the Majestic sow that won second prize, it's pretty hard to say which of the four one would select as a harem queen. Their dam, Majestic 30459, was imported in time for the great show by the noted Eastern breeders, Metcalf Bros., East Elma, N. Y., she having been bred to Royal Hayter before leaving England. Another little select set by Royal Hayter and out of Royal Beauty 29355, and she by Hamlin's Beauty 10960, are such in their promise that something extra fine is awaiting next season's expectations. Metcalf's Pearl 31677, sired by Imp. Enterprise and out of Castor Pearl, is worthy close inspection. Lady Metcalf, sire Earl of Fame and out of Kathleen II. 31674, are both extra good ones. Lady C. I. 31404, by Director, a full brother of Geo. W. Berry's noted prize-winner Longfellow, and out of Nora C. XLIII, 31350, and she by Imp. Royal Windsor, is not only a show yard queen but a very excellent individual in every way. The reader will perhaps understand after this brief review that no better breeding can be had, and an inspection will confirm it as one of the best little Berkshire herds in the West. A major portion of the spring of 1894 farrow, running from April to June, are here and some of them ready to go. A more extended notice of the female division will be given at some later date.

Mr. D. W. Evans, one of the successful breeders of live stock and all-round farmers in northeastern Kansas, whose farm of 200 acres lies near the neatly-built little town of Fairview, Brown county, was visited last week by our field man, who, among other things, writes that he found one of the best Poland-China herds of 200 head that he had yet seen in the State. Its foundation was laid eight years ago and steps were at once taken to build up a herd whose individuals would merit that recognition from the breeding and stock-growing public that every thoroughgoing and painstaking stock-raiser hopes to attain. Clover pastures were provided and grinding machines placed on the premises, whereby the muscle and bone-bearing ration needs could be utilized and a higher development reached as the herd was reproduced and strengthened from time to time. A major portion of the 1893 spring pig crop of about one hundred and fifty head, were sired by the two aged harem kings, Master Wilkes and Lord Benton. Master Wilkes 21623 was farrowed March 6, 1892, bred by the celebrated Indiana breeder, J. H. Bebout, of Rushville. He was sired by George Wilkes 1487, that was shown six times for show ring honors, winning three first prizes, also three sweepstakes, and was the sire of one of the highest-priced animals that ever changed ownership. George Wilkes went for \$750 himself. His sire, King Tecumseh 11798 S., by Tecumseh 4330, that sold for \$500, and he by U. S. 1195; dam Lady Corwin 45840, by King Klever 9459, he by Success 1909, and he by Tom Corwin 2d 2037. The dam of Lady Corwin was Star of Realm 15338, she out of Lady Stibbens 13576 by Star of the West 1933. The Poland historian will at once see that his blood line is right at the top of a long line of Poland kings and queens, and the visitor will at once recognize his very excellent conformation, while his numerous sons and daughters demonstrate that he is one of the most valuable sires now on Kansas soil. His coadjutor, Lord Benton 8168, that was farrowed August 27, 1891, was bred by the well and favorably known Missouri breeders, Messrs. Vivian & Alexander, of McCredie. He was sired by Maid's Cash Boy 3520, by Success 277, that was out of Black Maid; dam Lady Benton 18600, by King Victor 6240, and he out of Jennie's Perfection 4710. He is pronounced by many of those who have seen him the best animal of his kind in Brown county, and the visitor, after a careful inspection of the youngsters now on the farm,

sixty or more of them being his sons and daughters, will, we think, vote largely the same way. His breeding is no better than is his general conformation and his get go to show that the preference shown him is rightfully merited.

acteristic conformation; style, quality and the grand showing made by his sons and daughters that he has already been bred to Gem, Beauty C., Black Beauty, Fruitful, Cora Stewart 2d and Sedgwick 3d, all of whom are due to farrow in late September and early October.

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.

NON-BREEDING.—I have a mare that either does not get in foal or else loses it afterward. What can I do to remedy the difficulty?

Our field man reports a visit last week to the Champion herd of Poland-China swine, bred and owned by Mr. R. S. Cook, of Wichita, Kas., and, among other observations, he reports that the 125 head, old and young, are coming on nicely and show what may be done with good blood rightly mingled, through the trained eye and judicious hand of the progressive modern live stock breeder.

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MARKET REPORTS.

LIVE STOCK MARKETS.

Kansas City.

August 20, 1894.

CATTLE—Receipts, 7,925 cattle; 553 calves. Dressed beef and shipping steers, \$2 75@4 00; cows, \$0 75@2 50; bulls, \$1 30@1 70; heifers, \$1 40@2 30; calves, \$3 25; stockers and feeders, \$1 00@2 25; Texas steers, \$2 25@3 75; Texas and Indian steers, \$1 60@2 90; Texas and Indian cows, \$1 65@2 20; Texas and Indian heifers, \$1 25@2 00; Texas and Indian calves, \$2 00@2 50.

Chicago.

August 20, 1894.

CATTLE—Receipts, 24,000, including 7,000 Western and 4,000 Texans. Best steady. Beef steers, \$3 00@5 00; stockers and feeders, \$1 50@3 00; bulls, \$1 40@2 00; cows, \$1 00@2 75.

St. Louis.

August 20, 1894.

CATTLE—Receipts, 5,200. No good natives. Top \$3 25. Native steers, common to best, \$3 25@4 50.

GRAIN AND PRODUCE MARKETS.

Kansas City.

August 20, 1894.

WHEAT—Receipts for forty-eight hours, 128,400 bushels; last year, 52,800 bushels. Receipts were liberal, but under the influence of a good demand, both on milling and feeding account, sellers not only succeeded in maintaining old prices, but advanced values 1c.

CORN—Receipts for forty-eight hours, 21,000 bushels; last year, 59,400 bushels. Market dull and lower, the increased offerings enabling buyers to successfully squeeze prices.

OATS—Receipts for forty-eight hours, 22,000 bushels; last year, 12,000 bushels. There was a firmer tone to the market, but demand hardly so active as Saturday, when the low prices encouraged buyers.

RYE—Receipts for forty-eight hours, 600 bushels; last year, none. Firm under the influence of scarcity and demand good.

FLAXSEED—Quiet at \$1 14 per bushel upon the basis of pure.

BRAN—Firm and in good demand. Bulk, 60c; sacked, 68c per cwt.

CASTOR BEANS—Demand fair and prices steady at \$1 20 per bushel in car lots and \$1 15 per bushel for less than car lots.

HAY—Receipts for forty-eight hours, 720 tons. Market active. Fancy prairie, \$3 00 @ 3 50; choice, \$7 50@8 00; low grades, \$5 00@6 50; timothy, choice, \$9 00@9 50; No. 1, \$8 50; No. 2, \$7 50@8 00, and choice clover mixed, \$3 00@3 50.

BUTTER—A steady and very good market is had for all good table goods, and receipts of such are placed without trouble, but low grades are as dull as ever.

POTATOES—The market steady, with carloads being held at 55c@58c, and local lots at 63c@65c in a small way.

MELONS—The market is quiet and demand for b'g, fat ones fair, but the small ones are slow. Sales are being made at \$4 00@10 00 per 100, as to size and quality.

PEACHES—No natives at all in and buyers seem to have gotten tired asking for them. Good stock would sell well at firm prices.

FRUIT—Apples, fancy, per bushel box, 40c@50c; choice, bushel, 25c@40c.

VEGETABLES—Jobbing prices: Beans, navy, California, per bushel, \$3 10@3 15; country, \$2 00@2 10; cabbage, per 100 pounds, \$4 00; celery, California, 75c@1 00 per bunch.

half bushel, 50c@60c. New onions, 40c@50c per bushel. Squash, 20c@25c per dozen. BROOMCORN—Harled, green, 8c@3 1/2c per pound; green, self-working, 2 1/2c@3c; red-tipped, do., 2 1/2c@2 1/2c; common, do., 1 1/2c@2c; crooked, half price. Dwarf, 2c@3 1/2c.

GROUND LINSSEED CAKE—We quote car lots sacked at \$24 per ton; 2,000 pounds at \$25; 1,000 at \$14 00; less quantities \$1 50 per 100 pounds.

Wool—Steady and in fair demand. Missouri and similar—Fine, 8c@11c; fine medium, 10c@12c; medium, 12c@14c; combing, 18c@15c; coarse, 11c@13c. Kansas, Nebraska and Indian Territory—Fine, 7c@10c; fine medium, 8c@11c; medium, 10c@13c; combing, 12c@14c; coarse, 9c@10c. Colorado—Fine, 7c@10c; fine medium, 8c@11c; medium, 10c@12c; coarse and carpet, 9c@10c; extremely heavy and sandy, 5c@7c.

Chicago. August 13, 1894.

The following table shows the range of prices for active "futures" in the Chicago speculative market for the speculative grades of the commodities. This speculative market is an index of all prices and market tendencies:

Table with columns: Commodity, High-est, Low-est, Closed Aug. 13, Closed Aug. 20. Rows include WHEAT, CORN, OATS, PORK, LARD, S. RIBS.

St. Louis. August 20, 1894.

WHEAT—Receipts, 103,000 bushels; shipments, 3,000 bushels. Market was bullish on home and export buying. No. 2 red, cash, 51 1/2c; August, 51 1/2c; September, 51 1/2c; December, 55 1/2c.

CORN—Receipts, 12,000 bushels; shipments, 17,000 bushels. The market gained 1/4c on sharp buying. No. 2 mixed, cash, 54 1/2c; August, 53 1/2c; September, 53 1/2c; May, 50 1/2c.

OATS—Receipts, 56,000 bushels; shipments, 7,000 bushels. Firm. No. 2 cash, 31 1/2c; August, 31 1/2c; September, 31 1/2c.

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THE STRAY LIST.

FOR WEEK ENDING AUGUST 15, 1894.

Norton county—D. W. Grant, clerk. PONY—Taken up by D. C. Mosher, in Lecta tp., one mare pony, sorrel, white face, three white feet, branded S. on left jaw and character somewhat similar to B. on left thigh and S. on left hip; valued at \$12.

Cherokee county—P. M. Humphrey, clerk. FIDLY—Taken up by Manson Steel, in Spring Valley tp., one yellow filly, 2 years old; valued at \$5. FIDLY—By same, one sorrel filly, 2 years old; valued at \$5. FIDLY—By same, one sorrel filly, 1 year old; valued at \$5.

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lion were disposed of at this price.

**PROPOSED AMENDMENT TO THE
CONSTITUTION.**

Substitute for Senate Joint Resolutions
Nos. 1 and 2.

Be it resolved by the Legislature of the State of Kan-
sas: two-thirds of the members elected to each house
thereof, concurring therein.

SECTION 1. The following proposition to amend
the constitution of the State of Kansas is hereby
submitted to the qualified electors of the State for
their approval, or rejection, namely: That section
one, article five of the constitution of the State of
Kansas be amended so that the same shall read as
follows: "Section 1. Every person of the age of
21 years and upwards belonging to the following
classes, who shall have resided in Kansas six months
next preceding any election, and in the township or
ward in which she or he offers to vote, at least thirty
days next preceding such election shall be deemed
a qualified elector. 1st: citizens of the United
States. 2d: persons of foreign birth who have de-
clared their intentions to become citizens of the
United States conformable to the laws of the
United States on the subject of naturalization."

SEC. 2. This proposition shall be submitted to
the electors of this State at the general election of
the Representatives to the Legislature in the year
eighteen hundred and ninety-four, for their ap-
proval, or rejection; those voting in favor of this
proposition shall have written or printed on their
ballots "For the suffrage amendment to the con-
stitution;" those voting against the said propo-
sition shall have written or printed on their ballots
"Against the suffrage amendment to the constitu-
tion;" said ballots shall be received and such vote
taken, counted, canvassed and returns made thereof,
in the same manner and in all respects as provided
for by law; as in the case of the election of Repre-
sentatives to the Legislature.

SEC. 3. This resolution shall take effect and be in
force from and after its publication in the statute
book.

I hereby certify that the above resolution origin-
ated in the Senate January 16, 1893, and passed
that body February 8, 1893.

PERCY DANIELS, President of Senate.
W. L. BROWN, Secretary of Senate.
Passed the House March 1, 1893.
GEO. L. DOTGLASS, Speaker of House.
FRANK L. BROWN, Chief Clerk of House.
Approved March 6, 1893, 3:50 p. m.
L. D. LEWELLING, Governor.

STATE OF KANSAS,
OFFICE OF SECRETARY OF STATE, ss.
I, R. S. Osborn, Secretary of State of the State of
Kansas, do hereby certify that the foregoing is a
true and correct copy of the original enrolled res-
olution now on file in my office, and that the same
took effect by publication in the statute book May
18, 1893.
IN TESTIMONY WHEREOF, I have hereunto sub-
scribed my name and affixed my official seal.
Done at Topeka, Kansas, this 25th day of July,
A. D. 1894.
R. S. OSBORN,
Secretary of State.

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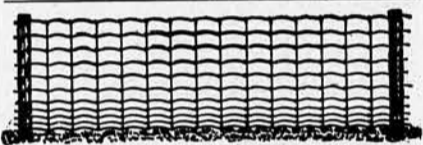
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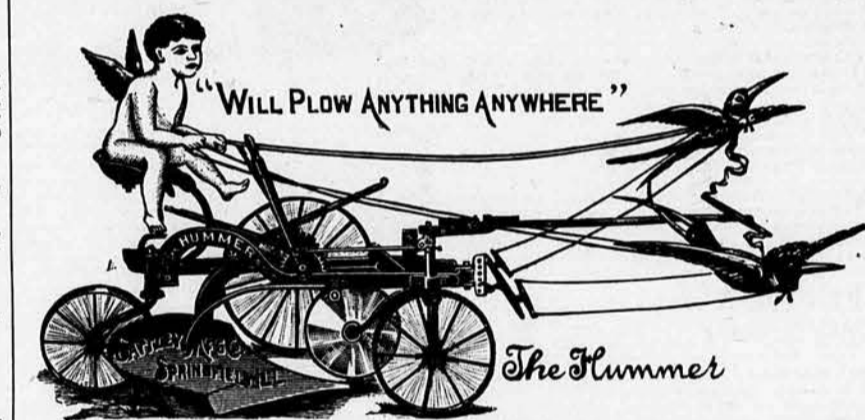
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