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TABLE OF CONTENTS.

PAGE 2—THE STOCK INTEREST.—Hog Cholera and Swine Plague. A New Food for Cattle. Kansas Swine Breeders. The American Guernsey Cattle Club. Experiments in Feeding Horses.

PAGE 3—AGRICULTURAL MATTERS.—Experiments With Subsoiling. Substitute for Corn. Experiments With Forage Plants.

PAGE 4—IRRIGATION.—Gasoline Engines—Their Construction and Operation.

PAGE 5—IRRIGATION (continued).—Successful Potato-Growing... Wants Information on Potato-Raising. Some Practical Questions—Answers by a Practical Farmer. Improved Stock Breeders. Appreciates KANSAS FARMER. Osage Orange Hedge. Publishers' Paragraphs.

PAGE 6—THE HOME CIRCLE.—A Little Boy's Wish (poem). Memories (poem). Tasty Window Box. An Invalid's Garden. About Blackheads. Pretty China Closet.

PAGE 7—THE YOUNG FOLKS.—A Tale of a Bad Little Boy (poem). The Shark's Jaws. The Cunning 'Possum. Two Brave Girls. Ways of Spiders. Jephtha, the Terrier.

PAGE 8—EDITORIAL.—Improved Stock Breeders' Association—Annual Meeting. End of the Year. The Speakership. Regulate the Public Printing. Dates of Farmers' Institutes.

PAGE 9—EDITORIAL.—State Board of Agriculture. December Crop Report. Shall the Greenbacks be Destroyed?

PAGE 10—HORTICULTURE.—Hilling up Potatoes—Subsoiling—Weeds. Forestry Report to Kansas State Horticultural Society. Thayer's Berry Bulletin for January.

PAGE 11—THE APIARY.—Removing the Queen—Alfalfa Honey. Bee-Keeping Mistakes. Queen-Cage Candy... IN THE DAIRY.—Protecting the Cows. Oleo in Iowa. Dairy Association Notes. Dairy Notes.

PAGE 12—Field Notes From Brown County.

PAGE 13—THE VETERINARIAN... Horse Markets Reviewed. Markets.

PAGE 14—THE POULTRY YARD.—Cheap Poultry House. Fattening Poultry. Geese for Market. Simple Drinking Tank. Winter Quarters for Poultry. How to Prevent Chicken Cholera. The Kind of Bird to Raise. Kansas State Poultry Show.

BREEDERS' DIRECTORY.

Cards of four lines or less will be inserted in the Breeders' Directory for \$15 per year or \$3.00 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.

JOSEPH FUHRMAN, NORTH WICHITA, KAS.—Breeder of French Coach and Percheron horses. Pure-bred young stock, of both sexes, for sale; also, grade animals. Prices as low as same quality of stock can be had elsewhere. Time given if desired. Inspection invited. Letters promptly answered. Mention this paper.

PROSPECT FARM—CLYDESDALE STALLIONS, SHORT-HORN CATTLE, POLAND-CHINA HOGS. Write for prices of finest animals in Kansas. 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.

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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.

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FOR SALE Pure-bred Dark Brahmas, Partridge Cochins, Houdans, S. L. Wyandottes. Hens, pullets and cockerels at \$1.50 each; young stock at 75 cents each. W. H. Rauch, Wichita, 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.

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SELECT HERD OF BERKSHIRES Have for sale pigs from State fair winners. Can fill classes for show. Boars for fall service. A few choice sows bred. Address G. W. BERRY, Berryton, Shawnee Co., Kas.

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JOHN KEMP, North Topeka, Kas., breeder of improved Chester White Swine. Some fine young boars fit for service for sale. Correspondence invited.



BERKSHIRE, Chester White, Jersey Red and Poland China PIGS. Jersey, Guernsey and Holstein Cattle. Thoroughbred Sheep, Fancy Poultry, Hunting and House Dogs. Catalogue. S. W. SMITH, Cochranville, Chester Co., Penna.



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W. S. ATTEBURY, Rossville, Kansas. BREEDER OF Chester Whites Exclusively. Young stock at all times. Satisfaction guaranteed.

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Home of the Chester White Hogs. **G. J. HUGGINS,** Louisville and Wamego, Kansas.

Have for sale brood sows, two boars, also a nice lot of spring pigs of both sexes, the get of my herd boars, Ben Buster 6189 and Jerry Simpson 6161. Correspondence and inspection invited. Prices reasonable.

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, Panaola, Ill.



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All ages for sale. Herd headed by Dandy Jim Jr. and Royalty Medium, a son of Free Trade.

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Robinson, Brown Co., Kas. 130 head, all ages, headed by Onward 5981 S., sired by George Wilkes. He is assisted by Tecumseh Wilkes, sired by General Wilkes 2127. The females belong to the best strains. Come or write.



CLOVER LAWN HERD POLAND-CHINAS. Young sows and boars and spring pigs for sale. Prices reasonable. Stock first-class. W. N. D. BIRD, Emporia, Kas.

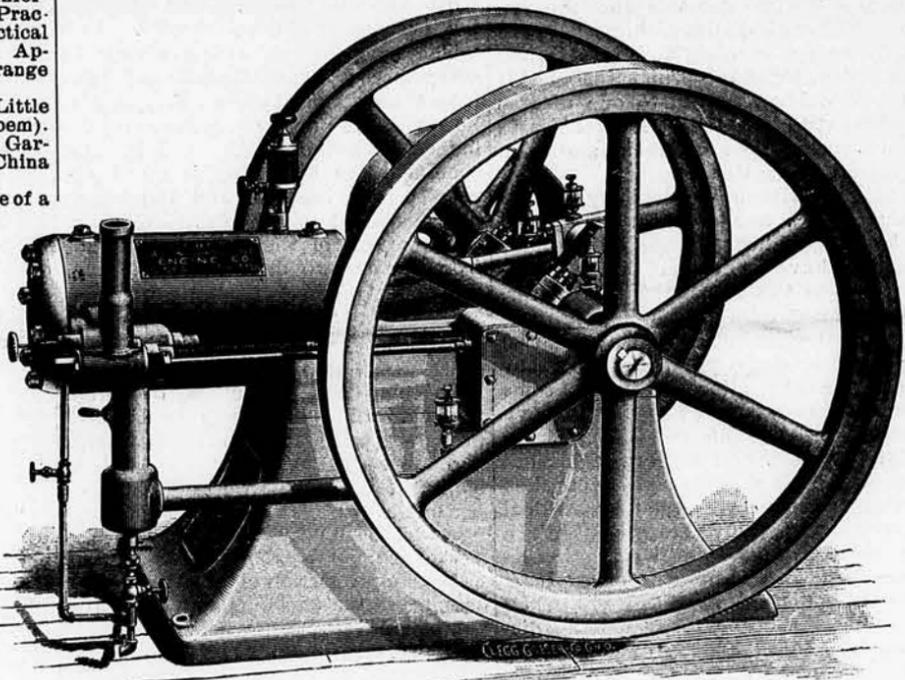
MARTIN MEISENHEIMER, Registered Poland-China Swine.

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RIVERSIDE HERD Poland-China Swine. For sale sows bred to farrow in September and October. Also young stock at reasonable figures at all times. Satisfaction guaranteed. Correspondence as well as inspection invited. J. V. RANDOLPH, Emporia, Kas. Established 1868.

(Breeders' Directory continued on page 16.)



WEBER GASOLINE ENGINE. (See page 4.)

SWINE.

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

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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.

FOR SALE CHEAP—Choice Poland-China boar pigs, Cotswold and Merino bucks, fifteen varieties of pure-bred poultry. Prize-winners. No catalogue. Address with stamp, H. H. Hague & Son, Walton, Kas.

DIETRICH & GENTRY, RICHMOND, KAS. (formerly Ottawa) have several fine, growthy young boars at very reasonable prices. Young sows can be bred to High Ideal 12115 S. A fine crop of fall pigs very cheap. Write. Mention KANSAS FARMER.

TOPEKA HERD OF BERKSHIRES.—Strong-framed, mellow and prolific. State fair prize-winners and their produce for sale. Also, Pekin ducks of enormous size. H. B. COWLES, Topeka, Kas.

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

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

A. W. THEMANSON, WATHENA, KAS.—Poland-China boars. Gilts bred to Graceful F. Sanders; he is by J. H. Sanders 27219 and out of Graceful F. 63408, by A. A., by Black U. S. Sire and dam both first-prize winners at World's Fair and descendants of Black U. S.

CATTLE AND SWINE.

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

ASHLAND STOCK FARM HERD OF THOROUGHbred Poland-China hogs, Short-horn cattle and Plymouth Rock chickens. Boars in service, Admiral Chip No. 7919 and Abbottsford No. 23351, 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.

SWINE.

T. A. HUBBARD Rome, Kansas, Breeder of POLAND-CHINAS and LARGE ENGLISH BERKSHIRES. Two hundred head. All ages. Fifty boars and forty-five sows ready for buyers.

BERKSHIRES.

We offer choice selections from our grand herd, headed by a great imported boar. New blood for Kansas breeders.

WM. B. SUTTON & SON, Russell, Kansas.

THE WOOD DALE BERKSHIRES

Champions of Two World's Fairs. New Orleans, 1885, best herd, largest hog any breed. At Columbian, Chicago, won ten out of eighteen first prizes, the other eight being bred at or by descendants of Wood Dale. New blood by an 1894 importation of 21 head from England. For catalogue Address N. H. GENTRY, SEDALIA, MO.

JAMES QUOROLLO, KEARNEY, MO.

Breeder and shipper of prize-winning Large Berkshire Swine. S. C. Brown Leghorns and Bronze Turkeys. Headed by King Lee II. 29801, Mephistopheles 32412.

BOURBON COUNTY HERD, English o Berkshire o Swine.

J. S. MAGERS, Prop., Arcadia, Kas. Imported and prize-winning American sows headed by Imp. Western Prince 3202. All selected and bred to head herds and to supply those wanting none but the best. Fall litters now can't be beat. Write or come visit me and see the herd.

GEORGE TOPPING, Cedar Point, Kas. (CHASE CO.)

Importer, breeder and shipper of LARGE ENGLISH BERKSHIRE SWINE

of best families and breeding. Choice pigs for sale at low prices. Also Single-combed Brown Leghorns and Mammoth Bronze turkeys. Eggs in season. Farm 6 miles south of Cedar Point. Mention K. F.

The Stock Interest.

THOROUGH-BRED STOCK SALES.

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

FEBRUARY 7—W. H. Wren, Marion, Poland-China swine

FEBRUARY 13—J. F. & P. C. Winterscheidt, Horton, and M. C. Vansell, Muscotah, Poland-China swine, combination

FEBRUARY 14—Dan W. Evans, Fairview, and J. A. Worley, Sabetha, Poland-China swine, combination

FEBRUARY 28—Jno. A. Dowell, Robinson, Poland-China swine.

HOG CHOLERA AND SWINE PLAGUE.

The United States Department of Agriculture has just issued a most valuable bulletin, No. 24, on "Hog Cholera and Swine Plague," by D. E. Salmon, D. V. M., Chief of the Bureau of Animal Industry. The following copious excerpts, which will continue through three numbers of the KANSAS FARMER, are given on account of their great value to all swine-raisers:

INTRODUCTORY.

The annual losses from hog cholera in the United States are unquestionably very heavy, for although all diseases of swine are called cholera by people not familiar with them, scientific investigation has confirmed the opinion of our farmers that we have a widespread and destructive plague to which the term hog cholera may be appropriately applied. The researches of the Bureau of Animal Industry, conducted in the most thorough and systematic manner and with the aid of all the appliances of modern science, have shown that there is another disease, called swine plague, which appears to be almost as common and fatal as hog cholera.

These two diseases resemble each other very closely in their symptoms, and it requires an examination of the internal organs after the animal's death, and in many cases a microscopical study, to clearly distinguish between them. Fortunately, we are able to formulate methods for the prevention, cure, and eradication of these diseases which may be applied with the same success to both. Hog cholera and swine plague are not only similar in symptoms, but in their effect upon the bodies of the affected animals. They resemble each other in that both are caused by bacteria; they must be combated by measures which will prevent exposure to these bacteria or destroy them after they have been introduced upon the premises, and the sick animals must be treated by remedies which will reduce the fever, stop the multiplication of the germs, and assist the affected organs in resuming their normal functions.

The difficulty of distinguishing between the two diseases is, therefore, of no great consequence in the practical work of controlling them. It is important to know that one or the other of these maladies is present, because this knowledge leads at once to the adoption of the measures applicable to the treatment of infectious diseases. Knowing that we have either hog cholera or swine plague to deal with, we are safe in carrying into effect the treatment recommended in this bulletin, because the agents which destroy one of these germs will generally destroy the other.

There are other infectious diseases which sometimes attack hogs, but they have either not been introduced into this country or have never approached in their destructive characters the two diseases named. The erysipelas of the continent of Europe appears to be the most fatal of the swine diseases in the countries where it is known. It has, however, never been recognized in America and probably has never been introduced on this continent. A few years ago it was proposed by enthusiastic though reckless investigators to introduce the virus of erysipelas as a vaccine for the prevention of hog cholera. The investigations of the bureau showed, however, that the diseases were not similar; that hog cholera could not be prevented by the vaccine of erysipelas; and that the only effect of the proposed measure would be the introduction of a new plague, probably as destructive as the dreaded hog cholera.

These diseases can only be managed

in the light of a thorough knowledge of their nature and characters; otherwise, the chances are that efforts for their suppression will lead to harm rather than to beneficial results.

There is a disease known as anthrax which may attack all species of warm-blooded animals, and sometimes affects the hogs in limited areas of this country. This disease does not spread from farm to farm with the rapidity nor to anything like the distance that is common with hog cholera. When it exists, cattle and sheep, and often horses, are also affected; and the hogs usually contract it from eating the carcasses of animals that have died with it. Anthrax is confined to certain regions of the country, and is seen in those regions year after year. It is not a common disease with hogs.

These are about the only diseases liable to be mistaken for hog cholera and swine plague, and as one of them has never been seen in this country, and as the other is infrequent and more often affects other species of animals, it is plain that any contagious disease confined to swine which breaks out in this country is in all probability either hog cholera or swine plague.

GENERAL CHARACTERS.

Hog cholera and swine plague are both very fatal and destructive. They affect hogs in all parts of the United States, and cause heavy losses, which have been estimated to reach from \$10,000,000 to \$25,000,000 annually.

Owing to the resemblance in the features of the two diseases and the impossibility of distinguishing between them except by scientific investigation, we cannot say what proportion of this loss should be ascribed to one disease and what to the other. Both diseases are known to be common, and both spread by infection.

Hog cholera is particularly fatal to young pigs, and often attacks them when the old hogs escape. The older animals have a greater power of resistance to the virus, and this power, which is also known as immunity, is increased when hogs have been exposed and only so slightly infected that they have recovered after an illness of some duration, or without showing any evident symptoms of the disease. In other words, if hog cholera breaks out among a herd of swine and is checked and apparently eradicated by medical treatment, the hogs that are saved are capable of resisting the contagion on the premises, while purchased hogs that have not been exposed will, when put with the others, contract the disease and die. This shows that the virus has remained upon the premises and the hogs have been saved not by the destruction of the contagion, but by keeping the infected hogs alive until they became immune. This is an important fact, and one which should be kept constantly in mind in applying measures of prevention.

The virus of hog cholera is more tenacious, more resisting to the conditions which affect the vitality of bacteria than that of swine plague, and it is also more easily spread and communicated to healthy animals. Swine contract hog cholera by taking the virus into the body with the food or drink, by inhaling it with the air, and less frequently by its gaining entrance through the surface of a fresh wound. On the other hand, the virus of swine plague is generally, if not always, taken into the lungs with the inhaled air.

The time that elapses between infection and the appearance of the first symptoms of illness, known as the period of incubation, varies from four to twenty days. During this period the germs are multiplying slowly and are gradually overcoming the vital powers of the animal by means of poisonous substances which they produce as the result of their growth.

SYMPTOMS.

The symptoms of serious diseases of swine are not as characteristic as with the larger animals. In the most acute and most severe cases the animals die very suddenly, either before sickness has been observed or after they have been ill but a few hours. Such cases are seen most frequently when the disease first appears in a herd. In the greater number of cases the progress

of the malady is slower, and there is consequently a much better opportunity to observe the symptoms. There is first seen the signs of fever, shivering, unwillingness to move, more or less loss of appetite, elevation of temperature which may reach 106 to 107° F.; the animals appear stupid and dull, and have a tendency to hide in the litter or bedding and remain covered by it. The bowels may be normal or constipated at the beginning of the attack, but later there is generally a liquid and fetid diarrhea, abundant, exhausting, and persisting to the end. The eyes are at first congested and watery, but soon the secretion thickens, becomes yellowish, accumulates in the angles and gums the lids together. The breathing is more rapid than usual and may be oppressed and labored in the later stages. There is a cough, which, however, is not very frequent, and generally heard when the animals are driven from their bed. It may be a single dry cough, or it may be paroxysmal. The skin is often congested and red over the abdomen, inner surface of the limbs, under surface of the neck, and on the ears. The color varies from a pinkish red to dark red or purple. An eruption is sometimes seen, which leaves crusts or scabs of various sizes over the skin. There is rapid loss of flesh, the animal grows weak, stands with arched back and the abdomen drawn up, and walks with a tottering, uncertain gait. There is less and less inclination or ability to move, and the weakness and exhaustion increase until death results.

The symptoms of swine plague in many cases are not noticeably different from those of hog cholera. Frequently, however, the lungs are extensively inflamed in swine plague, and in that condition the breathing is more oppressed and labored, and the cough more frequent and painful.

The course of these diseases varies from one or two days to two or three weeks.

(To be continued.)

A New Food for Cattle.

Chocolate manufacturers, of which there are a great many in France, are now offering to agriculturists and breeders cocoa husks, a refuse from their manufacture. The result of trial experiments of their value as feeding material has been very satisfactory. Cocoa husks are not a complete food, but mixed in proportion of one-third with ordinary food (such as fodder, roots, apple rinds, etc.) they have an excellent effect upon dairy cows, and principally upon sheep and young pigs. A chemical analysis gives the following proportion of elements in the cocoa refuse: Water, 6.28 per cent.; nitrogenous matter, 18.06; starchy matter, 13.80; fats, 3.81; cellulose, 46; mineral matters, 11 per cent. The ashes contain phosphate, lime, potash, etc. The cocoa husks contain 35 per cent. of nutritive matter, are digestible and pleasant in flavor, which are important in the feeding of cattle. Under these conditions its pecuniary value to agriculture appears to be almost equal to that of cotton cake.—*Cincinnati Price Current.*

Kansas Swine Breeders.

EDITOR KANSAS FARMER:—The semi-annual meeting of Kansas Swine Breeders' Association will be held Monday, January 7, at 3 o'clock p. m., in Topeka. An interesting program is being prepared. The Kansas Swine Breeders' Association is the oldest and strongest live stock association in the State. The proceedings of its meetings in the past have been of the highest order, entertaining, social and of wide influence. All who are interested in swine-growing are invited to be present at the coming meeting.

GEO. W. BERRY, President.

The annual meeting of the Missouri Swine Breeders' Association, for 1895, co-operating with the State Board of Agriculture, is announced to take place at the opera house, Chillicothe, Mo., January 8, 9 and 10. The program is full and the subjects announced by the numerous prominent breeders mark this as one of the great and important meetings of the season.

Hungry Leather.

The natural food of leather is oil. Hard and stiff leather is soft in a minute with

Vacuum Leather Oil.

3c. worth is a fair trial—and your money back if you want it—a swob with each can. For pamphlet, free, "How to Take Care of LEATHER," send to VACUUM OIL CO., Rochester, N. Y.

The American Guernsey Cattle Club.

EDITOR KANSAS FARMER:—A large number of the members of the American Guernsey Cattle Club were present or represented at the annual meeting of the club in New York, December 12. The report of the Treasurer showed a balance of \$2,231.81. The debt of \$2,000, incurred during the World's Fair contest, is still carried, but arrangements were made for payment on same. Liberal appropriations were made for the coming year.

The most important change made was the approval of a plan for the publication of the Herd Register in quarterly issues, and with a supplement to be known as the *Guernsey Breeder's Journal*. The subscription price will be \$2 a year.

This will give Guernsey breeders means of securing entries much more promptly, and also collected in compact form the latest Guernsey news and tests.

Volume 5 of the Register was presented at the meeting and is now ready for distribution.

At 1 p. m. several Guernsey breeders not members of the club came into the meeting and listened to an able address from President Betts, which opened an interesting discussion on general matters pertaining to the breeding and management of Guernseys.

President Silas Betts, Secretary and Treasurer Wm. H. Caldwell, Peterboro, N. H., were re-elected, as were also the two members of the Executive committee whose term expired, Messrs. J. M. Codman and N. K. Fairbank.

A pleasant feeling prevailed at the close of the meeting, not only regarding the success of the meeting, but over the renewed interest and growing popular demand for Guernseys, which the increased correspondence and business of the office indicated.

WM. H. CALDWELL,
Secretary.

Experiments in Feeding Horses.

The Utah Experiment Station has issued bulletin No. 36, on the "Relative Value of Corn and Oats for Horses." The experiment is summed up as follows:

1. In this experiment with two sets of horses, one set fed a grain ration principally of corn and the other a grain ration principally of oats, the horses sustained their weight the better on the corn ration.
2. The feeding was divided into five periods. Part of the time one horse was fed in each set and part of the time two. In every period save one the corn-fed set did the better.
3. The feeding value of the rations seemed to vary directly as the amount of digestible matter that each contained.
4. A nutritive ratio of 1:6.9 did better than one of 1:6.2.
5. To sum up the three experiments, we find: First, that during the summer corn and timothy were not so good as oats, wheat and clover in maintaining the weight of horses; second, that during the winter corn and timothy did as well as oats, clover and timothy in maintaining the weight of horses; third, that during the spring and summer, corn, wheat or bran and mixed hay produced more gain than oats, wheat or bran and mixed hay.

The bulletins of the experiment station are sent free on application.

Any present subscriber who will send us one new subscriber and \$1, can have his or her present subscription extended thirteen weeks for this good act.

Agricultural Matters.

EXPERIMENTS WITH SUBSOILING.

Some time ago Secretary Coburn addressed a letter of inquiry to Youngers & Co., of Geneva, Neb., to which the following reply was received, and in order that it may do the greatest good to the greatest number, Secretary Coburn has kindly furnished it to the KANSAS FARMER for publication:

"Upon my return from an extended trip through Colorado, I find your unanswered communication. I hasten to reply, trusting it may yet be of use to you, and will try to answer your questions as fully as possible.

"Several years ago the nursery firm of Youngers & Co., of which I am a member, observed that whenever we planted grain, corn or potatoes following a crop of trees, we invariably had much better results than where ordinary plowing and cultivation had been followed. This led us to experiment on field as well as nursery crops, and we find that the same deep plowing and thorough preparation of the soil for field crops will pay as well as for any other high-priced crop. The main expense is in the subsoiling. This, in fact, is only an extra plowing. We prepare the soil by first plowing eight inches deep with an ordinary stirring plow, which is followed by the subsoil plow, stirring the soil eight inches below this. The subsoil plow does not throw the soil to the surface, but merely loosens it in the bottom of the furrow. We use three horses on each plow.

"By this method of plowing we have a bed of sixteen inches of mellow soil ready to act as a reservoir to hold any surplus moisture that falls during the season. About August 15, 1894, when the earth was so dry on the ordinary plowed land, the subsoiled land retained moisture enough to ball in the hand under slight pressure, and three weeks after the hot winds had destroyed the surrounding corn fields, the field that was subsoiled stood uninjured—scarcely any of the tassels killed. This field was planted entirely too thick to obtain good results. Wherever a hill was not crowded the stalks had well-developed and well-matured ears, though the continued dry weather caused a failure of the corn crop on account of thick planting, some hills having as many as seven stalks. This thick planting was caused by an error in not changing the plates after being used to drill corn for fodder.

"But the results in other crops fully satisfy us that subsoiling is no longer an experiment. For instance, rye on land subsoiled yielded thirty and a half bushels per acre; on land not subsoiled, two and a half bushels. One field of twenty acres was planted to oats. Part of this land had raised two crops of corn since subsoiling, the oats being the third crop, and the yield was thirty-nine and a quarter bushels per acre. Another portion of the field had raised but one crop of corn since subsoiling, the oats being the second crop, and the yield was forty-four and a third bushels per acre, while oats in an adjoining field, not subsoiled, yielded seventeen bushels per acre. Potatoes planted in May yielded ninety-six bushels per acre of good, average-sized potatoes.

"Last year—season of 1893—on subsoiled land a yield of seventy-five bushels of corn per acre was obtained; on land not subsoiled the yield was thirty-six bushels per acre.

"The land on which the experiments were conducted is high prairie land, our well being 114 feet deep. We enclose analysis of the soil, also the rainfall for the season of 1894, taken by the government station located at Geneva.

"YOUNGERS & CO.,
"By PETER YOUNGERS, JR."

ANALYSES OF SAMPLES OF SOIL AND SUBSOIL FROM YOUNGERS & CO., GENEVA, NEB.

	Soil.	Subsoil.
Insoluble matter.....	78.84	77.07
Potash.....	0.50	0.54
Soda.....	0.29	0.34
Lime.....	0.67	0.64
Magnesia.....	0.63	0.79
Ferrie oxid.....	2.81	3.38
Alumina.....	5.40	6.18
Phosphoric acid.....	0.28	0.32
Sulphuric acid.....	0.12	0.17
Moisture.....	4.25	5.49
Volatle matter.....	6.23	6.11
Humus.....	(4.47)	(4.17)
Nitrogen.....	(0.284)	(0.224)
Total.....	100.02	101.14

Numbers in parentheses contained in volatile matter, not added in totals.

MECHANICAL ANALYSES.

Diameter Millinches.	Conventional Names.....	Per cent. Surface soil.	Per cent. Subsoil.	
(1) 2	-1	Fine gravel.....	0.00	0.00
(2) 1	-.5	Coarse sand.....	0.00	0.00
(3) .5	-.25	Medium sand.....	0.43	0.85
(4) .25	-.1	Fine sand.....	12.75	14.62
(5) .1	-.05	Very fine sand.....	59.17	52.87
(6) .05	-.01	Silt.....	5.12	4.76
(7) .01	-.005	Fine silt.....	10.87	15.45
(8) .005	-.0001	Clay.....	88.34	88.05
(9)		Total mineral matter.....	88.34	88.05
(10)		Loss at 110° C.....	3.92	3.91
		Loss on ignition.....	7.68	6.82
			99.94	98.78

TEMPERATURE AND RAINFALL.

Prevailing direction wind.	8 AM	9 AM	10 AM	11 AM	12 M	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	12 M
Total precipitation.....	75	71	52	22	2	2	7	16	19	43	60	66	69	66	2	96	12
Rain.....	68	50	22	2	2	2	7	16	19	43	60	66	69	66	2	96	12
Snow.....	7.25	50	.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.6
Cloudy.....	6	3	8	5	5	5	0	0	2	3	2	2	2	2	2	2	2
Part clear.....	14	12	8	14	16	10	5	10	10	11	4	19	2				
Clear days....	11	13	15	10	10	15	23	21	17	24	9	7					
Minimum temperature..	-21	-11	3	21	24	44	44	49	50	52	51	41					
Maximum temperature..	61	60	55	53	54	64	64	66	66	66	66	66					
Mean minimum temperature.....	11.67	9	26	40	49	57	57	59	59	57	51	36					
Mean maximum temperature.....	51.60	52	52	52	52	52	52	52	52	52	52	52					
Mean temperature.....	31.13	23	40	50	49	57	57	59	59	57	51	36					
January.....																	
February.....																	
March.....																	
April.....																	
May.....																	
June.....																	
July.....																	
August.....																	
September.....																	
October.....																	
November.....																	
December.....																	

REMARKS.

Only the first eleven days of December are included in this report. Precipitation 21.11 inches, being 9 inches less than in same time 1893, and about 10 inches below the normal.

Substitute for Corn.

EDITOR KANSAS FARMER:—I have been much interested in reading the articles in the KANSAS FARMER on Kaffir corn, etc., as substitute for corn. A. P. C., your Salina correspondent, is probably better qualified to judge what paying crops, if any, can be grown in Saline county, than one in a different part of the State, where elevation, soil and rainfall make it necessary to follow an entirely different method of farming.

In Mr. C.'s article, printed in the FARMER of November 21, with comments by Prof. Georgeson, he evidently has not found out yet "what the end shall be," so far as what crop to raise to pay. With an average rainfall, the region from Solomon to Hays City, along the Union Pacific railroad, is one of the best wheat-growing and stock-raising localities that can be found. But with the price of wheat the past three years there is but little money in it, and stock-growing for seven years has not been much better.

It is pretty sure we cannot afford to grow wheat as a stock feed alone, and the question is, will the non-saccharine sorghums prove a reliable and paying substitute for corn as a stock feed and a general crop?

The most of my farming since 1878 has been done in Russell county, and I have experimented with most of the much-boomed non-saccharine sorghums as they were first sent out by seedsmen, and other crops claimed to be "the thing for Kansas." I commenced in 1879 with cow peas and amber sorghum, and so on down through the list of rice corns, sorghums, millo maize, Kaffir corn, etc., and so far the most satisfactory crop of the kind has been the new Orange sorghum. I planted twenty acres of red Kaffir corn this spring, ten acres on back-setting and ten on old ground; that on back-setting was planted at the same time as twelve

acres of corn, and both were tended the same. The corn yielded double both of fodder and grain the Kaffir corn did. The rainfall for the growing season was about fourteen inches, and most of it came before the 4th of July.

Kaffir corn will stand more dry weather in one respect than corn. If a dry spell comes in July that will nearly ruin corn, the Kaffir corn will, like sorghum, stand still and be injured but little; if good rains come soon afterward it will head out and make a good crop. But if the season is one of no rainfall the last of July and first of August, it will surely fail, and from this year's experience will not stand near as much dry weather as sorghum, and chinch bugs work it much worse.

In this locality, in a season of average rainfall, and on thin upland, Kaffir corn will make more seed than corn, but it has one serious fault—it is almost impossible to get a good stand without seeding heavy enough so that if it nearly all comes up it has to be thinned out by hand, and the average farmer cannot afford to do this.

The conditions I have named before, elevation, etc., make the experiments at the station here, so far as field crops go, of no practicable value so far as the western half of the State is concerned. I think it will pay farmers to try a small patch of red Kaffir corn, but as a main crop corn will probably continue to be the main cultivated crop. From the experience of farmers in Russell county, it will out-yield every time, in fodder, either white or red Kaffir corn, and I think it will do the same in this locality, on fairly good corn ground; but if the Kaffir corn is cut up in time and suitably taken care of there is no waste, as both horses and cattle will eat it up clean.

A good combination for the region I have mentioned above is stock, rye and thickly-drilled sorghum, and a little corn. Rye is a paying crop if sown in season for pasture, and where fenced hog-tight a field can be profitably "hogged" off and save harvesting and threshing. The yield is generally more than wheat; it will stand more pasturing, and can be profitably fed without threshing if cut in the dough, and the chopped rye is about as good as wheat for feed for everything except milch cows, and the whole grain is not of any account for poultry feed.

It is evident, unless prices change, that farming in central Kansas has got to be run on a different basis and it will take a man of years of experience in practical farming in Kansas to farm successfully under present conditions. J. G. MCKEEN.
Manhattan, Kas.

Experiments With Forage Plants.

EDITOR KANSAS FARMER:—The article I wrote for the FARMER on red Kaffir corn has arrested the attention of your readers and they have requested that I give my experience with some of the other varieties of forage plants. As I said in my former article, the varieties I tested were white and red Kaffir corn, white and yellow millo maize, white African sorghum, brown durra, Jerusalem corn and teosinte.

The white millo maize produced tall, juicy and leafy stalk, averaging from eight to twelve feet high. The heads grow erect. The seed is large and white. If just wanted for forage, white millo maize would do, but it takes a long season to mature the seed, and a frost before the middle of September would catch the seed not ripe.

Yellow millo maize grows about six feet tall and stools from the ground up. I have counted as high as twelve heads and stalks from a single seed. Not all of the heads ripened the seed, and the heads grow goose-necked. Take the country far enough south, where all the heads would ripen, the yield would be large in both seed and forage. The seed is large and yellow. I should have continued to plant this variety had it not been for the goose-neck heads, as it could not be handled until the heads were cut off.

Brown durra is about the same as yellow millo maize, only the seeds are brown, slightly flattened and larger than the other varieties. It grows goose-necked and did not mature all of the seed. Jerusalem corn, where a farmer

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wants early feed, is the variety. It matured the third crop of seed before frost. When I cut the first heads new stalks came out at the joints on the stubs. These matured seed, and so also did the third crop mature seed before frost. The first heads were the largest and the third were small. The heads grow goose-necked. The stalks grow about four feet tall. For a forage crop it amounts to very little. The seed is a large, flattened, white grain.

Teosinte is a native of the tropics and does not mature seed in this latitude. It grew about six feet tall, stooled wonderfully, made from twelve to fifty full-sized stalks from one seed, and at the end of the season the plot was a perfect thicket. For forage will yield heavily, but the drawback is that the seed costs \$2 per pound.

White African sorghum grew about ten feet tall, heads upright, ripened its seed early and is better for Kansas than millo maize.

My objection to the white Kaffir corn was that if checked by drought the heads do not push entirely out of the sheath, leaving about one-fourth of the head covered, that will mold, so it is a loss. The red variety pushes its head entirely out of the sheath, so there is no loss this way; ripens a little earlier than the white, and at the experiment station is considered one of the best drought-resisters among all the non-saccharine sorghums.

I was talking to Mr. Hubbard, of Kimball, Kas., the great buggy man who advertises in the columns of the FARMER. He had been in an adjoining county and talked to a farmer who had in ten acres. The farmer informed him that he ground his Kaffir corn, and he considered one bushel of Kaffir corn equal to two bushels of corn as feed, and for family use. They used several bushels last year, prepared the same as we do oat meal, and it was as palatable.

There are two very essential points in raising a crop of Kaffir corn: first, not to plant too thick; second, thorough culture. It will not pay to sow broadcast. I never experimented with any in that way, but a few days ago I rode six miles to see a field that was sown, and not more than one-fourth of the stalks had heads on; they were very small, and the fodder was short and poor in quality. Kaffir corn will do better than corn on poor land, but the richer the better for a large yield. Do not plant until the ground gets warm, so the seed will sprout quickly, as it will not come up until the ground gets warm. Lay off the rows three feet apart; drill the seed so there will be one stalk every eight or twelve inches. Keep the land free of weeds and well cultivated and you will harvest a crop of Kaffir corn in September or October. Stark, Kas. J. R. COTTON.

Something for nothing is not desirable. But a good deal for small cost is what the man gets who subscribes for the KANSAS FARMER now, and receives it until January 1, 1896. That is the publishers' proposition. Mention to your neighbor the fact that he can get the "old reliable" for thirteen months for \$1 by subscribing now.

Irrigation.

GASOLINE ENGINES — THEIR CONSTRUCTION AND OPERATION.

In the consideration of the irrigation problem, many interested parties have turned their attention to determining the most reliable and economical machinery with which to lift water from the immense sub-surface stores found to exist and to be annually replenished under vast areas of the plains. Some kind of pumping machinery and some kind of power to drive it is the almost universal conclusion. Among the various sources of power, the thought of those who contemplate irrigating considerable areas is centering more and more about the gasoline engine, both because of its reliability, its simplicity, the little attention needed while running and its claim to economy of fuel. This last is somewhat emphasized by the recent discoveries of vast quantities of petroleum in the southeastern part of Kansas, since, in the refining of this, large quantities of gasoline will be produced so near to the lands to be irrigated that not unlikely the price of gasoline will be greatly reduced.

In view of the great interest taken in this comparatively new kind of engine, we have asked the manufacturers of the Weber gasoline engine to describe its construction and mode of operation. They have responded as follows:

"The first and most important part of the individual pumping plant consists of the power. The problem of economical pumping is one of great interest to all interested in irrigation. To help the reader to more quickly and clearly select the different forms of pumping systems, we give below the cost of operating the following systems per horse-power per hour: Injectors, inspirators, etc., 100 pounds of coal; pulsometer or vacuum pumps, 67 pounds of coal; ordinary steam pumps, 25 pounds of coal; power pumps driven by steam engines, 10 to 25 pounds of coal; power pumps driven by gasoline engine, one-tenth gallon of gasoline.

"The exceedingly low cost of operating gasoline engines commends this power at once to the most careful consideration. The engraving on the first page illustrates an engine of this class, built by the Weber Gas and Gasoline Engine Co., 459 Southwest Boulevard, Kansas City, Mo.

"The cost of operating these engines in localities where 74¢ gasoline can be obtained in quantities at 10 cents per gallon, is 1 cent for each exerted horse-power per hour. This is a figure with which steam cannot compete, and in those localities where coal is expensive the saving in favor of the gasoline engine is still more pronounced, besides doing away with the necessity of having an engineer to constantly care for the steam engine and boiler.

"Another advantage in these engines over steam plants is that the gasoline engine is instantly started, and uses gasoline in exact proportion to the work it actually accomplishes, and as soon as stopped all expense ceases, whereas with the steam plant it is necessary to raise steam an hour or so before the power is actually needed, and when the steam engine is shut down there still remains a fire in the boiler and a quantity of steam which must go to waste.

"Owing to the simplicity and the small number of parts in the gasoline engine, the repairs on this power will not amount to one-tenth of those on a steam plant. With the steam plant grates burn out, smoke-stacks rust away, new flues are required, and in those localities where alkali water is used, the life of the boiler is very short indeed.

"Now, for the benefit of those who are not familiar with the principles and construction, the following information is given:

"The gasoline engine consists of base, cylinder, piston, connecting-rod, crank-shaft and fly-wheels. The *modus operandi* and the development of power is as follows: In starting up, on the first outstroke of the piston, a mixture of air impregnated with the proper

amount of gasoline is drawn into the cylinder, passing through the valve chambers, as shown in cut. On the in-stroke of the piston, this mixture in the cylinder is compressed into space between the cylinder head and the piston. The combustible mixture is then ignited by the most reliable, safest and simplest device possible, a short iron tube, closed at the outer end and connected to the interior of the cylinder, enclosed in a chimney and heated by a Bunsen burner, and the air being expanded by the heat evolved, an impulse is given to the piston. When the piston has reached the second outstroke the exhaust valve is opened and remains open during the second instroke of the piston, and the products of combustion are expelled through the exhaust pipe, which is conducted to the outer air.

"The valves are all of the direct acting poppet valve type, requiring no cleaning or oiling, as they lift squarely from their seats and without friction. These valves are seated in separate castings, so that renewal is possible when seat is worn. They are so located as to render them easy of access for grinding, if, on examination, they are found to need it. These valve chambers, and valves as well, are kept from becoming overheated by means of circulating water entirely around their seats. This is an important item and increases the life of those parts indefinitely.

"The valve gear and governor (which includes all working parts of the engine, excepting crank-shaft, piston, etc.) are encased in an iron housing, perfectly dust and grit-proof, and run constantly in oil, thereby insuring complete lubrication at all times and reducing the wear to a minimum.

"Crank-shafts and nearly all working parts are made of steel and finished to gauge. These cranks are not forged, but are slotted out of solid billets of steel and finished cold. There is not a weld in the shafts nor are they bent or formed into shape.

"All bearings are exceptionally large and strong and of the very best material. The cross-head and wrist-bearings are of phosphor bronze. The wrist-bearings are interlined with nickel babbitt.

"The fly-wheels of these engines are especially designed to meet the service required of them. They are made with heavy rims and of light but very strong and properly-proportioned arms. The wheels are exceedingly heavy, and by this is attained the necessary conservation of power which causes these engines to run with regularity of speed.

"The governor is exceedingly simple and sensitive to the slightest variation of speed in the engine, and acts accordingly. It gives the engine only as much gasoline, and at the right time, as is needed to do the work, consequently the amount of fuel used depends on the amount of work done. When only part work is done, only as many charges of gasoline are admitted and ignited as are needed to keep up the speed of the engine. When this speed is slightly exceeded, the governor does not give gasoline or air, and the engine works in a vacuum; but when the engine is worked up to its full capacity the governor gives a charge at each stroke. A steady motion under part or full load is obtained by the momentum of the two heavy fly-wheels.

"An important feature in the construction of gasoline engines consists in keeping every part of the engine from becoming overheated. In these engines water is circulated entirely around the cylinder, entirely around the valve chambers and entirely across the cylinder head. This circulation of water is not to keep the engine cool, but is to keep the engine from becoming overheated, so that it may be properly lubricated.

"These engines are fitted with the incandescent tube ignitor. This tube is kept hot by means of a Bunsen burner. The incandescent tube is the simplest, most reliable and most perfect way of effecting the ignition of gas or gasoline engines. In this engine the point of ignition is altered while the engine is in operation, thereby effecting a great saving in fuel as well

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as preventing the engine from starting backwards.

"The water tank varies with the size of engines and holds sufficient water to keep the engine at the proper temperature. The heat of the cylinder causes the water to circulate, the heated water going to the top of the tank and the cold water entering the cylinder from the bottom of the tank. The same water is used continuously, there being but a slight loss from evaporation.

"The pistons are of extraordinary length, which gives large wearing surface and adds to the life of the engine. The rings are made up in sections with a German silver spring behind each section, forcing the rings out to the walls of the cylinder at all times, taking up the wear, however slight. By this means the rings can be used indefinitely, or until they are worn out entirely. Now, with ordinary snapping, as soon as worn so far as the ring springs outward, which is slight, they are useless and must be replaced by a new set.

"In these engines the gasoline is used in its natural state, with no intermediate gas-making machinery or appliances. The conversion of gasoline to a fixed gas is one of the prime factors in determining the efficiency and reliability of gas or gasoline engines; to mete out the proper proportion of gasoline and air and mix it properly, then take care of any excess gasoline, *i. e.*, not allow it to be blown out of the exhaust pipe or wasted, is a problem only solved in this engine.

"The gasoline is kept in a galvanized iron tank, which is usually placed outside the building and connection made from tank direct to the engine by one-fourth or three-eighth inch iron pipe. Thus you will note that in these engines the gasoline is closely imprisoned between solid iron walls from the time it is put in the tank until its product is exhausted into space through the escape pipe from the cylinder where the gasoline has been consumed.

"Should the engine accidentally become stopped, no matter from what cause, and the valves left open, not a particle of gasoline would escape, owing to the peculiar and ingenious construction of the gasoline inlet. As stated under the head of "governor," the consumption of gasoline is under perfect control of the governor, which allows gasoline to enter the cylinder only as called for by the load on the engine.

"With this engine there is no dangerous apparatus purporting to carbonize the air, or vaporize the gasoline, and which under certain conditions is known to fill with dangerous mixtures and explode frequently. Gasoline only becomes a dangerous commodity when mixed with the proper proportion of air. This mixture can only occur in these engines inside of the heavy iron cylinder of the engine. Absolute safety of these engines is secured by excluding all air from contact with gasoline until it is admitted to the engine in fluid form, where it suddenly commingles with a large volume of air and is ignited. Safety is also secured by providing against any possible leaks in the pipe between the tank and engine. The tank is generally placed outside the building, and any reasonable distance away from them, and when filled no fire or light, of course, should be near.

"Another feature is that changes in

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the temperature do not affect the engine's running, as no so-called vaporizers, carburetors, or gas machines are used. Constant regulation of the air and gasoline is dispensed with, nor is there any gasoline remaining in the tank unfit for use.

"These engines are built in the following sizes:

2 actual horse-power, weight,	600
4 " " " "	1,625
5 1/2 " " " "	2,350
9 " " " "	2,900
12 " " " "	3,110
15 " " " "	3,650
22 " " " "	4,410
30 " " " "	5,900
38 " " " "	6,003
50 " " " "	7,600
100 " " " "	15,000

"Owing to the fact that no constant attendant is required, these engines can be left to run while the attendant looks after other business. One of these engines, located at Syracuse, operates twelve hours per day and consumes ten gallons of gasoline in the twelve hours. This engine raises 1,200,000 gallons of water eleven feet high, or enough water to irrigate successfully a section of land. One man attends to the above plant, runs the engine, takes care of the water and does all of the irrigating.

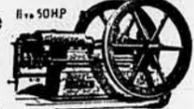
"Another feature relative to these engines is that when the pumping season is over, owing to the fact that these engines are all self-contained, they can be moved from place to place at the will of the operator and used for grinding feed, threshing, etc."

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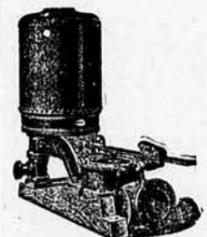
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SUCCESSFUL POTATO-GROWING.

The apparent difference between the natural conditions on the plains of Kansas and at Greeley, Col., just at the edge of the plains, is not sufficient to account for the fact that Greeley farmers are growing rich raising potatoes, which they sell for use on Kansas farmers' tables. True, potatoes are irrigated at Greeley. But irrigation has not made a uniform success of potato-growing in western Kansas, where it has proven as beneficial as in Colorado to most crops. Considerable inquiry has been made as to the cause of the ill success with irrigated potatoes in Kansas. Finally a potato-grower has contributed to the Greeley Tribune an account of the early trials and ills of the potato-growers of that place and has shown the reason of their present success. He says:

"There was a time when the opinion generally prevailed among the Greeley farmers that very little water was needed in successful potato culture; no such idea prevails to any extent now. The original belief, or impression, arose from two sources. Old settlers who had grown potatoes on the alluvial margins of the rivers before upland irrigation was practiced to any extent in Colorado, had been in the habit of selecting choice places for this crop, where the under soil was always damp and little artificial irrigation was required; they told us potatoes needed very little water. Next, in a majority of our upland soils, in the raw, unmaured state, it was found that either early irrigation for potatoes or corn, or even later irrigation in excess, resulted in the first instance almost invariably in stunting the growth of the vine, which turned yellow and sickly after the application of the water; and in the second instance often checked instead of stimulated the growth of the tuber, and resulted in ill-formed potatoes and a small yield. Now we have ascertained that all this is the result of a condition of the soil; a cold mineral soil, almost destitute of decayed vegetable matter and having little soluble material in it for plant food, soddens down like a mass of plaster when water is applied, and plants, especially corn and potatoes, cannot assimilate much water to advantage when planted in such land. Constant stirring of the soil, of course, benefits the crop under such circumstances, but with a lean soil, whether of a sandy or clayey nature, no one could tell before we resorted to heavy manuring of our lands, whether a very early irrigation rendered necessary from the absence of the usual spring rains, would benefit or injure the potato crop. Experience and practice are entirely different now. As we began to apply manure in quantities to our lands in order, primarily, to increase their fertility and the resulting yield, we made the discovery: First, that the plants needed more water or the manure would burn them; and next that with richer soil and more plant food, rendered soluble and available with water and cultivation, both potatoes and corn could stand more water and earlier in the season, not only without injury but with material and perceptible benefit.

"So now we use twice the water we used to think either safe or necessary. At one time in the history of potato farming near Greeley, we, all of us, figured that if it became necessary to irrigate potatoes to bring them up. The chances were just about even between total failure if we did not put on the water and a practically total failure if we did. Now, the moment we get done planting, if the ground is too dry to bring the potatoes up, and if the prospect of copious rainfall is not extremely favorable, no one fears and very few hesitate to furrow out the ground and put on the water at once; and if the seed is in fair condition it is the uniform experience that the young plants will push themselves through the earth in an astonishingly short time, and grow with vigor after they come up.

"We used to believe that two irrigations were sufficient under ordinary circumstances, as to rainfall, to mature an average crop of potatoes. Three irrigations under the conditions of extreme drought were considered ample;

now we know better and we have not learned what we know about the matter from agricultural reports or treatises on irrigation from a scientific standpoint by civil engineers. All these sources of information have combined to instruct us in the pleasant but fictitious theory that as the country got older and the desert became subdued to cultivation, less water would be required; whereas the facts are that as the country gets older and improved methods of cultivation supersede the first primitive efforts; as the soil is enriched by liberal coatings of manure, or by the turning-under of masses of alfalfa, rich nitrogen and other plant foods, more and more water is required to produce the best results. We irrigate our potatoes from four to eight times now and we know from experience, and not from theory, that if we could run the water down our potato rows once every week from the time it first became necessary or advisable to apply the water, until the growth of both tuber and vine was completed, the results would be all the better; only provided that the soil is well drained and thoroughly enriched with manure or alfalfa and that cultivation is thorough."

Wants Information on Potato-Raising.

EDITOR KANSAS FARMER:—One of your subscribers, also our local paper, tells me that Mr. Norton is writing up the history of the Early Kansas potato through your paper, and that he proposes to outline his own plan of work through the FARMER.

Your subscriber told me he had received the worth of his subscription in one of Mr. Norton's articles and expected to profit still more by them. I passed Mr. Norton's farm to-day and observed him plowing with a queer kind of a plow, that seemed to run in the ground and not turn over any soil, yet I could see that the soil was loosened up nicely. I have been acquainted with him for twenty years and know him to be a great specialist, that is, everything he undertakes he puts a lot of special study on, and, of course, can give us many points from his own experience. I was one of the judges at the Allen county fair and saw his display of vegetables and he fairly won the first premium on vegetables at both county fairs. Thus I can safely say he is the best vegetable-grower for the past year in the county.

I have been raising the Early Kansas potato for several years and shall go into the business largely after this, as with this potato I can make a success, while with all others potato-growing is a failure here.

Knowing Mr. Norton as I do, and living too far away and too busy a life to have much talk with him, I would like to read his articles on Early Kansas potato-growing, and enclosed please find \$1 for a subscription, and please date it back to the paper containing the first of his articles on the Early Kansas potato and mail me the back numbers. RICHARD GILLIAN.

Morantown, Kas.

Practical Questions—Answers by a Practical Farmer.

EDITOR KANSAS FARMER:—Will you please answer the following questions:

What quantity of flaxseed is usually sown per acre? What share of the crop is usual where the ground is rented, when owner of ground furnishes seed and when the renter furnishes seed? Is flax more exhaustive to ground than other grain? If so, to what extent?

What is the relative value of ground wheat and shipstuff as a feed for horses? Some say there is more nutriment in bran or shipstuff, pound for pound, than in ground wheat.

What are the best varieties of plums for this climate? Are there any pears that are blight-proof? Which are the best varieties of cherries for this climate.

By answering these queries you will greatly oblige. J. S. CAMPBELL.

Anthony, Kas.

The above inquiries were referred to Mr. Amos Johnson, a successful farmer and orchardist of Barton county. It will be observed that the conditions in

Harper county resemble those in Barton county much more nearly than those of the eastern part of the State. Following is Mr. Johnson's reply:

EDITOR KANSAS FARMER:—The quantity of flaxseed usually sown per acre is one-half bushel. The renter, when furnishing the seed, should receive two-thirds of the crop; when the land-owner furnishes the seed, one-half. Flax is very exhaustive to the ground, even more so than millet or buckwheat.

The present value of ground wheat is 50 cents per bushel, the cost of grinding being 3 cents per bushel. According to my judgment one bushel of ground wheat (at present value) is equal to 50 cents worth of corn. I believe there is more nutriment in ground wheat than in bran or shipstuff; that is, if it is coarsely ground—there being less waste.

The best varieties of plums are as follows: Wild Goose, Weaver, Green Gage and Coe's Golden Drop. Cherries: Early Richmond and common Morello. As to blight-proof pears, I am unable to answer. A. JOHNSON.

Ellinwood, Kas.

Improved Stock Breeders.

EDITOR KANSAS FARMER:—Your editorial suggestion to the stock-breeders of the State was in the right line. The value and importance of the annual meetings of the Kansas Improved Stock Breeders' Association cannot be over-estimated. Such meetings are the birthplaces of thousands of useful ideas and the graveyards of many fallacies. The Executive committee will soon have the program out, and it will be excellent. A new feature of the exercises will be letters from those breeders who cannot attend. Let them be brief and to the point. The committee will arrange and present them to the meeting. Those who prospered last year can afford to come, and those who did not may learn the secret. Let us have a great turn-out, a royal session.

WM. B. SUTTON,
President.

Appreciates Kansas Farmer.

EDITOR KANSAS FARMER:—I would like a dozen copies of the KANSAS FARMER of November 28. I wish to use them as sample copies to send to parties interested in the development of Kansas lands. I have been working for some time on an irrigation and colonization scheme, which, however, is not yet fully determined upon. I am also having 600 acres of land prepared for alfalfa, which will be planted in the spring. This land is near Burdett, and we will ultimately have from one to two thousand acres of alfalfa on our lands there.

I am very much interested in your paper, and send it every week to some of my Eastern clients, and it has received many compliments from them. JEROME SMITH.

Wichita, Kas., December 10.

Osage Orange Hedge.

EDITOR KANSAS FARMER:—Please request some one who has practical knowledge in planting hedge for fence, to answer the following:

When shall I gather the Osage orange, and how shall I proceed to get the seed out of them? When and how long should the seed be soaked before planting? What is the best plan for fixing a hedge fence that needs a rod or more filled in occasionally?

Miltonvale, Kas. A. J. CULP.

Alfalfa in Texas.

EDITOR KANSAS FARMER:—Will alfalfa grow in south part of Texas?

Hume, Mo. J. M. OLIVE.

Alfalfa does well in New Mexico and will doubtless succeed in Texas wherever the proper conditions of soil and moisture prevail.

So thorough is the excellence of Ayer's Hair Vigor that it can be used with benefit by any person, no matter what may be the condition of the hair, and, in every case, it occasions satisfaction and pleasure, in addition to the benefit which invariably comes from its use.

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.

Publishers' Paragraphs.

Farmers who are interested in market gardening can get a free sample copy of magazine devoted to that business by sending postal card request to the Market Garden, Box 524, Minneapolis, Minn.

Mr. Hoar, of Medicine Lodge, Kas., has just installed a Rife ram—advertised in the KANSAS FARMER—with which he will irrigate a fine farm on the Medicine river bottom. The entire plant, counting labor and all incidentals, cost only \$150, and water enough to irrigate 100 acres.

Every farmer in Kansas, and especially the breeders and stock-raisers, should have the greatest live stock journal in the world, the Breeder's Gazette, of Chicago, price \$2 a year. We make a special offer of it and the KANSAS FARMER, both papers for one year, for only \$2. Subscribe now through this office.

A CELEBRATED MOUNTAIN CLIMBER.—W. M. Conway, who recently reached a greater height than had ever before been attained by any mountain climber, has described his adventures "Among the Highest Himalayas" in an article which the Youth's Companion announces among many other attractions for the coming year.

IF YOU SEE IT IN THE SUN It's So.—We note in the pages of the Chicago Times a singular accession of energy and intelligence since it passed into the hands of its present owners. Some one has infused a new and vigorous life into the paper. It has come by one masterly bound to the very front rank, and there is that quality in it that never fails of recognition. Brains and character will not be denied and victory is certain to him who has the power.—New York Sun, November 28.

The first of a series of extraordinary historical Napoleon finds appears in McClure's for January, being a graphic account of the battle of Marengo and of the famous stand of the grenadiers of the Consular Guard, who, 500 in number, withstood the attack of the whole Austrian army and have ever since been called the "Wall of Granite." The story is told by one of the Consular Guard and has heretofore been unknown to Napoleonic scholars, and was discovered by Miss Tarbell during her exhaustive researches for writing her life of Napoleon.

A new book by a Kansas writer is always interesting to a Kansas reader. The latest of such works to come to our table is "Stories for Kansas Boys and Girls," by Mrs. C. S. Baker, of Topeka. The book contains a number of stories, sketches and snatches of verse intended for the juvenile mind, and our better half, who has read it carefully, says it will compare favorably with more pretentious works by Eastern authors and publishers. The book is printed handsomely by Crane & Co., of Topeka, and all the net proceeds of its sale are donated by the author to the Orphan's Home, in the Kansas capital. The sales ought to be large.

Farmers!

Send your boys and girls to Bethany college, Lindsborg. From January 8 to April makes a convenient term. This splendid college has little red tape, but makes hard work and small extras popular. Twenty-five instructors. Eight departments. Just the school for the intelligent boys and girls from the farm. Over 400 attending now. Finest Music and Art school in the State. Strong normal, business and preparatory departments. Excellent classical college course. Write the President, Carl A. Swensson.

Fine Poultry.

This may not be a perfect photograph, but it is intended to represent one of the fine premium turkeys at the recent Warrensburg (Mo.) fair. Mrs. F. W. Ives, of Knob Noster, Mo., is the owner, and also is the happy possessor of sixty other fine specimens of Mammoth Bronze turkeys. Write her for prices and description.

GEARHART'S FAMILY KNITTER.

Knits a stocking heel and toe in ten minutes. Knits everything required in the household from homespun or factory wool or cotton yarns. Most practical knitter on the market. A child can operate it. STRONG, DURABLE, SIMPLE, RAPID. Satisfaction guaranteed. Agents wanted. For particulars and sample work, address: J. E. GEARHART, Clearfield, Pa.

Household Furniture \$10.60
THE BIG 3 sold direct from the factory at only 10 per cent. above cost. We ship everything on approval, satisfaction guaranteed or money refunded. We save you the enormous profits of jobbers, wholesale and retail dealers. The Big Three Combination, consisting of BED, DRESSER AND COMMODE only \$10.60. Retail at \$20.00. Hardwood, finely finished. Thousands sold. CUT THIS OUT and write to-day for description and illustrations of our large furniture assortment. Address: OXFORD MFG. Co., Furniture Dept. T. 589, 939 to 944 WABASH AVE., CHICAGO, ILL.

The Home Circle.

To Correspondents.
The matter for the HOME CIRCLE is selected Wednesday of the week before the paper is printed. Manuscript received after that almost invariably goes over to the next week, unless it is very short and very good. Correspondents will govern themselves accordingly.

A LITTLE BOY'S WISH.

I wish that I was Santa Claus,
Who looks so jolly and gay,
With his pack of presents on his back
To strew along the way.

Oh, how the children would love me,
And watch with eyes so bright
For the coming of my reindeer
On the holy Christmas night.

And I'd not disappoint them;
I would call at every door,
And leave so many pretty things—
I would not scorn the poor.

I would tell to them the story
Of our Savior's humble birth;
How he loved all children,
How he blessed them while on earth.

Oh, don't I wish I was Santa Claus?
A home to each should be given,
And I'd pray that when we children die,
To have Christmas up in Heaven.

Protection, Kas. EMMA J. SABIN.

MEMORIES.

Just a smile at twilight,
Just a smile, no more—
Yet it made my heart beat in my breast, love,
As it never had before.

Just a word of welcome,
Just a word, no more—
Yet it brightened my life into gladness,
As in the days of yore.

Just a true heart's love, dear,
Just a love, no more—
Yet it opened the gates of heav'n, sweetheart,
And showed me the love in store.

Just a kiss at twilight,
Just a kiss, no more—
Yet it drew us closer together,
As I live the old days o'er.

Just a ring of gold, dear,
Just a ring, no more—
Yet it bound me to you with fetters, love,
Forever and evermore.

Just a little cherub,
Just a child, no more—
Yet it drew us still closer together,
Till our hearts could hold no more.

Just a grave at evening,
Just a grave, no more—
Yet it held all on earth I cared for, love,
And oh! but my heart was sore.

Just a lonely life, love,
Just a life, no more—
For you've crossed the river alone, sweetheart,
And left me here on the shore.

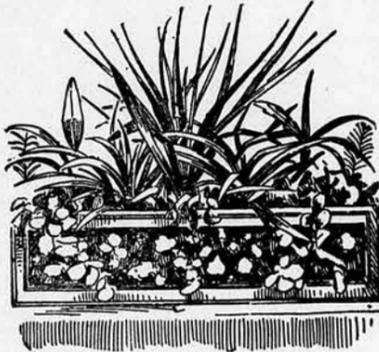
—Young America.

TASTY WINDOW BOX.

An Excellent Way of Adorning the Living Room of a Home.

One of the most satisfactory methods of adorning the inside of our houses is by the use of suitable plants, and this is an especially suitable season to remind our lady readers of that, when the winter season is not far off. The window offers a convenient spot for a box with choice plants, and will greatly assist the appearance of the room.

The beautiful box here shown is known as the "Minton tile window box," and is made of Minton tiles, decorated in yellow, blue and white, under heavy glaze; substantial wooden mountings, natural dark finish; the interior is lined with zinc. The size is



A HANDSOME WINDOW BOX.

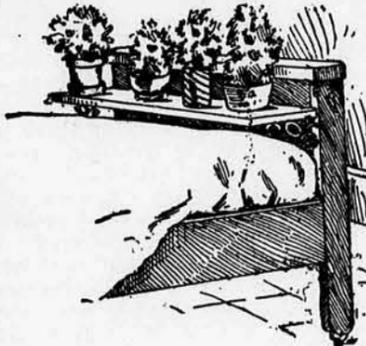
thirty-three inches long by nine inches wide and seven inches deep. The photograph was taken with plants in the box, and that helps to display its use. They are: One *Dracæna indivisa*, two *Dracæna terminalis*, two *Athercium vittatum* var., two *Cocos Weddelina*, two *Asparagus tenuissimus*, five *Pellionia pulchra*, the latter being the plant drooping down in front, and is extremely rich looking in contrast with the light colors of the box. This collection of plants, as is easily seen, makes an attractive box, and they are selected to withstand the temperature and peculiar atmospheric conditions of the ordinary living room, and would cost about \$4.00. For a fancy box, such as the Minton tile, we would not advise

very common or mean-looking plants, they would be out of place; but it is not necessary that one should be without a window box if he cannot afford or does not care to invest so much money in one as this would cost—the price is about \$5.00. With a saw, a hammer, a chisel, a few nails and lumber, a serviceable box can easily be made: Get one-inch planed pine boards, free from knots, and put them together so as to make a box of the same size as the one described; or any size in length and width to suit your window, and paint it any desired color. Bore six half-inch augur holes in the bottom at equal distances and the box is ready for the plants. If it is desired to have it a little more fancy in style, procure half-inch black walnut trimmings and tack them at top, bottom and ends, so as to make it look like a panel. A splendid decoration is oilcloth of a tile or other pattern, cut to size and fastened on with the black walnut trimmings. A few geraniums, heliotropes, sweet allyssum, begonias and tropæolums to droop over the edge will give a pretty effect. Such plants will grow easily, and can be procured at very little cost. A dozen plants should be enough, and any florist can supply them. If you have no soil, it would be better to get that also from the man who furnishes the plants. To give the collection a rich appearance it would be well to have one palm for the center of the box. The illustration is from a photograph kindly supplied by Messrs. P. Henderson & Co.—American Gardening.

AN INVALID'S GARDEN.

A Beautiful Way of Lightening the Lot of Our Sick Friends.

The old notion that growing plants in one's living and sleeping rooms were not conducive to good health seems to have exploded with so many other pet theories of "ye olden time." If the home holds some dear invalid whose weeks and months must be spent wearily in bed, let us hope that some of the freshness and brightness has crept into her room. Unless one has had the misfortune to lie in her place



INVALID'S FLOWER GARDEN.

and suffer her weariness and pain, perhaps one can hardly realize the comfort and relief she will gain from the few pots of flowers beside her or around her, but let us try the experiment, at all events. The illustration given here suggests a novel and beautiful way to give our invalid a "bright spot" in her long days of monotony and suffering. And it is so simple a way to do such a big missionary work! A broad shelf, polished and beveled, is secured to the inner side of the bed's foot-board and held firm and strong by pretty iron brackets at either end. Upon it are set the very prettiest, thriftiest plants, in the daintiest of pots and bowls, that the home greenhouse affords. From time to time they may be changed for others whose blossoms are just in their glory. The little shelf may thus be always full of the best and brightest. If desired, there may be two brackets for holding a single plant, on either side of the head-board, within easy reach of the invalid, who may take comfort in trimming off the dried leaves and caressing and petting them, a process that seems to find favor with plants as well as "other folks."—Webb Donnell, in American Agriculturist.

Something Long Desired.

Women have been waiting for something which would hold their hats on in lieu of the spiking pin. This seems to have arrived in a little English invention, which is an ingenious arrangement of two curved pins that, sewed into the back of the hat, grip the hair in a way that defies any wind to loosen.



FORTY MILLION CAKES YEARLY.

THE PROCTER & GAMBLE CO., CHICAGO.

ABOUT BLACKHEADS.

Almost Invariably They Are an Indication of General Debility.

Blackheads, or comedo, as it is called, is a disorder of the sweat-glands by which they become distended with yellowish or whitish matter. In the center of the elevations, which are only of pinhead size, are to be seen the blackish points which give the disease its name.

The spots are usually numerous, and make their appearance mostly on the face and neck. They run a peculiarly sluggish course, and by their presence the skin acquires a thick, muddy complexion.

Blackheads are almost invariably an indication of general debility, as they are a sign of a badly working skin. Their appearance is usually accompanied by marked dyspepsia and constipation.

The treatment of blackheads is identical with that for toning up the system in general. Clean out the bowels, sharpen the appetite, enrich the blood, and the tendency to the trouble will be removed or lessened. Saline aperient waters should be drunk freely and every attention paid to the diet.

As a local treatment the skin should have frequent applications of water as hot as can be comfortably borne, together with plenty of castile soap and friction. The little black cones may be easily expelled by means of a watch-key. Stimulating ointments and washes should be used, especially those containing sulphur, as this substance is not only a good skin tonic, but is specially useful in the disorder of which we are speaking.

A lotion containing equal parts of sulphur, glycerine, carbonate of potash and alcohol, is a valuable remedy, as it is cleansing and soothing.

Sometimes the swollen sweat-gland contains a small curled hair, sometimes a parasite known as *Demodex folliculorum*, which, however, is harmless and in no way the cause of the disease.

Attention must of course be directed to any disease of the stomach or bowels that may exist.—Youth's Companion.

PRETTY CHINA CLOSET.

How to Utilize the Corner of a Room to Display Fine Ware.

As china has now developed into an art the china closet has become a part of the furnishing of the dining-room. At each corner in well-appointed houses these quaint cupboards have a wonderful, picturesque effect, and add much to the decorations of this room. Of wood, the curly birch or ash with brass furnishings are considered by artistic people to be the best. In one house where some artists live the lower shelves of these cupboards, which are closed by a wooden door, have a quaint motto in brass, which adds to their clever ornamentation. And the glass part of these good, useful and delightful decorative bits extends almost to the broad frieze of the wall paper.

Of china, the Copenhagen ware is the most expensive. It is a wonderful blue, which is of a slate-color effect. The brown Doulton pitcher, with its queer lettering, its designs of odd figures and its flowery wreaths in tones of creams, are great for the pretty china closet.

The chocolate pot, which is of every design and shape, can be purchased for from five dollars to the low price of one dollar and fifty cents, and yet every one is a model of the chinemaker's skill. As a good background for this decorative affair two or three good fish or dessert plates will show off admirably well if placed securely by a fair-sized tack against the back of the shelf. In these dainty closets the cracker jar and cheese plate should be always on hand.

At a supper given in an artistic dining-room not long ago the china closet was a symphony in blue. The nankeen china being the scheme, every piece from the glass front presented to the eye a series of Chinese pictures, with their pagoda effects and peculiar forms so distinct with these people.

If the china closet is a low one, on its top there should be a stunning vase, either in Mexican or South American pottery, or a fine piece of Japanese rockwood will do excellent duty. These colors of terra cotta or browns are ad-



A CORNER CHINA CLOSET.

mirably suited for a high place, and are in accord with all the china within the shelves.

Many of these closets have silk curtains fastened by ends to a brass rod. Of the new silks, the variety is endless. There are delicate greens of a cashmere pattern which, for this purpose, is a poem in silk. Then there are lace effects; one stripe of it in apple green, with an alternative stripe in lace, the crinkled, variegated material being the most gorgeous. But any simple drapery will do if the curtain design is wanted.

To secure a fine decorative bit—all tones in china for a closet should be complementary—use pink very sparingly, red but seldom. Delicate tints in which gilt has a good share is the proper caper for that pretty china closet. Cut glass always is a fine scheme in small pieces, which, if rightly placed, will add every time to this cupboard and enhance its brilliancy.—St. Louis Republic.

If you have a troublesome cough, don't keep nibbling sweets, and so ruin your appetite. A dose or two of Ayer's Cherry Pectoral will do you more good than pounds of candy, and assist rather than impair your digestion. Always keep this medicine in your house.

Interesting circulars sent to farmers. Send name to Bureau of Immigration, Spokane, Wash.

INCORPORATED OCTOBER 29, 1894.

LOCATION, 1103-1105 NORTH FOURTH AVENUE.

HOME OF REDEEMING LOVE, WICHITA, KANSAS.

Object.—To provide a home for penitent fallen women, and to rescue them from lives of shame; to reclaim, educate and instruct them in industrial pursuits, and to restore them, when possible, unto their homes and parents. BENEVOLENT FRIENDS, this institution is non-sectarian and non-salaried—each worker freely doing her part to "rescue the perishing, lift up the fallen and tell them of Jesus, the mighty to save." God is blessing the work and good is being done. Now, we want you to "help just a little" and enable us to do still greater good. The erring daughters must be reclaimed—they are more often sinned against than sinning. The Savior said, "Neither do I condemn thee; go in peace and sin no more." Address REV. LYDIA A. NEWBERRY, WICHITA, KAS.

The Young Folks.

TALE OF A BAD LITTLE BOY.



There was once a pretty urchin—
Hair and eyes black as jet—
But he squandered all his pennies
On the nasty cigarette.



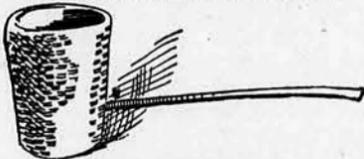
Yea, he smoked them by the dozen,
And he smoked them by the score
Till his face was sadly altered,
But he only smoked the more.



And his father stormed and threatened,
And his mother pleaded, yet
He just shook his head and fumbled
For another cigarette.



And his eyes grew dim and misty,
And his features, once so sweet,
Changed so people failed to know him
When they met him on the street.



Till at last he grew the color
Of a walnut overripe,
And his mother couldn't tell him
From a corn-cob pipe.
—S. Q. Lapius, in Chicago Inter Ocean.

THE SHARK'S JAWS.

Some of the Voracious Creatures Have Six Rows of Teeth.

The jaw of a shark is a perfect study. In some species the adult members have six rows of teeth in each jaw, each tooth being pointed, the points being directed backwards, so as to form a veritable barb. These teeth, which in their normal state lie flat against the jaw, are erectile at will, and when the animal darts on his prey they start on end in the same manner that a cat's claws are protruded from their sheath. When a shark seizes his prey he is forced to bolt it, whether willing or not, for the arrangement of the teeth will not allow him to disgorge his food, which can only pass inwards to the stomach. His position in the water is also more or less awkward, and compels him to be quick at his meal. He approaches the object he intends to swallow, and just before reaching it suddenly turns on his side and back and then grabs at his prey from that position. This is necessary because his mouth is too far under his head. When a shark is killed and dissected, the contents of the stomach are often of a most miscellaneous character. One which was opened in the presence of the writer contained, among other articles, a horse's mane and several empty bottles. The latter articles had probably been thrown overboard from some vessel in the harbor, and were presumably seized and swallowed by the rapacious creature before he had found out just what they were.—Harper's Young People.

THE CUNNING 'POSSUM.

An Interesting Creature Which Has Some Very Peculiar Habits.

The opossum is an animal found only in America, and mostly in the southern states, where it is held in high esteem by the colored people, who delight in hunting it and eating the flesh, which is like young pig. They are cunning animals, making fierce resistance to capture until they are overcome, when they will lie still and pretend to be

dead, hence the phrase "playing 'possum." The call for a 'possum hunt is a great event in the locality where it occurs. The negroes volunteer their services, and the dogs are wild with the prospect of "treating a 'possum." Moonlight nights are considered the best for the sport, and the hour at which the hunting party starts out is between eleven and twelve, when the opossum has left the trees and started out to forage for food. The dogs are soon on the scent, and if the animal is in the tree will remain barking at the foot, but in case it is in the open will go scurrying after it, bringing it in for the hunters to shoot. Mongrels and Scotch terriers are trained to this work, and a gamy terrier will kill an animal twice as big as himself.

'Possums can be found, in the winter season, in all the large northern markets as game, and it is quite the fashion to entertain guests with a baked 'possum, dressed with highly seasoned ingredients. The favor with which the southern darky looks upon this favorite dish may be illustrated by the story of the two darkies who were riding along the highway on a pair of mules.

"Dey's gwine ter hab roast 'poss'm, der old woman an' de chillun is, yum, yum."

"Gosh-er-mitey," answered the other one, solemnly showing the whites of his eyes.



"Yah—roast 'poss'm, an' taters an' gravy, an'—"

"Hole up, dar," cried the other darky excitedly, "dere's some tings I ain't gwine ter stan'. You say anuber word about roast 'poss'm an' I falls off dis yeah mule."

'Possum songs are frequent in the song literature of the south. One is an old familiar ditty:

"'Possum up a gum tree,
Coon'y in der holler."

There is also a hunting song:
"Hole de light yar! De dog done tread,
I knowed dey's almos' o't him,
De way dey barked. What's dat you seed?
Out on which lim?
Yes, sah, dat's him,
We sartin suah is got him."

It turned out in this case to be a farmer's cat, a species of 'possum which is not infrequently captured after an hour of inglorious sport.

The opossum is a very harmless little animal and has many things to recommend it, for, although not considered a great delicacy, its flesh is very palatable, and its fur, which the Indians formerly used in many ways, enters more largely into the industries of commerce than is generally known. Its peculiar method of rearing its young in bilateral pockets, contrived cunningly by nature in its own fur, commends it to the scientific inquirer as an interesting subject of investigation. It has a wonderfully tenacious hold on life, for although it may be pounded with sticks and stones until every bone is dislocated, it will crawl away if left unmolested, and soon resume its wonted habits.

There seems to be a disposition among naturalists to slight this clean and wholesome rodent with the prehensile habit, for very little is said about it in the literature of animals.—Detroit Free Press.

Two Brave Girls.

Here is the record of two brave girls: A fourteen-year-old girl at Beecher Bay, B. C., killed with a Winchester the other day a big panther which her dog had treed; and another girl, seventeen years old, of Benton, Ore., killed a cougar which was making off with a young pig.

Highest of all in Leavening Power.—Latest U. S. Gov't Report.

Royal Baking Powder

ABSOLUTELY PURE

WAYS OF SPIDERS.

A Giant Insect That Weaves a Wonderful Golden Web.

Among the great web-spinning spiders is the Halaba, of Madagascar, which spins shining golden-yellow threads strong enough to bear the weight of one of those cork helmets such as travelers wear in warm countries. They have woman's suffrage in the Halaba family, where the female considerably outweighs the male and is correspondingly "bossy." She grows to the quite remarkable length of five and one-half inches, while he, poor fellow, never gets beyond the quite insignificant dimensions of an inch and a half. In consequence when she, in all the glory of her shining gold cuirass, with a silvery down on it, spreads her five red, black-tipped legs in the midst of her shining golden web, he has to keep at a respectful distance and seek the seclusion of his club, for he has no rights in that web which his more mighty spouse is bound to respect. She is a very industrious spinner, and I have no doubt that the airs of superiority she takes over her husband are largely due to the fact that she realizes she is the breadwinner for the family. She has been known to spin in a little less than a week 3,291 yards. For over a hundred and fifty years men have tried to utilize the spider's silk for weaving fabrics with but discouraging success. Le Bon, about the beginning of the last century, succeeded in making gloves of it, and Louis XIV. had a pair of hose made of the thread. The web of the Halaba and one or two American spiders have led Dr. Wilder, of Cornell university, to hope that he might still make spiders' webs commercially valuable. The thread is quite as long as that of the silkworm, one species in Jamaica spinning a thread sometimes three miles long, but the chief difficulty lies in obtaining a long thread unbroken.—Isabel D. McKee, in St. Louis Republic.

JEPHTHA 'THE TERRIER.

Once He Ran Away from Home, But Was Glad to Get Back.

There is a little dog in Brooklyn who had a peculiar experience recently—an experience that he will not care to have again. This small bow-wow is called Jephtha, always shortened to Jeppy. He is a silver Skye terrier, and when his hair is nicely brushed out he looks like an animated ball of cotton. A romp on the street is his chief delight, and he will become friendly to anyone who will open the door wide enough for him to escape from the house.

One day Jeppy's mistress went shopping and when she returned her doggy, like Old Mother Hubbard's, was gone. The favorite hiding places beloved by Jeppy were looked into—under the lounge in the parlor, beneath the tubs in the kitchen, and the sunny window ledge—but he was not to be found. While his mistress was out a messenger had brought a number of parcels from one of the big dry goods stores, and so, when the door was ajar, this naughty cur slipped out to his favorite playground. When the messenger left the house he noticed the frisky little fellow and patted him on his shaggy head. That seemed to assure the dog that all was right and he followed the boy all day.

Joppy had a jolly good time, but he got very tired. The boy took him home and tied him to a clothes post in the back yard. It was dark and Jeph was not used to that sort of treatment. He had always slept on the table in the warmth and glow of the evening lamp at home, so he whined in pity of himself. Then the boy's father came out and kicked the shaggy runaway, but he only yelped the louder. Then the

neighbors threw lumps of coal and other things at him. The next morning the boys noticed an advertisement for a lost dog, and it tallied with Jeph. The boy led the dog home, but the tiny canine was not the ball of cotton that he had been the previous morning. He limped on three legs and presented a very dejected appearance. It was several days before he could be coaxed to



JEPHTHA.

do any of his tricks, and he is very clever in this way. If his mistress spells O—U—T, he will run to the door and look around to see who is going. He plays dead dog, but comes back to life very quickly at the word of command. He loves a game of hunt the handkerchief, tucking his nose into pockets in his eagerness to find it. He can beg like a blind man's dog and walk forward and backward on his hind paws. Jeph is very fond of ice cream. Indeed, he is an intelligent little fellow and has never tried to run away since his experience of a night.

"BROWN'S BRONCHIAL TROCHES" are a simple and convenient remedy for Bronchial Affections and Coughs. Carry them in your pocket. Sold only in boxes.

I have been a constant sufferer, and at times in great agony of pain with my eyes for seven years, from defective vision and neuralgia of the optic nerves. I have had years of medical treatment, and have had several pairs of glasses fitted, but all to no avail until March 17, 1892. Mr. Chas. Bennett, optician, 718 Kansas avenue, Topeka, fitted me with glasses which I have worn constantly with perfect ease, and my eyes have grown so much stronger that I can now use them constantly. To those who are suffering from defective vision I can cheerfully recommend Mr. Bennett as an optician who thoroughly understands his business. Very respectfully.

L. C. HOLADAY,
400½ Kansas Avenue.

Homes for the Homeless.

The opening of two Indian reservations in northeastern Utah to settlers opens up over three and one-half million acres of fine agricultural and stock-raising land for home-seekers.

The Uintah and Uncompahgre reservations are reached by the only direct route, the Union Pacific system, via Echo and Park City. E. L. LOMAX, G. P. & T. A., U. P. system, Omaha, Neb.

Pond's Business College,

Topeka, offers to give farmers' boys three months' tuition this winter for only \$15, and then next year, if they wish to come again and finish the course, they can do so for only \$15 more. Now, boys, here is your chance.

For a thorough business and shorthand course attend the Wichita Commercial College. Y. M. C. A. building.

PIERRE S. BROWN'S School of Business & 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.

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.

May your Christmas have been merry and your New Year a happy one.

Every farmer who desires to improve financially and in his vocation from this time on is cordially invited to subscribe for the old reliable KANSAS FARMER, a medium which will help do it.

The Kansas State Poultry Association will hold its sixth annual exhibition at 424 Kansas avenue, January 7 to 12, 1895. Send for premium lists to D. A. Wise, Secretary, 707 East Tenth street, Topeka, Kas.

In laying plans for 1895 get fully informed as to the crops and methods of procedure which yield good profits to the farmer. Remaining in the old ruts because it takes an effort to get out does not denote a live and wide-awake farmer.

The KANSAS FARMER would appreciate a holiday present from each of its subscribers in the shape of a new subscriber for the year 1895. This would exactly double the present circulation of the "old reliable," and it need scarcely be suggested, enable the publishers to make this, the best agricultural paper, still better.

About a year ago several prosperous farmers in providing reading for the year just closed sent a list of what they wanted to the KANSAS FARMER and saved money by reason of our low clubbing rates. One man sent in \$27, as the writer remembers, and saved nearly \$10 on his year's reading. That farmer's family had never a chance to get lonesome in 1894.

The Montana Stockman and Farmer, in a half-column editorial review of the recent reports on "Feeding Wheat to Farm Animals" and "Alfalfa-Growing" insists that "the Kansas State Board of Agriculture is the most progressive and up-to-date agricultural body in the United States." Concessions to the same effect are made from other and older States as well as from Montana, and would seem to confirm the possibilities for good work by such an institution in its legitimate lines when kept aloof from politics.

IMPROVED STOCK BREEDERS' ASSOCIATION—ANNUAL MEETING.

The Improved Stock Breeders' Association will hold its annual meeting at Topeka on Tuesday and Wednesday, January 8 and 9. The breeders are expected in great numbers and the Secretary requests that any breeder who cannot attend at least write a letter to show that he is still in the ring and to contribute to the interest of the meeting and the advancement of improved stock breeding in Kansas.

END OF THE YEAR.

"Established in 1863" is the brief legend which tells that for thirty-two years the KANSAS FARMER has been in the field as the helper, friend, counselor and representative of the men and women who have done most to develop the material resources of Kansas and to make it possible for her to become a great State. The bound files of the KANSAS FARMER on the shelves of the office are volumes without which, or their duplicates in the archives of the State Historical Society, no complete history of Kansas could be written. These volumes tell a varied story. They tell of years of superabundance, of productiveness which has startled the world and broken down the markets for the leading cereals. They pass as lightly as possible, consistent with truthfulness, over the effects of drought and disaster; but these, too, are recorded, though not without at the same time mentioning the bright outlook for another crop or for another year.

Great social and political changes in the State have also their photographs accurately shown in the columns of these files. Of these revolutions there have been more than one in these thirty-two years. During the last year the KANSAS FARMER has witnessed an object lesson which is significant of changes now in progress in the thought of the farmers of the State. It will be remembered that early in the year appeared a Senate report on "Agricultural Depression." This was commended for its fairness, accuracy and comprehensiveness by prominent representatives of all parties and of diverse interests. It was written by Senator W. A. Peffer, and its showings produced, for the time, a sensation. The KANSAS FARMER had some inquiries for copies and obtained a supply for distribution to those who should ask for it. Late in the season there appeared from the office of the Secretary of Kansas State Board of Agriculture a report on "Feeding Wheat to Farm Animals," and still more recently another on "Alfalfa-Growing." Of these the KANSAS FARMER also procured supplies and placed them on the same shelf with the report on "Agricultural Depression." The piles of the reports on "Wheat-Feeding" and "Alfalfa-Growing" disappeared almost in a day, and the demand continues after the exhaustion of all available supplies, while there is yet on the shelf a goodly pile of "Agricultural Depression."

The inference is that farmers are turning their attention more to the matters which make for individual prosperity than to those of the commonweal. It will be unfortunate if the best and most unprejudiced thinkers on questions of economic science abandon its study, but as in other avocations it is necessary to prosperity that the farmer give his strongest and best thought to his individual affairs. Indeed, if every farmer shall be able, by adopting the best methods, to attain individual prosperity, the problem of the commonweal will have been solved so far as agriculture is concerned. Again, it is a notable fact that in public affairs the influence of the man who is prosperous is several times greater than that of the unfortunate or despairing. Thus for the common good of agriculture it is better that every man attend first and most to the things which make for individual prosperity, that he read and study and become informed so as to add to his individual power to produce those things for which the markets pay the best remuneration, and he will find that the smaller effort devoted to political and economic questions will produce greater results.

It has doubtless been observed that the KANSAS FARMER has led in this line of thought. It is believed that the interests of its readers will be best served by a still more pronounced attention to matters of practical agriculture and by devoting even less attention than ever before to questions of general discussion. Certainly the FARMER will avoid partisan politics, leaving this to the able newspapers of the several parties.

The prospects for agricultural prosperity in Kansas are certainly as bright

as those of any other part of the world. Kansas is beginning to learn the value of resources which have long been lightly regarded and which are here pre-eminently abundant. The receding waves of population will quickly turn, and, with wise management, with diligent study of the best methods of utilizing our opportunities, with care as to the prosperity of the farmer now within our borders, rather than attempts to induce some one with more money to come in and buy him out, there need never be another ebb tide, because there need be no want for him who will work intelligently.

To the promotion of this prosperity, the prosperity of the farmers who are farming the lands of Kansas and of those who will join them, the KANSAS FARMER pledges its best efforts and bespeaks for its readers for 1895 a prosperous and a happy year.

THE SPEAKERSHIP.

The office of Speaker of the House of Representatives of the Incoming Legislature is one of greater influence on the laws to be enacted than that of any other official, with the possible exception of the Lieutenant Governor, and is not surpassed by his. In practical law-making by modern methods the work is very largely done by committees. These committees of the House are appointed by the Speaker, who, by his selections of the chairmen and members of the many committees, can predetermine the moulding influences of legislation.

The KANSAS FARMER, as the spokesman and representative of the one interest in Kansas in which are directly concerned more people and in which is invested more capital than in all others in the State, has a few words to say on the subject of the selection of Speaker. It is to be hoped that the legislator on whom this honor shall fall may be man enough to rise above the petty squabbles of politicians and may remember that their persistently-pressed personal interests, their scramble for factional and partisan advantages, are insignificant in comparison with the interests of the people of the great State of Kansas. It is not to be expected that any member, elected as all have been, at the end of a fierce political fight, will fail to recognize it as an obligation solemnly imposed to promote the interests of the party which elected him. But the statesman who shall be elected to the Speakership should be able to see that the perpetuity of his party in the majority depends more upon the way in which it takes care of the great interests of the State than on the skill with which it satisfies the clamor of place-hunters and schemers.

The KANSAS FARMER has not the honor of an acquaintance with all of the gentlemen who have been named as candidates for the Speakership, and has no charges to make against any of them. But it has heard mentioned in this connection Judge W. B. Sutton, of Russell county, whose ability as a parliamentarian, whose grasp of public interests, whose interests in common with the greatest industry of Kansas, whose ability to comprehend more than personal or partisan advantages, more than schemes that will be presented by the schemers, and to see what the legislators can and wisely may do now for the present and prospective benefit of the people, make him a candidate whom to have supported will be to promote the best interests of the State. Mr. Sutton is a farmer and stock-grower. He is President of the Kansas Improved Stock Breeders' Association, and his election to the Speakership would be hailed as a recognition of the fact that the day has come when Kansas legislators turn their attention to the promotion of the prosperity of the people rather than to the promotion of the schemes of the politicians of Kansas.

The cheapest and best way to break up monotony and to make life and home enjoyable is to provide plenty of good reading. Take the county paper; take a State political paper; take the KANSAS FARMER; take a good monthly magazine—take these, if no more.

REGULATE THE PUBLIC PRINTING.

Some readers of the KANSAS FARMER send their requests for the official publications of the State Board of Agriculture to this office, instead of directly to the Secretary. It so happened, one day last week, that we had eight requests from subscribers in Missouri for copies of the bulletins on the "Russian Thistle," "Feeding Wheat to Farm Animals," and on "Alfalfa-Growing." The editor communicated to Secretary Coburn these requests by telephone. His reply was that much as he should like to accommodate our Missouri friends it would be impossible to do so, and as a clincher added that 1,000 similar requests from Kansas farmers now on file cannot be responded to because of the exhaustion of the editions. We suggested to the Secretary that he must either print less valuable reports or get larger appropriations for printing them.

It has been mentioned in these columns that there are no funds available to pay for printing the biennial report of the State Board of Agriculture, and none to pay the postage on the books if they were printed. The fact is that the printing appropriation has been parcelled out and it is found that none is left for printing and distributing the report which does more than all others to enable Kansans to provide the wherewith to pay any of the expenses of the State government.

These circumstances have led to an inquiry as to what has been done with the printing appropriation for the current year. Nothing like an exhaustive inquiry as to its disposition was made, but enough was discovered to show that some wholesome regulation, either legislative or otherwise, is necessary as to the use of this appropriation. Thus it appears that the Labor Bureau has recently had printed a report containing 824 pages, most of which are filled with farm statistics. These embrace a map of each county in the State and voluminous tabular work, the subject matter of which one would expect to find in an agricultural report. The KANSAS FARMER has no issue with the Labor Bureau and recognizes the importance of efficient work and full reports covering the ground belonging to such bureau. But no argument is necessary to show the absurdity and the extravagance of a duplication by such bureau of work which under the law and the custom in this State belongs to the State Board of Agriculture. Possibly nobody is to blame because some thousands of dollars of the State's money has been expended in printing many expensive agricultural tables in a small edition of the Labor Commissioner's report, where no farmer would ever think of looking for them, even if there were copies enough to amount to anything in the distribution. But it is a matter which certainly should be carefully looked after by the Legislature to see that this expensive work shall not in the future be duplicated; that it shall be published from the proper department, and that enough copies be made so that the farmers who farm can get them.

DATES OF FARMERS' INSTITUTES.

Institutes have been assigned to be attended by professors of the Agricultural college, as follows:

Stockton, Rooks county, January 31 and February 1, Dr. Mayo and Prof. Will.

Hiawatha, Brown county, January 24, 25 and 26, Prof. Graham and Prof. Georgeson.

Gardner, Johnson county, January 17 and 18, Prof. Walters and Prof. Fail-ler.

Garden City, Finney county, January 29, 30 and 31, Prof. Mason.

During December and January many of our readers in renewing their subscriptions desire also to send for other periodicals and get them at a combination rate. If such will send us a postal card, asking for price on a given list of papers, we will be pleased to answer, and can furnish subscription to any periodical published in America, even if it is not in our regular clubbing list as advertised in our supplement.

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STATE BOARD OF AGRICULTURE.

Program of the Twenty-Fourth Annual Meeting.

On Wednesday, January 9, will be convened a meeting the importance of which it is difficult to over estimate. It is the great meeting of the year of the representatives of the greatest industry in Kansas. These men are called together, not to consider questions of politics, not to discuss schemes for profiting from others' industry, but to promote the interests of all the people of Kansas by the increase of the productive capacity of the soil, by making more certain the return for labor applied to primary sources of production, by developing more of the wealth by which alone the State can thrive.

The program is an eminently practical one and it is difficult to see how a single number could have been omitted.

The following topics will be taken up and considered, as near as may be, in the order in which they are given, and that ample time may be had for discussion papers will be limited to twenty-five minutes, except as otherwise directed by the meeting. Papers will be subject to pertinent discussion, and delegates are expected to prepare for these discussions. Others present, of whom there will be a large number, will, as heretofore, also have the privilege of participating in the discussions, and are invited to do so:

WEDNESDAY, JANUARY 9, 1895.

AFTERNOON SESSION—OPENING AT 4 O'CLOCK.

Business meeting.

EVENING SESSION—7:30 O'CLOCK.

Address of welcome, Governor L. D. Lewelling.

Response, the President, Thos. M. Potter.

"Relations and Duties of Farmers to Their State Board of Agriculture," ex-Governor G. W. Glick, Atchison.

"Taxation and Assessment," Samuel T. Howe, Topeka.

"The Necessity for Meat Inspection" (illustrated), C. J. Sihler, United States Veterinary Inspector, Kansas City.

THURSDAY, JANUARY 10.

MORNING SESSION—9:30 O'CLOCK.

"Artificial Forest Growth in Kansas," J. B. Thoburn, Peabody.

"Five Best Grapes for Kansans," Prof. S. C. Mason, Kansas State Agricultural college.

"The Kansas Steer and his Brilliant Future," Mayor T. W. Harrison, Topeka.

"The Creamery Industry," J. E. Nissley, Abilene.

"The Horse Situation and How Best to Deal with its Future," O. P. Updegraff, Topeka.

"Further Results of Chinch Bug Experiments," Chancellor F. H. Snow, State University.

AFTERNOON SESSION—2 O'CLOCK.

"Corn Stalks" (illustrated), President Henry E. Alvord, Oklahoma Agricultural college.

"The Sorghums for Forage and Grain," F. C. Burtis, State Agricultural college farm.

"Raising, Harvesting and Marketing Potatoes in Kansas," Senator Edwin Taylor, Edwardsville.

"Swine and Swine-Breeding," S. M. Shepard, Indianapolis, Ind.

"Fish Production by Kansas Farmers," J. H. Churchill, Dodge City.

EVENING SESSION—7:30 O'CLOCK.

"The Farmer in Politics and the Fraternal Orders," J. E. Hoagland, Whiting.

"The Farmer and the Professional Man," Senator S. O. Thacher, Lawrence.

"Our Girls and Manual Training," Miss Gertrude Coburn, Stout Manual Training school, Menomonee, Wis.

"Domestic Science," Mrs. Nellie Kedzie, Kansas State Agricultural college.

FRIDAY, JANUARY 11.

MORNING SESSION—9:30 O'CLOCK.

"Fruit and Vegetable-Growing Under Irrigation," C. H. Longstreth, Lakin.

"Irrigating a Five-Hundred-Acre Orchard," Geo. M. Munger, Eureka.

"Making the Most of Our Natural Supply of Moisture," Senator James Shearer, Frankfort.

"Irrigation Possibilities Upon the Higher Lands of Western Kansas," A. B. Montgomery, Goodland.

AFTERNOON SESSION—1:30 O'CLOCK.

Election of officers.

"Evaporation and Storage of Soil Moisture" (illustrated), H. R. Hilton, Topeka.

"The Extent to Which Irrigation is Possible in Kansas" (illustrated), Prof. E. Haworth, State University.

"Some Irrigation as Done in Clark County" (illustrated), C. D. Perry, Englewood.

EVENING SESSION—7:30 O'CLOCK.

"Some Irrigation Problems," Prof. G. H. Fallery, State Agricultural college.

"Periodicity in Kansas Rainfall, and Possibilities of Storage of the Excess in Rainfall," Chancellor F. H. Snow, State University.

"Roads and Road-Making," Gen. Roy

Stone, Office of Road Inquiry, United States Department of Agriculture, Washington, D. C.

All railroad lines have granted an open rate of one fare and one-third for round-trip tickets from all points in Kansas, including Kansas City and St. Joseph, Mo., and tickets will be sold January 8, 9 and 10, good for return including January 12, 1895.

It will be noticed that about half of the program, an entire day and evening, is devoted to irrigation. This is perhaps not an overdose of water and it is not improbable that in the agricultural meetings of the future this subject will continue to hold the most prominent place. The following remarks, quaint and characteristic of their author, but none the less appropriate, are quoted from Hon. Tom McNeal, in his *Kansas Breeze*:

"Western Kansas had a tough time last year. There is no use to deny that fact. It has been so dry in some localities men have quit chewing tobacco because it was too dry to spit. Many have pulled out, sick and disgusted, and swearing they will never go back again; but a nery band will stick, and they will make money. Western Kansas will be covered with ponds in the next ten years. In the next three years there will be a large amount of rainfall. People will have sense enough to save it. Water is what western Kansas lacks and water it must have. The more cranks on irrigation there are out in that country the better for the country. Let them build reservoirs and dam the draws instead of the country. Raise orchards, and vineyards, and vines, and by and by the tide of immigration will turn our way. As soon as it is demonstrated that people can live in western Kansas, it will become one of the most desirable places for residence in the western half of the United States. With a climate so healthful that men who live in it can choose their own time to die, if we can only make crop-raising a success, we couldn't keep people out of that country with a regiment of militia. Artificial lakes ought to be formed all over western Kansas, so that the climate would be modified, and also for irrigation and pleasure. This would give an opportunity to shoot ducks, boat-ride, fish or cut bait. There is no doubt that water will be the eventual redemption of western Kansas, but the people out there now haven't the money to do the business as it should be done. If Congress would lop off a few millions which are wasted every year in trying to make rivers navigable which haven't enough water in them to make a good healthy dew, and spend the money in building reservoirs to store water, that body would be more useful to the country.

"The word comes in from Iowa, Nebraska and parts of Kansas that dry weather is burning up the crops, but for some reason the prospect of a short crop in Kansas causes more comment than in any other State. Did you ever notice that Kansas causes more stir in financial circles than any other State in the Union? Did you notice that when the report of a short wheat crop got to Chicago the price went up a cent a bushel, and when they heard that Kansas corn was short the 'bulls' got up and bellowed, and horned the 'bears' nearly out of the pit? Talk all you please about cranky Kansas and dry Kansas and windy Kansas, she is still the center of the world and the linch-pin of the universe. When the crops fail in Kansas the poor all over the world pay more for their bread. Kansas bacon mingled with the royal sauer-kraut in the stomach of the Emperor of Germany this morning, and Kansas beef has put an extra layer of fat on the person of the Queen of England and Empress of India. We could get along without a whole lot of people who think they see visions and dream dreams, but Kansas is a great State, just the same."

Every farmer in Kansas, and especially the breeders and stock-raisers, should have the greatest live stock journal in the world, the *Breeder's Gazette*, of Chicago, price \$2 a year. We make a special offer of it and the *KANSAS FARMER*, both papers one year, for only \$2. Subscribe now through this office.

DECEMBER CROP REPORT.

The returns to the Statistical Division of the Department of Agriculture for the month of December relate principally to the average farm price of the various agricultural products on the first day of the month. By farm prices is meant the price of product on the farm or in the nearest local town or railway market. In comparisons of these prices with commercial quotations allowance must be made for cost of handling, transportation, profits of dealers, etc.

The farm price of corn averages 45.6 cents per bushel, which is 9.1 cents higher than the corresponding price of last year, which was 36.5 cents per bushel. This price is 6.3 cents per bushel higher than the average price for the decade 1880 to 1889, and is just 4 cents higher than the average for the four years, 1890 to 1893.

The average price of wheat is 49.8 cents per bushel, the lowest price in the past twenty-five years. This price is 32.9 cents less than the average for the ten years, 1880 to 1889, and is 22.1 cents less than the average for the four years, 1890 to 1893.

The returns make the general price per bushel of rye 50.5 cents, which is 1.3 cents lower than the price at the same date last year.

The average farm price of oats as returned for December 1, this year, is 4.1 cents higher than for the corresponding date last year, being 32.9 cents per bushel, against 28.8 cents December 1, 1893.

The average farm price of barley is 44.3 cents per bushel, against 40.6 cents for the year 1893, or a gain of 3.7 cents. The price for 1892 was 47.2.

The average price of buckwheat is 56.2 cents per bushel, against 59 cents for the year 1893, or a decline of 2.8 cents.

The returns show the average price of hay to be \$8.35 per ton, while that of last year on the farms was \$9.18. The average price for 1892 was \$8.49.

The selling price of potatoes on the farms on December 1, is reported at an average of 55.5 cents per bushel, or 4.5 cents less than at the same date last year.

The condition of winter wheat on December 1 averaged 89, against 91.5 in the year 1893 and 87.4 in the year 1892. In the principal winter wheat States the percentages are as follows: Ohio, 93; Michigan, 92; Indiana, 86; Illinois, 91; Missouri, 92; Kansas, 73; Nebraska, 76; California, 92. The returns of correspondents of the department make the acreage of winter wheatsown last fall 103 per cent. of the final estimate of the area harvested in 1894, which was 23,518,796 acres. A figure larger than the preliminary estimate given out in June, last, which upon further investigation, was found to be too low. This preliminary estimate, therefore, makes the area sown for the harvest of 1895, 24,224,000 acres.

Shall the Greenbacks be Destroyed?

EDITOR KANSAS FARMER:—Among those who recently appeared before the House Committee on Banking and Currency was Mr. Williams, President of the Chemical National bank, of New York city. The bank he represented is, probably, the wealthiest bank in the United States. He made the following statements in regard to the currency bill drawn up by Secretary Carlisle, which was in the hands of Mr. Springer, Chairman of that committee, for consideration:

"The situation is one requiring firmness and common sense. The first problem in our clumsy and conglomerated financial system is the disposition to be made of our legal tender notes."

He strongly urged that "the greenbacks should be funded, say \$50,000,000 at a time, in 3 per cent. bonds, until all of them were redeemed and cancelled. National banks should be allowed to deposit the bonds as security for circulation, and receive notes equal in value to the par value of the bonds deposited. He said that "a 3 per cent. bond would be better than one bearing a lower rate of interest, because there would be no danger of its falling below par in the market."

Mr. Williams advised that "the sil-

ver certificates and the treasury notes of 1892, issued to buy silver, be redeemed in silver bullion at its market value." With the changes suggested, he would "regard the currency and banking system as nearly perfect as it could be made, and be sufficiently elastic."

Now, what does this mean? It means that this wealthy banker wants to have the \$346,681,016 of legal tender notes retired from circulation and destroyed. To accomplish this he recommends that the Secretary of the Treasury should issue that amount of 3 per cent. bonds, which the bankers can buy, and when deposited with the Secretary of the Treasury, the Secretary hands them back, dollar for dollar, what they paid for their bonds, in bank notes. These bank notes would be just as good for money to loan to the people as that they paid for their bonds, but how are the people to fare if such a policy is pursued?

The \$346,681,016 of greenbacks, now in use, have been in circulation ever since 1863—thirty-one years. These notes have saved the interest at an average of 4½ per cent. on that amount of bonds every year since they were issued. The interest would be \$15,600,645 a year. In thirty-one years at simple interest they have saved the people \$483,620,017. The interest on \$346,681,016 at 3 per cent. is \$10,400,430 a year, which in thirty years would be \$312,012,914. This amount would go into the pockets of the national bankers, and to pay them for the privilege of allowing their notes to be used as money in place of greenbacks.

Are the national bank notes any better money than the legal tender notes? Are they as good? Are not the legal tender notes the best form of paper money this country has ever had? Has any one suffered any losses from the failures of banks, or from any other causes in consequence of the use of these notes? Is not the United States government just as capable, and more so, of maintaining these notes at par with gold coin as are the national banks?

Nearly all of the bankers who have appeared before the committee have substantially endorsed the suggestions of Mr. Williams. Mr. Williams stated in his speech that "the capital of the Chemical bank was only \$300,000, that it had a surplus of \$6,000,000; it holds in its vaults undivided profits for more than \$1,000,000; its deposits were \$30,000,000; its dividends 150 per cent. per annum, and its stock was selling at \$4,300 per share of \$100."

This statement shows what the profits hitherto have been in running this national bank. Now, this money is being made out of the people, and yet the banks are not satisfied. They want 3 per cent. per annum on government bonds sold to redeem legal tender notes, thus making \$10,400,000 a year thereafter in interest. The banks want control of all the paper money and have it elastic, so they can inflate and contract prices at their pleasure, with bonds held by the Treasury department to secure these notes. The interest on \$800,000,000 of 3 per cent. bonds, the amount of paper money needed, would be \$24,000,000 annually, and at compound interest, in 100 years it amounts to over \$15,000,000,000.

Now, will Congress permit a chain of that kind to be fastened around the necks of the people of this country in this enlightened age?

To show how interest robs the people, notice the following, handed to me by a Wall street broker:

"I have a Roman silver coin, value about 16 cents our money, issued in the reign of the Emperor Nerva, A. D. 96. The interest on this, or on a bank note of the same amount, issued at the same time, if only at the rate of 6 per cent. per annum, and compounded but once a year, instead of once in thirty, sixty or ninety days, customary with banks, would amount to the following sum in dollars in A. D. 1896: \$10,078,939,955,875,392,853,056,926,705,259,890,531,463,331.84."

Notwithstanding this appalling fact, there are unthinking people who advocate chartering banks of issue; a 16-cent bill of a bank, issued as they are without interest, or security drawing interest, would in 1,800 years cost the world the above sum, and the bank would make it. Whereas, a greenback bill, or coin of 16 cents, would, in the same time, cost nothing, and the nation would save the foregoing sum.

DR. E. P. MILLER.
New York City.

Horticulture.

HILLING UP POTATOES—SUBSOILING—WEEDS.

EDITOR KANSAS FARMER:—In your issue of November 28 appears a letter from S. A. Thomas, criticising a former letter of mine. I am much obliged to him for calling my attention to what seems strange to him. I have been obliged to write my former letters in great haste, and have not the talent to make myself understood as I would like. He inquires, "Why hill up in a dry climate?" In my last article (November 28) I say: "Perhaps my former plan of going once between the rows with one shovel to lay them by, is unwise." This shows that there is a doubt in my mind about "hilling up." Now, here is the reason I have always done so: It is because we live in a hot climate, subject to fall rains, and as potatoes do not keep so well out of the ground as in the ground, we (Allen county farmers) have been in the habit of allowing them to remain in the ground, undisturbed, until very late, say November 1 to 30, and it was necessary that we have them hilled up to prevent the whole crop rotting when the rains come in the fall, followed by very hot weather.

The use of this shovel-plow provided a means of draining off all surplus fall rains, and was the whole cause of preventing the crop rotting.

Please to remember that Allen county is as level, almost, as a board—can trot a load by my place and clear across the county without a stop, brake or breeching—and when shower after shower comes in September or October, followed by extremely hot weather, it is very difficult to prevent potatoes from rotting. I believe I now have a better remedy, and that is to have the ground thoroughly subsoiled. Tile-draining would probably be the best, but we are all too poor here to do it.

Now, to sum up: We save the potatoes by leaving them in the ground, but provide for the draining off of all the surplus water.

Be it remembered, we do not hill up until the tops are in full bloom and the tubers have begun to set large, and it does not make any difference how dry it is, or how the weeds grow after this, as the Early Kansas will get there every time, and here is where it differs from all others we have tried.

Now, many will ask right here, don't your potatoes make a second growth during those fall rains and hot, dog-day weather? Yes, they do. But in this way only—the Early Kansas puts it all into the small tubers, just where it ought to go, and never in any instance did they ever grow out of shape or start a prong.

Brother Thomas has received from me three typical specimens of this potato that stood the worst fall we ever have had in twenty-three years, and I ask him, or any other of the many I have sent seed to, if they have received a single specimen that had put out a knob, or second growth, and all of them remained in the ground until about November 1. No other variety has ever been found to stand the peculiarity of our county, and perhaps there are many other counties similar to ours.

Now, about those weeds. We cannot raise a big crop of potatoes here without putting on manure, and every one knows that all the weed seeds gathered on the farm finally get into the manure. Tame grass is yet in its infancy here, and we have hardly yet commenced to turn under clover sod, so we manure the potato ground. Invariably we all plow the ground very deep and the weed seeds in the manure do not come up until about August, or after the potatoes are laid by, and then, when the fall rains come, how they grow! When we lay by our potatoes there is not a weed to be seen, and our fields are as clean as Brother Thomas', and we are not strangers to the Planet Jr. cultivator, with its gauge-wheel in front and rake in the rear to gauge the depth, either. While the weeds are an eye-sore, yet I never met a farmer here that did not have to mow and rake them off before digging, or that did not think them of more advantage

than hurt. Why, it is a common practice to plant corn between potato rows to furnish shade for them, and the heaviest grower in Allen county had a big crop of corn in his potatoes. I would be pleased to furnish proof of this to any one desiring it, as I am aware that this is a strong statement. I wish Geo. A. Rush, of Iola, a reader of the KANSAS FARMER, would say whether this is true in regard to Bob Shapell's crop, by the Iola mills. Mr. Rush could give some incidents about this potato tested beside the Early Ohio and others, that would surprise many.

One of my correspondents writes me to please to write about the eating quality. I had overlooked this, which shows clearly that I am not fit to write up a potato. The general verdict is that they have no equal. The merchants of Iola will testify to this, as they always give 10 cents more for them than any other, and are now offering 40 cents more to keep for spring trade. The prospects are that they will be \$2 or more in the spring.

Now I come to something I had entirely overlooked in my letter about the Early Kansas, and that is that the sunlight does not have the bad effect on them that it does on other kinds. All good authorities agree that a potato is ruined for table use if it is exposed to daylight for a single week. The Ohios will shrivel up and change color under the light, while those that are not exposed will remain sound and keep their fresh color. The Kansas is not affected thus, and specimens I sent to a Topeka epicure had been on top of a barrel in broad daylight, where the sun shone on them an hour each day, for over three weeks, and I quote his reply: "Samples of potatoes came duly to hand. I had seen much written about them, but wanted to test their eating qualities and had these three cooked in three different ways and am satisfied they are all right.—O. P. Updegraff." CLARENCE J. NORTON. Morantown, Kas.

Forestry Report to Kansas State Horticultural Society.

By J. B. Schlichter, of Sterling.

In giving my report I would say that all kinds of trees have suffered severely during the past two years. Many show signs of decay, and not a few have died, root and branch. This condition exists particularly in plantations where trees have attained such age and size that cultivation has been discontinued. Younger plantations, where thorough cultivation has been given the trees, are thrifty and healthful.

In some of the older apple orchards many of the trees show signs of decay. This appears to be more noticeable in the Ben Davis and Winesap. Three of my largest Ben Davis trees died this summer. In one orchard one row of Ben Davis trees died. In another orchard, where the trees were planted close and had to be thinned out, it was discovered that many trees were rotten at the heart.

Of the forest trees, the catalpa speciosa seems to stand the severity of our summer drought and heat the best; next the Russian mulberry and ailantus. Many of the box elders are dying in the upper part of the tops. The cottonwood on bottom land and on light sand holds out well, but on heavy clay and high upland it is dying out. The honey locust endures well, but the black locust is being injured by the borers. It is only four years since the borer made its first appearance, and now already there is not a single tree that has escaped its ravages. I have many trees that will make from four to six good fence posts; some will make from eight to ten posts. The black walnut has done well, but within the past two or three years not a few have died and others are showing signs of decay.

With my past experiences and observations, if I were to make another plantation of forest trees I should plant the following varieties: Catalpa speciosa, ailantus, Russian mulberry, elm, honey locust and walnut, and I would give them preference in the order named.

Although the cottonwood has been a source of some revenue to me for the

last two years in the shape of fire-wood, I would not recommend its plantation as a tree of value. On account of its rapid growth it may be planted to serve a temporary purpose as a wind-break. A single row of cottonwood trees, planted one rod apart, where it attains the height of thirty or forty feet, and averaging about a foot in diameter on the stump, will sap all the moisture from the soil for two rods on either side, so that no crops can be matured within that distance from the trees.

I had 100 cords of twelve-inch wood cut on my place last winter, which sold for \$1.25 to \$1.50 per cord on the ground. The trees had full possession of the ground for fifteen years, and averaged nearly a cord each. The ground was planted to corn and potatoes. The latter were an entire failure and the former made a partial crop. To all appearances there will be five years grubbing among stumps before the land can be cultivated with satisfaction.

Last August I made a trip to the western part of this State, and among other places I visited Garfield to inspect the experimental forest planted by the Atchison, Topeka & Santa Fe railroad company, in 1874 and 1875. I will name ten varieties that have survived and appear to have succeeded best, in the order named: Honey locust, ailantus, elm, box elder, black locust, maple, cottonwood, black walnut, catalpa bignonioides (there were no speciosa planted), ash. The last three named were almost entirely worthless. The ash was ruined by the borers and the walnut were nearly all dead. The plantation is on rich Arkansas bottom, about a mile from the river.

Thayer's Berry Bulletin for January.

With the new year, resolutions should be made and plans formed for a berry garden in the spring.

Every enterprising farmer, every owner of a village home, should make this resolution.

Every ambitious boy or girl should be encouraged in fruit-growing and have a little garden, with the profits thereof all their own.

Business men, professional men or teachers, almost broken with care, may regain falling health, add years of pleasure to life and put money in their purses, by growing small fruits.

The demand for good fruit has never yet been supplied.

Many shrewd farmers realize this and are making more money from a few acres of berries than all the rest of the farm.

The greatest pleasure in fruit-growing or farming comes from an understanding of the simple natural laws that underlie and enter into all products of the soil.

The greatest success comes from the correct application of these principles. Soils are good or poor according to the fertility they contain.

They are valuable only as that fertility is made available for plant food.

The application of this knowledge constitutes common-sense farming and brings success.

A fruit plant is a kind of machine, capable of doing much or little work, depending on food, moisture, care, training and environments.

The work consists in converting the refuse animal and vegetable matter into forms of health, the most wholesome and delicious known to man; into forms of beauty, filled with nectar, tinted with sunshine, ministering to all our senses and drawing us ever upward, ever nearer the soul of nature and the great divine.

The first essential in growing berries is to subscribe for one, two, or more, best farm or horticultural papers.

They are faithful messengers directing us to success.

In no other way can the principles of rural pursuits, the knowledge of how best to grow fruits, flowers, grains, grasses and domestic animals, be so easily obtained.

They give us best advice, most approved methods, the experience of successful men and the important events of this busy world.

Verily, a good newspaper is worth more to the average farmer than the best horse on the farm.

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

When the Kicks Come In

Is not the title of a new song, nor does it refer to the backward action of that much-maligned animal, the mule.

It is a phrase used by the inhabitants of Oklahoma to designate the approaching opening of the fruitful acres of the Kickapoo Indian reservation.

If you wish to find out all about the Kickapoo lands, as well as those belonging to the Wichita and Comanche tribes—where cotton, wheat and fruits will pay handsomely—ask G. T. Nicholson, G. P. A., Santa Fe Route, Topeka, Kas., for a free copy of Oklahoma folder.

Invited to send for my latest price list of small fruits. Half million strawberry plants, 300,000 Progress, Kansas and Queen of West raspberry plants. B. F. Smith, Box 6, Lawrence, Kas. Mention this paper.

A. H. GRIESE, Prop'r Kansas Home Nurseries, Lawrence, Kas., grows trees for commercial and family orchards—the Kansas Raspberry, Blackberries, standard and new Strawberries—also shade and evergreen trees adapted to the West.

Something New in Musk-melons

The White Persian, the largest and best flavored on earth. Nothing better to be desired. Write for prices and particulars to Larkin Commission Co., Wichita, Kas. Mention FARMER.

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ESTABLISHED IN 1869. Choice fruit and ornamental trees, including small fruits, evergreens, roses and shrubbery. A specialty of supplying trees for commercial orchards. Also shade trees. Plant while you can get the best trees at the lowest prices. Send for catalogue. Address* (mentioning this paper) M. BUTTERFIELD, - Lee's Summit, Mo.

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ORCHARD PRUNER CO., Ottawa, Kansas. [Mention KANSAS FARMER]

The Apiary.

Removing the Queen--Alfalfa Honey.

EDITOR KANSAS FARMER:—In your issue of December 12, Mr. Doolittle is correct in stating that a queen is as likely to be prolific at 2, 3 and even at 4 years old, as queens only 1 year old. I have known a queen to live and keep a hive populous until she was over 5 years of age.

I will suggest that when the bee-keeper desires to supersede a queen it be understood that it must be done when there are drones about the apiary, in order that the young queen may not fail to become fertile. In case the queen of more colonies than one is to be superseded, do not remove the queen from more than one colony in the start. After the queen has been removed from a colony from eight to ten days, queen cells will have been formed and sealed. Then the queen may be removed from any other colony where a young queen is desired, and one of the queen cells taken from the hive containing the queen cells eight to ten days old may be inserted. This can be done very readily by cutting out a piece of comb surrounding and containing the queen cells, about one inch or more square, and inserting it in an opening cut for this purpose near the center of the hive, among the maturing brood, in the hive from which the queen has just been removed. This will enable the colony to be in possession of a fertile queen eight to ten days sooner than if left to raise a queen from an egg or a larva a day or two old.

I offer these suggestions for the reason that in the near future the pursuit of bee-keeping will prove to be a profitable branch of industry in much of Kansas. Large quantities of alfalfa will be raised in all parts where it can be irrigated. In localities where it is already being extensively grown, and where bees have free access to it, one colony has been known to yield to their owner over 150 pounds of fine comb honey in one season, and have an ample supply left for winter. Parties about Syracuse and Garden City have tested the honey-yielding qualities of alfalfa thoroughly, and I deem it but proper that all who are located near large fields of this plant should be made acquainted with this fact, in order that they may avail themselves of the opportunity of saving large quantities of excellent honey that otherwise would be lost.

Of course, persons who know nothing of the habits of the honey bee, and who are careless about looking after their bees, will not make a success of this business. But for that man or woman who will give this pursuit proper attention, when located in the irrigated alfalfa portions of Kansas, I predict a rich find. G. BOHRER. Chase, Kas.

Bee-Keeping Mistakes.

In the American Bee Journal a writer says: To think that the man who never made a success at anything tried, will make a success with bees. To try to keep 100 colonies where 50 would starve. To neglect to give the bees proper care in spring and fall—in fact all the time—and hope for generous returns. To neglect to put the bees away into winter quarters in good condition, then expect to find them strong in the dawn of early spring. To rob them of their stores too late for them to replenish, thus causing them to starve, then blame them for perishing and curse your luck. To try to use all patent hives and appliances because some oily-tongued agent tells him to, and expect to succeed. To ventilate his hives with cracks in the roof and knot-holes in the bottom. To keep plenty of weak colonies on hand, and expect to escape the ravages of the comb grub by using a moth-proof hive. "Non-sense!" To fail to put on the surplus cases at the right time, then blame God, nature and the bees for no surplus. "Watch, work and wait," must be your motto in hoping for success. To let the grass and weeds grow so rank around the hives that the bees can't find them, then expect to become a prince in the business. To use old foggy dog-box hives, whose

internal mechanism you cannot view without cutting out the combs, then expect to become scientific. To allow dirt and filth to accumulate on the bottom boards of the hives, as a hot-bed for the propagation of moths. To buy an extractor before you know what to extract from—one pound sections or brood nest. To boast of your knowledge—talk about drones laying eggs and the queen being the king bee. To try to keep bees and not have some books on bee culture at hand, with which you are well acquainted, and think yourself a bee master. To expect to reap wonderful results with bees without labor, knowledge, patience and costs. "No excellence without labor." To become cranky and think no one else keeps bees as you do. This is a progressive age. To grumble because you have to feed your bees some seasons.

Queen-Cage Candy.

The loss in shipping queens long distances is generally believed to be due to the hardening of the candy with which the cage is furnished. The problem how to keep it in proper condition is a vexing one, but the suggestion made by W. A. Fryal in "Gleanings in Bee Culture" may help in its solution.

Mr. Fryal found that some very hard candy, when exposed to the atmosphere for some days, began to absorb the moisture from the air. It became soft, and in time of the same consistency as the honey from which it was made. This rapid change in its condition was attributed to the large amount of salt that the air in that section is charged with. This leads Mr. Fryal to the belief that "it would be safe to make the candy quite hard for cages that were to be sent on a sea voyage. The candy would soften about as fast as it was necessary. If salt were added to the candy before the cage was shipped the candy would become too soft; should the candy be of a soft composition ere the cage is sent off, the candy would also become too soft as soon as it was well on the soft water. For cages that are to be shipped altogether by land, especially through a hot country, the candy could be salted as much as necessary. Of course, the quantity of salt required for a single cage is comparatively small; but it has a wonderful effect in keeping the candy soft."

In the Dairy.

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

Protecting the Cows.

The American Cultivator says that there is no excuse for any man failing to protect his cows from the severe weather, because there is no spot on earth where a milch cow can subsist but which furnishes material for protecting from snow and winds. A cow does not require a hard-coal fire and a feather bed for comfort. She enjoys a brown-stone front, to be sure; but she enjoys a sod stable, a dug-out on a hill-side or a stall in a straw stack, quite as well, if it is kept clean and dry. No man who owns one cow is so poor that he cannot build a shelter of some kind and get six feet of rope or a stanchion for a tie. The trouble with a great many farmers is they are waiting till they build that two-story barn before they begin to stable the cows. How foolish! Stable the cows and they will build the barn out of the increased profits which they yield from kind treatment.

Oleo in Iowa.

The following, from the address of Dairy Commissioner Boardman, at the Iowa State Dairy convention, refers to the new law and makes a comparison between it and the old law in relation to sales of oleo in that State: "Since this law was enacted, those who have had an opportunity to become acquainted with its workings have pronounced it superior to any law heretofore enacted in the interest of pure dairy products in this, as well as other States. In November, 1893, under the old law, according to the seventh annual report of the State Dairy Commissioner, eighty-one re-

tailers held government stamps (called licenses) for the sale of oleomargarine in twenty-two cities and towns of Iowa. On November 1, 1894, under the new law, but twenty of these licenses had been issued, and are confined to ten cities, and the new law had only been in force four months." Mr. Boardman says further: "We are glad that Iowa can now report to her critical sister States in the East, that consume the greater part of her fine butter, that she has done her duty and 'throttled the fraud.'"

Dairy Association Notes.

The famous "Fromage de Brie" cheese, made by Mr. A. G. Eyth, was in great demand at the banquet.

The exhibit of cheese was larger this year than formerly, giving proof that the cheese business is receiving that attention which it merits.

Monrad says that a woman will stand up and turn a separator until she drops down exhausted, while a man soon loses his grip and gives it up in disgust.

Wm. Sutton, of Table Rock, Neb., read an interesting paper on the use of the hand separator. The discussion of Mr. Sutton's paper revealed a strong sentiment in favor of the use of the hand separator in small dairies, as well as large ones.

First prize on separator butter went to Whitewater Creamery Co., scoring 97 points. First prize on gathered cream butter went to Ellinwood Creamery Co., scoring 93 points. First prize on dairy butter was awarded to Mrs. D. Hall, of Ellinwood, scoring 94½ points; second prize on dairy butter went to J. E. George, of Burlingame, scoring 90½ points.

An interesting paper was read by Mr. E. C. Llewellyn, entitled, "Details in Creamery Work." He said, in part, it pays to be gentlemanly and obliging to customers; to spend a few minutes in showing them through the works and explaining the operations of butter-making; to answer questions cheerfully and assist the women or children who come to the factory in unloading the milk and putting back the cans.

Dairy Notes.

If oleo is all right and honest, why should any one object to having it sold and used under its true name?

A man that will not provide good bedding for his cows is not liable to brush filth off the udder in milking.

Do you know how much your butter costs you per pound? A little calculation may point out better and more economical methods.

The price of the best creamery butter has advanced a little; the price of the lowest grade of farm butter has remained nearly stationary.

If the cream is kept too warm and churned at a high temperature, the butter will be light in color and devoid of that fine flavor which fixes its value.

It is the first effort at reform that costs; make up your mind that you will do it and then start right in before the worst part of you has time to argue you out of the notion.

Many farmers do not know what good butter is unless they eat it away from home; of course they all think their home-made butter is good but they have no standard of judging.

Hay is very brash and dry this winter and does not stimulate as good a flow of milk as in other years, on account of the extreme dry weather while hay was being gathered.

Restrict the sale of oleo and give the boys and girls a chance to learn the art of butter and cheese-making, and Kansas can find customers for her fine dairy goods all over the country.

Don't forget to write a postal card to this office if you are in favor of an appropriation for a dairy school, and also write a letter to your representative, asking him to favor such a bill at the next session of the Legislature.

This State should put on dignity enough to furnish a dairy school for her own people and not be obliged to send them outside in order to get such

DE LAVAL CREAM SEPARATORS

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an education. The cost of a dairy school to the taxpayers would be but a mere pittance in comparison to the value to be derived from such an institution.

Sell your cows if you will not procure a good thermometer, a trustworthy tester, and if you are not willing to school your intelligence to the utmost within your power. There is no profit in unscientific work in this progressive day.

The farmer who does one thing thoroughly well is very apt to be more than usually thorough in all of his operations. On the contrary, the farmer who thoroughly slights one part of his business does not do thoroughly well any part of it.

Millet is a luxuriant grower, and, like clover, contains a large per cent. of albuminoids, which makes it especially valuable for milk. It produces three to six tons per acre, and is easily cured. Try two acres next season on good rotten turf, one bushel of seed to the acre.

The time that a heifer is allowed to go dry after her first calf is dropped affects her habit in this respect all her life. It is not necessary for a good cow properly cared for to go dry longer than from three to four weeks. The very best cows can hardly be dried off, the inbred tendency to milk production having been developed so strongly.

The dairy brings a revenue which is always cash and almost continuous. It helps maintain the fertility of the farm; its product, if good, has seldom to seek a buyer; it exhibits more vitality in times of depression than almost any other product that the farmer sells; but the average farmer studies improvement in all other lines before he takes an interest in the business of making butter.

The main features of the proposed oleo law for Kansas will be modeled somewhat after the Iowa law, and will be as follows: To prohibit manufacturers from coloring their product in imitation or semblance of the yellow color of butter, and to enjoin them from using the word "butterine." Keepers of hotels and restaurants will be obliged to notify their guests that they use oleo on their tables, if such is the case.

The dairy school at Madison, Wis., had registered ninety-five students on November 1 for the winter term, beginning January 1, 1895. As the capacity of the school is not more than 100, the indications are that a large number of applicants will have to be turned away. Similar reports come to us from all over the United States and Canada of the crowded condition of the dairy schools for the next term. At St. Anthony Park, Minn., they will be obliged to hold two sessions in both butter and cheese.

Cows in milk will consume nearly 50 per cent. more water than the same cows when not giving milk. The New York Experiment Station, at Geneva, found as an average of several breeds that each cow drank 1,039 pounds of water and consumed 547 pounds more in food per month. During lactation the average per month was 1,660 pounds drank and 774.8 pounds consumed in food. The pounds of water consumed for each pound of milk produced were as follows: Ayrshires, 4.26; Guernseys, 5.07; Holsteins, 4.43; Jerseys, 5.21; Short-horns, 5; Holderness, 3.95; Devons, 4.82, making an average of 4.68 pounds. The need of an abundance of water is evident.



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FIELD NOTES FROM BROWN COUNTY.

The writer enjoyed a few days' visit among some of the leading swine-breeders of Brown county, last week, and among others was Mr. J. A. Worley, whose farm lies near Sabatha, and is known as Pleasant View Stock farm. The Poland-China herd now consists of over 100 head, twenty-two of which are brooders over 1 year. In the youngest class are twenty-five gilts and eighteen boars coming on, and a very promising lot they are. Four serviceable harem lads are now doing duty in the herd, led by Anxiety 20251 A., that was farrowed May 22, 1892. He was bred by Farmer Bros., of Iowa. He was sired by Tecumseh Butler 17949 A., he by Butler's Darkness 18055 A. and he by King Butler 8895 A.; dam Daisy Wilkes 59432 A., she by Al Wilkes 14347 A. He has a good face, head and ear, long, broad back, wide, deep ham, and is very uniform and smooth in his general conformation. His breeding combines good blood—Tecumseh, Corwin and Wilkes. Next him in the array is the one-year-old, on the 28th of last July, Combination U. S., an Iowa-bred fellow, sired by Lord Fauntleroy, he by U. S. Success, by Black U. S.; dam Black Wilkes, by Guy Wilkes 2d. His dam is a full sister of G. P. Wilkes 10877 S., that is generally considered one of the best in the West, and now at the head of Alex. Johns & Son's Iowa herd. In tracing up his ancestry one finds in both lines a strong array of noted ancestry, and something more than the ordinary may be expected from the Sunset females and two daughters of Benton's Last, also some Same Price and Black U. S. harem ladies that have been bred to him. An able coadjutor is America's Equal 12270 S., that came to the farm last year, and it will be remembered by those that attended Mr. Worley's last reduction sale that his get were usually among the first choice selections. His dam was Lady Star 3d 10852 S., by Keno 5241 S. and out of Lady Star 3816. The visitor finds a young fellow, yet unnamed, farrowed March 31, 1894, bred by Atkins & Son, of Nebraska, and sired by Dr. Boliver 24767 A., he by Shaul's Tecumseh 16105 A. and he by Tecumseh Chief 8123 A.; dam Bonnie Bell 26309 S., she by Royalty 1666 S. and out of Miss Corwin 21374 S. He is a rangy, smooth, mellow fellow, and if he comes out as strongly in conformation as he is bred, he will be heard from later on. Anxiety, Combination and the last mentioned are new-comers and taken collectively are the strongest set of harem masters ever assembled on the farm.

In the female division a grand lot of gilts have been added, coming from noted Nebraska, Iowa and Missouri herds, of which more will be said at some future time. In order to the better keep within the capacity of the farm Mr. Worley has decided to offer a draft of bred aged sows and gilts at public sale, in company with Dan W. Evans, of Fairview, Kas. This sale has been announced to take place at Fairview, Brown county, on Thursday, February 14, 1895, when about 100 head will be catalogued and go to the highest bidder.

THE DAN W. EVANS HERD.

One of the strongest herds in Brown county is known as the Dan Evans "herd of hogs," near Fairview. It now consists of 250 head, all ages. A very strong array of recruits has been added during the past few months, and among them, keeping company with Master Wilkes 21025 S., that was bred by Bebout, of Indiana, sired by the noted George Wilkes 1487 S., dam Lady Corwin 45840 O. He is as richly bred as anybody's hog, and such was the promise of his get among the spring pig crop of 1894 that he is retained for further usefulness in the herd, with Swi Tecumseh 11929 S. and Billy Wilkes 9309. The former was sired by L's Tecumseh 11413; dam Lady Light-foot 9th 9220 S. He was bred by the Swiharts, of Nebraska, and was out in his yearling show-ring dress at the late Brown county fair, where he won first in class and sweepstakes in the strongest swine exhibit made in Kansas during the year. His coadjutor, Billy Wilkes, is a son of the noted George Wilkes 5950 S., and out of Creole 14661 S., by Corwin Prince 898 S. The reader will call to mind, if he attended the Zimmerman clearance sale last October, the long string of blocky, broad-backed, mellow youngsters that went under the hammer at good prices, the sons and daughters of Billy Wilkes. Such is the conformation and character of these three harem kings that they together form a trio that is hard to beat and ought to produce an array of youngsters second to none in the West. Nor is this all that may be truthfully said after one takes a careful survey of the bevy of harem queens found in the female division of the herd. Using the same care and selection in breeding and feeding as does the "older man" east of the river, there is no good reason why a Kansas breeder should go or send east for something at a big price because it has a reputation that the farther it gets away from home the bigger it is.

Mr. Evans duly considered during the fall whether or not to hold a public clearance sale, reasoning that sales were pretty thick in Brown county during September, October and November, there being nearly half a score of them; still, all were successful, and the reputation of Brown county grew and lent more encouragement for the professional breeder of pure-bred swine. Having re-enforced the herd in both the male and female divisions, and the summer and fall farrowings being successful, he concluded to make his semi-annual reduction sale on Thursday, February 14, 1895, when he will offer a selected lot of brooders bred, bred gilts and a nice string of youngsters. The catalogues will be ready in due time and will be sent out free to all those desiring them. Mr. Worley, of Sabatha, will join him, so the reader may expect a

lot of top offerings and a successful sale.

MARTIN MEISENHEIMER'S HERD.

One of the younger, though foremost Poland breeders in Brown county, is Martin Meisenheimer, whose excellent farm lies three miles southeast of Hiawatha, the county seat. The herd of registered Poland-Chinas was founded in 1890 and has been recruited from time to time until it is rated as one of the best little herds in the county of Brown. His first annual sale, which was held last October, reduced the herd and it now consists of about sixty head, all ages. The individuals belonging to the 1893 farrowings are mainly Tecumseh-Free Trade blood. The aged harem queen division, now numbering eighteen head, have been bred to Tecumseh Free Trade 10738 S., by Tecumseh Chip 2d 7609 S.; dam Lady Free Trade 17189 S., she by Free Trade 4420 S. As an individual, in conformation he is considered by many one of the best in the State, and as a breeder no superiors. He is assisted by L's Tecumseh, a son of Benton's Last 8827 S., he by 5 Times Tecumseh 6344 S.; dam Little Judd 15286 S., by Riley 6672 S. and out of Lady May 15267 S. He is a March pig and a youngster of much promise. Among the females recruited this fall is Evans' Choice (Vol. 9), Edward's Lassie (Vol. 9), Kansas Girl 25224 S., Beauty Aberdeen 26776 S., Lady Swaim (Vol. 9), Lady Gold Coin (Vol. 9), Lady Colthar (Vol. 9), a fine gilt bred by Colthar & Leonard, of Nebraska, has been bred to Victor M. Jr., a son of the noted Victor M. Lady Short Stop, another lassie, has been nicked with Butler's Darkness, now owned by Bert Wise, of Reserve, Brown county, for which he paid \$200. The youngster, Lady Sparks (Vol. 9), sired by Pontiac 10564 S. and out of Admiral Queen 29028 S., has been bred to Victor M. Jr. Another one, Lady Corwin 2d, bred here on the farm and sired by Tecumseh Free Trade and out of Lady Corwin 17550 S., has been nicked to Black U. S. Nemo, a son of the famous Lizer's Nemo, for which Mr. Wise paid \$275.

Space forbids the extended notes that the herd merits, and a word about the youngsters ready to go. Among others that can be spared is the young fellow, L's Tecumseh, and with him two sons of Tecumseh Free Trade. All three are good individuals.

Mrs. Meisenheimer has fifty or more pure-bred Light Brahma hens and pullets that she intends to pen and will be prepared to fill orders later on for eggs at \$1 per setting of fifteen. The foundation birds were bred by Watson, of Reserve, and Thompson, of Robinson.

THE EVERGREEN STOCK FARM.

Among others whose advertisement appears in the KANSAS FARMER this week for the first time, is the firm of J. F. and P. C. Winterscheidt, whose farms are situated in Brown county, about five miles northwest of Horton, a Rock Island railroad town. Their herds now consist of about 150 head, all ages. There are twenty-five aged brooders, and forty-five, including the gilts, are being bred for the coming spring pig crop. The harem kings now being used are Admiral Chip 7019 S., bred by C. G. Sparks, of Missouri, whose clearance sale this fall averaged \$45.91. Admiral Chip was bought at the Sparks sale, a year ago, by the Winterscheidt Bros. and M. C. Vansell, of Muscotah, in western Atchison county. He cost them at the sale \$275, and is proving himself worthy of the price paid for him. He is assisted by George Wilkes Jr. 11893 S. and Corbett 11859 S., also Admiral King (Vol. 9), a son of Admiral Chip, and by another one of his sons, Winterscheidt's Victor (Vol. 9). The reader will at once observe that something more than ordinary may be expected next spring to come into the Winterscheidt herds.

In the younger division are forty spring gilts, sired by several different sires, and about twenty of summer and fall farrowings.

The reader, especially if he be engaged in swine husbandry, will no doubt make arrangements to attend their third annual clearance sale, which will be made at Horton, on Wednesday, February 13, 1895, when Mr. M. C. Vansell, of Muscotah, will join the Winterscheidts, making the combined offerings aggregate about eighty head, consisting of aged brood sows, bred gilts and youngsters of both sexes. The draft from Mr. Vansell's herd, with those of the two others, ought to bring out a crowd of buyers that desire to recruit and strengthen their herds or lay the foundation for new ones.

THE BROWN COUNTY HERD.

The oldest breeder of registered Poland-China swine in Brown county is Col. Eli Zimmerman, whose farm, known as the Poplar Grove Stock farm, that lies three miles west of Hiawatha, where the visitor finds a herd of over 100 head of Poland-Chinas, all ages, headed by four breeding boars. The one accredited the first place is the young fellow Black U. S. Nemo (Vol. 9), sired by A. A. 2d 11425 S., he by A. A. 6845 S. and he by Black U. S. 4209 S.; dam Lizer's Nemo 24471 S., she by Black U. S. 4209 S. and he by Success 277 S. He was bred by the noted Nebraska breeder, Mrs. Edwards, who sold his dam at her last public sale to Mr. Wise, of Reserve, for \$275, and Mr. Zimmerman purchased the youngster at Mr. Wise's last September sale. He is, as the saying goes, coming on in grand style and promises to be worthy the reputation achieved by his mother. His principal coadjutor is Model Wilkes (Vol. 9), sired by Billy Wilkes 9309, now owned by Mr. Evans; dam Model 25083 S., she by Black Diamond 9348 S. and out of Bertha 25082 S. Black Diamond was a noted hog bred by the Dorseys. Model Wilkes is of such promise now that the visitor, when he takes into consideration his breeding, at once concludes that he has

been rightly named. Close up comes Sunset Chip (Vol. 9), that was farrowed February 4, 1894, bred by H. G. Sims, of Nebraska, sire Dick Sunset 9990 S., he by King Sunset 6978 S., and he by Climax; dam Black Beauty 19510 S., she by General Wolf 7845 S. and out of Spotty Vinton 17847 S. He's another good one, both in breeding and character. Another one, Billy Bundy (Vol. 9), sired by Gold Coin 9310 S., he by Short Stop 6988 S.; dam May 26015 S., she by Black Diamond 9348 S. One of his great-granddams was the noted prizewinner, Queen Lawrence 3d 21655 S. Billy is one of (in common with his co-workers) the broad-backed, mellow kind that all swine-breeders are looking for. In fact, no other kind is ever brought to or permitted to remain in Mr. Zimmerman's herd.

During our round in visiting some of the Brown county herds, we chanced to look over, at several different places, individuals purchased at Col. Zimmerman's last September sale, and in every instance all were coming right along, holding up their form and growing up smooth, growthy and very promising. Such was their universal good condition that it at once confirmed us in the conclusion that Zimmerman not only understood hogology from a breeder's standpoint, but was a successful and reliable feeder as well. The individuals belonging to the fall farrowings are all coming on in good form. The grand array of aged brooders and gilts, with the several recruits added, were found to be in good, healthful condition, and their painstaking master hopeful as ever of a well-earned and merited success the coming year.

W. H. BABCOCK'S POLAND HERD.

Another Brown county breeder that is coming along the highway of Poland-China success is Mr. W. H. Babcock, whose farm is one mile from the Brown county fair grounds, near Hiawatha. He made his first annual reduction sale the 19th of last September, and a successful one it was. His fourteen head of brooders are coming on in good form, and as he is using several first-class boars on both the aged sows and gilts, a promising spring pig crop is assured. More will be given of his herd later on.

THE ROSEDALE POLAND HERD.

Mr. John A. Dowell is one of the veteran breeders of pedigreed Poland-China swine, having been engaged in live stock husbandry from his youth up. The Rosedale herd now consists of 180 head, all ages, and has the run of his excellent farm, situated four miles northwest of Robinson, a sprightly little village on the St. Joe & Grand Island railroad, in Brown county. It is but six miles east of Hiawatha, the county seat, and Mr. Dowell frequently meets visitors there when they have previously notified him by mail of their intended visit.

The herd is headed by the very excellent aged harem king, Onward 8981 S., he by George Wilkes 5950 S. and he by King Tecumseh 3921 S.; dam Minnie Corwin 20498 S., she by Cornie 2910, and out of Let Live 20499 S. Space forbids that description that his breeding and conformation deserves, save the saying "he's a grand good one." He is assisted by the youngster Tecumseh Wilkes, that was sired by General Wilkes 21927 A., he by Tecumseh Chip Jr. 21880 A.; dam Agnes 50200 by Corwin King 8691 A., he by Black U. S. 31474 O. The reader will, on following up the extended pedigree of both these harem kings, find that they possess the best of blood and are worthy a more lengthy description that we will not be able to give at this time for want of space.

The female division of the herd contains some toppy individuals—in fact, about all of them are good ones. Among them are Equal 18609 S., by King Quality 6967 S., a grandson of Success and Samboline 2d; Lady Gip 18612 S., by Stem Miller 4072 S., he by old Stemwinder 1214; Queen of Rosedale 18611 S., by old Crown Prince 3104 S., a noted sire in his day; Missouri Star 6th 18610 S., a daughter of Crown Prince 3104 S. Black Daisy 26082 S. is thought by some to be the best individual female in the herd. She is a daughter of the noted Windsor King 5690 S., he by McCredie King 2512 S. Her dam was Missouri Star 6th. The visitor will find a grand good lot of youngsters, of both sexes, sired by Onward and other good boars. Several highly-bred and of strong individual character have lately been added, among which are two gilts from the East that cost, before shipping, an even \$100 each.

In order to reduce the herd within the safe keeping capacity of the farm, Mr. Dowell has concluded to make a reduction sale of eighty to 100 head and will hold the same on Thursday, February 28, 1895. More will appear later on concerning the breeding and class of offerings that will go into the sale.

BEN MAXEY'S POLAND HERD.

Our readers, especially those that attended the last Brown county fair, will call to mind the very excellent showing that Mr. Maxey made. His place is just within the

outskirts of the city of Hiawatha and very accessible for visitors. He has been re-enforcing this fall, and among others added to the herd is a very promising young chap, Victor M. Jr. He is by the noted Victor M. 9240 S. and out of a daughter of Trenton Rock 2d 7986 S. The brooders are coming on nicely and Mr. Maxey will have more to say later on when the spring pig crop will have arrived.

BERT WISE'S POLAND HERD.

Last week, in company with Col. Eli Zimmerman, we paid Mr. Wise's herd a visit and found them in a healthful and promising condition. Mr. Wise concluded to get a nick higher, and the result was that he succeeded in purchasing the noted aged boar, Butler's Darkness 2d 9788 S., for an even \$200, and he now is doing service as the master of ceremonies at the head of the herd. More, too, about Wise's herd later on.

J. W. BABBIT'S BERKSHIRES.

Mr. Babbit is the pioneer Berkshire breeder of Brown county and now is strong in the general make-up of his herd. While not so large in numbers, it is of a higher standard than it has been for several years. The visitor finds a lot of ten brood sows, seven of which will rustle the up-earred breeders of the West to beat. Among his late recruits were three head from the very excellent herd of Mr. J. S. Mazers, of Arcadia, Kas., the home of the Bourbon County herd. Mr. Babbit recognized the necessity of an out-cross from his Rockefeller and Model Duke II. sows, and he purchased Lord Majestic, an English-bred fellow that was sired by Lord Windsor and out of the noted imported prize-winner, Majestic, that won second place at the World's Fair. From Mr. Mazers he bought the sow Queen of the West 10th, and she now has a fine litter of nine that were sired by the imported Warwick Hope 31741. The other two were gilts and equally as well bred.

There is a nice string of young boars ready to go that were sired by Model Duke II., he by Model Duke, the boar that left Mr. Gentry's farm for \$750.

W. P. BRUSH.

STATE OF OHIO, CITY OF TOLEDO, ss.
LUCAS COUNTY.

FRANK J. CHENEY makes oath that he is the senior partner of the firm of F. J. CHENEY & Co., doing business in the City of Toledo, County and State aforesaid and that said firm will pay the sum of ONE HUNDRED DOLLARS for each and every case of Catarrh that cannot be cured by the use of HALL'S CATARRH CURE.

FRANK J. CHENEY.

Sworn to before me and subscribed in my presence, this 6th day of December, A. D. 1894.

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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.

SPLINT ON COLT.—A colt, 18 months old, has what appears to be a splint on the inside of the right foreleg about half way down below the knee.

COWS COUGHING.—Can you tell me what ails my Jersey cows? They are well taken care of, and eat very well, but have had a short and hurried breathing and a cough for the last two weeks.

LEAKING TEAT IN COW.—I have a cow that, two years ago, cut one of her teats on the wire, and, in healing, left a pipe from which the milk leaks.

Answer.—The symptoms given are not sufficient to base a diagnosis upon. Your cows may only have a severe cold, or they may have something more serious.

Answer.—With a very small knife-blade, or other sharp instrument, scarify the opening, then apply lunar caustic till it is raw to its full depth, after which rub on a little vasoline occasionally, and the opening will soon heal.

Horse Markets Reviewed.

CHICAGO.

For week ending Tuesday, December 18, our Chicago correspondent reports liberal receipts, with a brisk trade and steady to firm prices during the week, all classes being ready sale.

These prices are for sound horses, 5 to 8 years old, well broken and in good flesh.

In one day's auction he reports having sold 216 horses for \$12,672.50, and in another sale 253 horses for \$16,217.50, and at private sale during the week twenty-four horses for \$2,987.50.

KANSAS CITY.

W. S. Tough & Son, managers of the Kansas City Stock Yards Co.'s horse and mule department, report the market this week as being very satisfactory for both buyers and sellers, except for poor, thin and old stock.

Mules seemed to be stronger, with a good fair demand. All stock was pretty well cleaned up, nothing remaining over in first hands.

If afflicted with scalp disease, hair falling out, and premature baldness, do not use grease or alcoholic preparations, but apply Hall's Hair Renewer.

Hog-raisers and general stock farmers have long been looking for some means of successfully assisting sows to deliver their pigs, as valuable animals are often lost at farrowing time.

Horse Owners! Try



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Farmer's Account Book.

The keeping of farm accounts is one of the important elements of farm prosperity which is too often neglected. This results largely from the feeling of uncertainty as to the correct method of making the entries.

The following is the table of contents:

Table with 2 columns: Item and Page. Includes: Directions and Explanations, Introductory, Diagram of Farm, Inventory of Live Stock, Inventory of Farm Implements, Cash Received from all Sources, Cash Paid Out, Field Account, Live Stock Account, Produce Account, Hired Help per Month, Hired Help per Day, Household Expense, Accounts with Neighbors, Dairy and Poultry, Fruit Account, Notes and Obligations Due, Notes and Obligations Owed, Interest, Taxes and Insurance, Physician and Druggist Account, Miscellaneous Accounts, Improvement and Repairs, Weather Report, Recapitulated Annual Statement, Useful Information, etc.

DR. ORR'S BOOK.—Readers of the KANSAS FARMER will be pleased to know that arrangements have been made whereby they can obtain this concise and well nigh invaluable "Farmer's Ready Reference or Handbook of Diseases of Horses and Cattle" in combination with this paper at a slight saving in cost.

The separate prices of these are: Dr. Orr's Book, \$1.50; KANSAS FARMER, one year, \$1.00.

Two dollars sent either to the Kansas Farmer Co., Topeka, or to Dr. S. C. Orr, Manhattan, will secure both, making a saving of 50 cents.

"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 8,000 acres in Howell county.

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M. C. BYRD, Lawrence, Kas. TRUSSES on 30 Days Trial. Easy, durable and cheap. A radical cure effected. Send for sealed catalogue.

MARKET REPORTS.

Kansas City Live Stock.

KANSAS CITY, Dec. 24.—Cattle—Receipts since Saturday, 1,514; calves, 83; shipped Saturday, 3,373; calves, 62. The market for steers was active and 10@15c higher; cows steady; calves strong; bulls weak; stockers and feeders active. The following are representative sales:

Table with 2 columns: Item and Price. Includes: DRESSED BEEF AND EXPORT STEERS, 21...1,334 \$4.05, 20...1,305 \$4.25, 47...1,289 4.15, 22...1,275 4.00, 10...1,390 3.75.

Table with 2 columns: Item and Price. Includes: FED WESTERN STEERS, 44 Idaho...1,233 \$4.05, 3 Idaho...1,220 3.00.

Table with 2 columns: Item and Price. Includes: COWS AND HEIFERS, 2...965 \$3.00, 2...1,180 2.90, 4...925 2.50, 1...1,000 2.40, 9...722 2.35, 9...1,052 2.25, 1...1,000 2.00, 1...1,030 1.85, 1...850 1.75.

Table with 2 columns: Item and Price. Includes: WESTERN COWS, 140 Col...881 \$3.25, 17 Col...888 1.90, 20 Col...826 1.70, 1 Col...890 1.00.

Table with 2 columns: Item and Price. Includes: TEXAS AND INDIAN STEERS, 4...855 \$2.65, 7...892 2.20.

Table with 2 columns: Item and Price. Includes: TEXAS AND INDIAN COWS, 31 I...747 \$2.00, 62...753 1.63.

Table with 2 columns: Item and Price. Includes: STOCKERS AND FEEDERS, 5...988 3.45, 25...940 3.15, 5...788 2.90, 6...875 2.75.

Hogs—Receipts since Saturday, 3,173; shipped Saturday, 339. The market was steady, closing 5c lower. The top was \$4.35 and the bulk of sales were \$4.00@4.25, against \$4.40 for top and \$4.05@4.30 for bulk Saturday. The following are representative sales:

Table with 3 columns: Item, Price, and Item, Price. Includes: 35...396 \$4.35, 67...310 \$4.35, 54...288 \$4.30, 68...281 4.25, 6...236 4.25, 85...283 4.25, 48...283 4.25, 29...282 4.25, 83...231 4.20, 61...237 4.20, 49...255 4.20, 44...258 4.15, 6...233 4.15, 78...231 4.15, 70...223 4.15, 91...230 4.10, 59...230 4.10, 18...218 4.00, 93...198 4.00, 78...241 4.00, 66...210 4.00, 98...198 4.00, 97...223 3.97, 59...235 3.90, 111...173 3.85, 131...173 3.85, 23...156 3.75, 20...159 3.70, 6...128 3.65, 10...135 3.65, 59...147 3.60, 11...159 3.55, 52...129 3.40, 17...102 3.25.

Sheep—Receipts since Saturday, 1,187; no shipments. The market was fairly active and strong. The following are representative sales:

Table with 2 columns: Item and Price. Includes: 104 lambs...67 \$3.50, 98 mut...110 \$2.60, 501 Col. fdrs...78 2.45.

Kansas City Produce.

KANSAS CITY, Dec. 24.—Eggs—Market unsettled; strictly fresh, nominally 15c. Butter—Receipts, fair; the market is weak, extra fancy separator, 20@21c; fancy, 18@19c; fair, 16@17c; dairy, fancy, 14@15c; fair, 13c; fancy roll, 12@14c; fair roll, 10@11c; packing, weak, 8@9c; old, 5@6c. Poultry—Receipts lighter; the market is active, firmer; hens, 4c; mixed springs, 5@5 1/2c; roosters, 15c; dressed chickens, 3@6c; turkeys, firmer, 5@5 1/2c; dressed turkeys, active, 5@7c; ducks, steady, 5@6c; geese, scarce, 5@5 1/2c; pigeons, 75c per doz. Apples—Receipts light, supply small; the market is active and very firm; standard packed ranged from \$2.50@3.00 per bbl.; others, \$2.25@2.50; fancy stand, \$3.25@3.50; Jennettings, \$1.50@2.25 per bbl. Lemons, firm, \$3.25@4.50. Oranges, scarce, active, higher; Florida, \$2.75@3.50. Cranberries, firm; Cape Cod, \$10.00@11.00 per bbl.; Jersey, \$10.00@10.50. Vegetables—Potatoes, receipts light; market exceedingly dull; ordinary kinds, common, 45@55c per bu.; sweet potatoes, red, 15@20c per bu.; yellow, 25@30c per bu.; Utah and Colorado, choice, 55@60c per bu. Cabbage, plentiful, market weak, 75c@1.00 per 100; Michigan, \$18.00@20.00 per ton. Cauliflower, small, 45@50c per doz.; large, 75c per doz.

No Grain Markets To-day.

KANSAS CITY, Mo., Dec. 24.—No attempt was made to do business among the grain men to-day. Chicago prices for wheat and corn were quoted on the "curb" nominally the same as Saturday. The receipts of grain here were 23 cars of wheat, 74 cars of corn, 19 cars of oats and 101 cars of hay. A grain firm with an elevator in southern Kansas received from a Kansas mill a bid of a little over 65 cents river for hard wheat.

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THE STRAY LIST.

FOR WEEK ENDING DEC. 12, 1894.

Chautauqua county—G. W. Arnold, clerk. COW—Taken up by C. Oneslager, in Salt Creek tp., P. O. Colfax, one roan cow, no marks or brands; valued at \$15.

Cherokee county—P. M. Humphrey, clerk. PONY—Taken up by J. M. Turner, in Garden tp., P. O. Vark, November 16, 1894, one bay mare pony, fourteen hands high, white face, three white feet, white spot on belly, roached mane; valued at \$20.

Elk county—S. D. Lewis, clerk. STEER AND HEIFER—Taken up by W. J. Sexton, in Painterhood tp., P. O. Busby, November 25, 1894, two red yearlings, one steer and one heifer; valued at \$16.

Wabunsee county—J. R. Henderson, clerk. MARE—Taken up by Oscar Johnson, in Kaw tp., P. O. St. Marys, one gray mare, 2 years old, split in right ear.

Lyon county—C. W. Wilhite, clerk. COW—Taken up by G. W. Davis, in Center tp., November 1, 1894, one small black cow, 8 years old, both ears cropped; valued at \$12.

STEER—Taken up by Jas. Aroher, in Jackson tp., November 19, 1894, one pale red yearling steer, white on hips, belly and lower part of tail; valued at \$12. Linn county—J. J. Hawkins, clerk.

MULE—Taken up by G. W. Elder, in Sheridan tp., November 26, 1894, one dark bay horse mule, mane roached, had on leather headstall; valued at \$10. Greenwood county—J. F. Hoffman, clerk.

STEER—Taken up by N. P. Bernard, in Pleasant Grove tp., November 29, 1894, one red steer, 3 years old, indistinct horseshoe on right hip; valued at \$20. Sumner county—Chas. Sadler, clerk.

MARE—Taken up by John W. Davis, in Fults tp., P. O. Corbin, November 9, 1894, one dark brown mare, 10 years old, weight 800 pounds, star in forehead; valued at \$15. COLT—By same, one iron-gray mare colt, weight 600 pounds, white forehead, three white feet; valued at \$15.

Logan county—H. G. Kiddoo, clerk. TWO MULES—Taken up by C. M. Howes, in McAllister tp., P. O. McAllister, July 9, 1894, two black mare mules, 3 years old; valued at \$50.

Johnson county—Jno. J. Lyons, clerk. MARE—Taken up by A. J. Crooks, in Mission tp., November 24, 1894, one bay mare, fifteen and one-half hands high, white hind feet, white spot in face; valued at \$25.

Anderson county—J. T. Studebaker, clerk. STEER—Taken up by Z. A. Taylor, in Indian Creek tp., one white yearling steer, medium size.

FOR WEEK ENDING DEC. 19, 1894.

Cherokee county—P. M. Humphrey, clerk. TWO MULES—Taken up by James H. Deal, in Neosho tp., P. O. Melrose, November 14, 1894, two mare mules, brown and bay, fifteen and one-half hands high, 14 years old, mealy nose; valued at \$50.

Woodson county—H. H. McCormick, clerk. MARE—Taken up by D. D. Story, in Toronto tp., P. O. Toronto, December 12, 1894, one two-year-old filly.

Greenwood county—J. F. Hoffman, clerk. HEIFER—Taken up by L. N. Shook, in Janesville tp., December 1, 1894, one black heifer, 2 years old, white spot above left eye and white on left jaw; valued at \$12.

THREE HORSES—Taken up by Thomas Bland, in South Salem tp., November 23, 1894, one iron-gray gelding, 4 years old, valued at \$35; one light bay filly, blazed face, white hind feet, valued at \$30; one dark bay mare, 6 or 7 years old, in foal, valued at \$35.

STEER—Taken up by John M. Cochran, December 7, 1894, one red steer, 2 years old, branded O under straight line on right hip, crop and underbit of right ear, small white spot in forehead, dehorned.

FOR WEEK ENDING DEC. 26, 1894.

Coffey county—T. N. Bell, clerk. COW—Taken up by J. W. Allen, in California tp., November 1, 1894, one red and white spotted cow, 10 years old, branded on right hip with letter D; muley; valued at \$12.

Shawnee county—Chas. T. McCabe, clerk. STEER—Taken up by E. Higgins, Mission tp., P. O. Topeka, one black yearling steer, small ring in right ear, left ear clipped; valued at \$15.

Greenwood county—J. F. Hoffman, clerk. COW AND CALF—Taken up by Cella Oliver, in Eureka tp., December 10, 1894, one dark red cow, white under the belly, dehorned, 6 or 7 years old, indistinct brand on left hip like T; also roan bull calf; valued at \$20.

TWO PONIES—Taken up by E. E. Bollinger, in Eureka tp., December 12, 1894, one dark bay mare pony, 4 years old, weight 800 pounds, and one light bay mare pony, 4 years old, weight 900 pounds; valued at \$15.

Neosho county—W. P. Wright, clerk. HORSE—Taken up by C. F. Bogle, in Canville tp., December 8, 1894, one dark bay horse, fifteen hands high, 8 years old, heavy mane and tail, white spot in forehead and on tip of nose, hind feet white, branded on right thigh; valued at \$25.

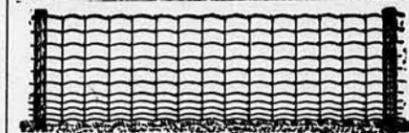
Chautauqua county—G. W. Arnold, clerk. HORSES—Taken up by G. M. Norris, Niota, one dark bay horse 2 years old and one light bay horse 4 years old, both marked with O; valued at \$20.

Wabunsee county—J. R. Henderson, clerk. STEER—Taken up by C. D. Poulter, in Rock Creek tp., one red steer 1 year old, no marks or brands, white spot in each flank, small white spot on right hip and white in face; valued at \$13.

Wilson county—V. L. Polson, clerk. MARE—Taken up by A. J. Shetter, of Cedar tp., P. O. Altoona, on November 19, 1894, one iron gray mare 3 years old, two white spots in face, fresh wire cuts, one on knee and one on breast.

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The Poultry Yard

CHEAP POULTRY HOUSE.

Just the Thing for a Small Flock of Laying Hens.

A building for wintering a flock of laying hens, as shown in the accompanying illustrations from sketches by J. W. Caughy, will accommodate fifty hens. The building (Fig. 1) is six feet high by thirty feet long and twenty feet wide, the space for laying and roosting being separated by a wire netting par-

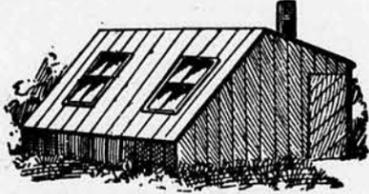


FIG. 1.—POULTRY HOUSE.

tion, where the feed and heater is located. A farmer's wife will find that a small building of this kind, costing not over twenty-five dollars, will meet her home needs and be handy to her kitchen door in cold weather when the barn is a long distance away. The

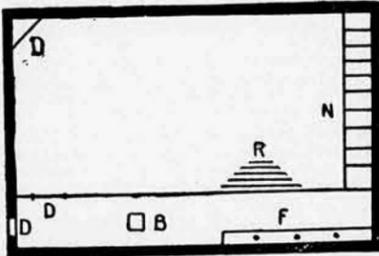


FIG. 2.—GROUND PLAN OF POULTRY HOUSE.

ground plan (Fig. 2) shows the arrangement, which is very simple. The nest boxes N, the dust box A, the roost R, the doors D, the heater B, and the feedbox F, are shown in the diagram. This house is practical and cheap. The roof is covered with tar or felt paper, to shut out the rain and snow.

FATTENING POULTRY.

Some Timely Hints from the Columns of an English Paper.

Many persons who keep fowls have no idea whatever how to proceed if they want to fatten their birds, says Mark Lane Express. A dim idea pervades their minds that they will flourish and lay on flesh if they are confined altogether in a small yard or shed, in which they can huddle up in the damp and filth, and eat to their fill of the food which is periodically scattered among them. But this is entirely opposed to the experience of practical and experienced feeders. Old birds should not be fattened for market if it can possibly be avoided, as they rarely pay for the time, trouble and outlay of money; secondly, the young birds of either sex should be separated from each other at a very early age. It is a great mistake, too, to subject fowls to a very extended period of fattening, as after they are kept in close quarters for a long period many birds go off their feed and lose flesh rapidly. About three weeks is a fair period to estimate for putting the final touches on their condition, but the experience of a practical feeder will inform him when each bird is "ripe." It is best at this time to confine each bird by itself in a narrow coop boarded, specially made for the purpose, and usually forming one of a long row of six or seven, or even more, of such receptacles, in which he cannot turn round, but can only sit still, eat and meditate in quiet. They should be fed in troughs regularly and liberally, and the vessels should be removed as soon as each bird has stopped feeding. The fattening pens should be kept in a shed by themselves, away from other birds, and should be provided with a blind, so that the apartment can be darkened after each meal, the birds being thus left to digest their food and lay on flesh in peace. Sweet skim milk is preferable to water for their consumption, and soft food is far more satisfactory in its results than grain. Some people cram their birds artificially with thick gruel, which is forced into the crops by a tube, though the practice is too complicated for an ordinary establishment.

GEESE FOR MARKET.

A Branch of Poultry Raising Which is Not Yet Overdone.

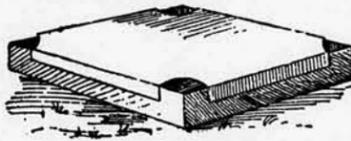
If not as popular as the turkey, the juicy meat of the goose commends it to a large class of buyers, and the market is seldom stocked with choice ones. It is safe to say that less improvement is made with the flocks of geese than with other kinds of poultry, and inbreeding is very common. Geese of the Toulouse or Embden breeds will weigh 25 pounds or more alive, and can be easily kept on any field that affords a good range, as geese subsist mostly on grass. Improvement should cost but very little, as geese live a great many years, and the same old pairs will bring out goslings year after year. It will be an advantage for farmers to use pure-bred ganders, and thus increase the size, which will not only add more weight, but increase the price per pound in market.

The finest flock of geese we have ever seen in Minnesota was on the farm of Philip Dressell, in Le Sueur county. They were of the Toulouse breed. Mrs. Dressell said they would yield an average of a pound of feathers a year, were easily raised, could be kept in a yard or pasture with an ordinary fence, and when full grown would dress from 15 to 20 pounds each. Mother Dressell said she did not raise them to sell, but for the purpose of supplying each new grandchild with a feather bed. Here is a branch of industry that is not overdone—a field of enterprise where many might find lucrative employment. There is a good demand for live geese feathers, and no immediate danger of glutting the market.

SIMPLE DRINKING TANK.

One or More Should Be Made by Every Poultry Farmer.

The illustration of a drinking tank is from Mr. M. K. Barnum, Nebraska. It is simple, cheap and easily cleaned. It is a tin box about two inches deep and a foot square, leaving a detachable cover, with the corners of the cover cut away to permit the chicks to drink. The portions cut out may be small, so as to prevent chicks from getting in the water, but with such a shallow tank they cannot drown at all events. The cover also keeps dirt out and pre-



DRINKING TANK.

vents evaporation of the water. Mr. Barnum states that there is no patent on it, and he sends it as a gift to our readers. A larger and deeper tank on the same design may be used for fowls. The plan may also be adapted to a tight wooden box if desired.

Winter Quarters for Poultry.

The quarters must be warm, but more especially dry. Dampness is more damaging than cold, and roup may easily be caused by a slight crack or crevice in the wall, and a leaky roof will cause disease whether the birds get wet or not. It is not necessary for the fowls to become wet and to feel the effects of dampness. A damp floor or wall causes the air in the house to be chilly and disagreeable, and the birds draw up and shiver in the corners. The temperature need not be high, about fifty degrees above zero is warm enough. Even forty degrees is not too cold. What is desired is not to have the house cold enough to freeze the combs.—Prairie Farmer.

How to Prevent Chicken Cholera.

This is the great scourge that annually devastates the flocks and renders poultry-raising almost an impossibility in some parts of the country. It is contagious, but is fostered and encouraged by filth. The symptoms are greenish droppings, great and intense thirst, a nervous, anxious expression, and general prostration. Burn all the bodies, thoroughly clean up and disinfect the premises. As a preventive of cholera, feed, twice a week, cornmeal dough, the water for mixing the dough being prepared by adding a teaspoonful of carbolic acid to each quart of water. Keep the drinking-water clean and change it frequently.—Prairie Farmer.



TENNYSON

Among Children.

Theodore Watts, the well-known critic of the London Athenæum, was one of the few men admitted to the friendship of the poet laureate. In

The Youth's Companion

For 1895

he will describe characteristics of the poet generally unknown. The article is one of a group of highly entertaining papers of *Anecdotes of Famous Men* to appear in *The Companion* next year.

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The Kind of Bird to Raise.

Select in the make-up of a fowl a bird that carries a large amount of meat if you want a bird for the table. To secure meat a peculiar configuration is essential. A large, projecting crop is unnecessary, for some of the meatiest birds look flat in the breast. It is necessary to have the quarters extremely broad. If they round out, so much the better, because there is meat carried upon the breastbone. A deep keeled bone to the breast well lined with muscle should round out and feel on the bird very much as a duck does when he is dressed. Secure a bird with a large thigh, because the thigh joint and the bone down through the leg carries a large amount of meat. Look out for a good strong shoulder because the muscles that make the shoulder are the muscles that make their way in the market.—Farm and Home.

Kansas State Poultry Show.

All who are interested in poultry should attend the Kansas State Poultry show, where they can inform themselves in regard to what kind of poultry to raise, what to feed them, how to run incubators, brooders, bone mills, etc. There will be several kinds on exhibition. Farmers, send your wives, if you cannot come yourselves, for they are the ones who are the backbone of the poultry yards. Incubators, bone mills, etc., are offered for special premiums. The show is to be held second door below postoffice, at 444 Kansas avenue. Send to D. A. Wise, 707 East Tenth street, Topeka, Kas., for premium list.

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

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BREEDERS' DIRECTORY. (Continued from page 1.)

SWINE.

J. R. KILLOUGH & SONS, Richmond, Kansas, Breeders of POLAND-CHINA SWINE. The very best strains. Nothing but first-class stock will be shipped to any. Come and see us or write.

"Wildwood" Herd Poland-Chinas. For Sale Now! My two breeding boars, George Free Trade 21053A., by Free Trade 4220 S.; also Gen. Wilkes 10513, grandson of George Wilkes 6950 S. Both boars are 2 years old and good individuals. Can use them no longer. L. N. KENNEDY, Nevada, Mo.

D. W. EVANS' HERD REGISTERED POLAND-CHINAS. FAIRVIEW, BROWN CO., KAS. 250 head headed by Swi Tecumseh 11929 S., by L's Tecumseh 11413 S., and Billy Wilkes 99 9 S., by George Wilkes 6950 S. A public clearance sale on Thursday, February 14, 1895, of 75 sows bred to these and other noted boars. Inspection invited.

W. E. GRESHAM, Burrton, Kansas, Breeder of POLAND-CHINAS. Won six prizes, including first blue ribbon west of Mississippi at World's Fair. Stock all ages for sale.

PLEASANT VIEW STOCK FARM. J. A. WORLEY, Sabetha, Brown Co., Kas. REGISTERED POLAND-CHINA SWINE. Short-horn Cattle and Light Brahmas. 100 Polands, headed by Anxiety 20251 A., Combination U. S. (Vol. 9), America's Equal 12279 S., and a son of Bolivar 24767. Eggs in season, \$1.50 per setting of 15. Inspection and correspondence invited.

TOWER HILL HERD PEDIGREED POLAND-CHINAS. B. R. ADAMSON, Prop., Ft. Scott, Kas. 25 highly-bred brood sows of best strains, headed by Black Dandy 8809 S., Black Stop 10550 S., and Joker Wilkes 12682 S. About 100 selected individuals sold this season. 25 youngsters coming on now for choice. Write or come and visit my herd.

E. E. AXLINE, OAK GROVE, MO., (Jackson Co.) Poland-Chinas. Breeder and shipper pure-bred registered stock. Dugan 10213 S. and Western Wilkes (Vol. 9) head the herd. Write or come.

STANDARD POLAND-CHINA HERD. CHAS. A. CANNON, Proprietor, HARRISONVILLE, CASS COUNTY, MISSOURI. Breeder and shipper of registered Poland-China swine of the best strains. Herd headed by Chow Chow 9008 S., assisted by a Black U. S. son of Imitation 27185 O., also a son of Tecumseh Jr. 10207 O. 250 head in herd. Young boars and gilts yet on farm. Write or come and visit me.

MAINS' HERD OF POLAND-CHINAS. JAS. MAINS, Oskaloosa, Kas. (Jefferson County.) A grand lot of sows bred to Monroe's Model, Excel, McWilkes Jr. and Storm Cloud 2d. Also all other classes and ages of stock for sale. I guarantee safe arrival and stock as represented or money refunded. Breeding stock recorded in Ohio P. C. R.

HILLSDALE HERD Short-horn cattle and Poland-China hogs, bred by C. C. KEYS, VERDON, NEB. Aberdeen King 101458, a pure Cruickshank, heads the herd. Stock for sale at all times. Visitors welcome. A fine lot of young male pigs for sale. Farm two miles north of Verdon, Nebraska.

Evergreen Herd Poland-Chinas. J. F. & P. C. Winterscheidt, Horton, Kas. 150 in herd. Boars in service: Admiral Chip 7919 S., George Wilkes Jr. 11893 S., Corbett 11859 S. and Winterscheidt's Victor (Vol. 9). 45 sows bred for coming pig crop. 10 young boars and 40 gilts ready to go. Write or come. Third annual sale, February 13, 1895.

SUNNY SLOPE FARM, EMPORIA, KANSAS. 200 POLAND-CHINAS, headed by LONGFELLOW 29785 O., that has best World's Fair record of any boar west of the Mississippi. Also in service, sons of J. H. Sanders, Hadley and Latest Fashion. Blood lines, One Price, Tecumseh, Black U. S., Wilkes, Corwin, U. S. and others.

100 BERKSHIRES, headed by the well-known show boar, MAJOR LEE 31189, assisted by Gentry-bred boars. Female lines, Lady Lee, Duchess, Charmer and Black Girl families. Young things, both sexes, ready for inspection. H. L. LEIBFRIED, Manager.

R. S. COOK, Wichita, Kas., Breeder of Poland-Chinas. Won seven prizes at World's Fair—more than any single breeder west of Ohio.

BLACK U. S. AND WILKES 300 head, registered or eligible. Boars in service, Modest Duke 12633 S., Wilkes Tecumseh 11790 A., White Face 12681 O. and Osgood Dandy Wilkes 12709 S. 60 young boars; 80 gilts. J. R. CAMPBELL & SON, Avilla, Jasper Co., Mo.

HOLSTEIN-FRIESIANS Carême 2d's Jacob Prince of Twisk 404 heads herd, backed with butter record of over 35 lbs. in 7 days. Young bulls for sale. Red pigs in pairs, heavy bone, good color, dams often throwing 14 pigs. Males DUROC JERSEY REIDS ready for service. Poland-China males ready for use. Pigs of all ages in pairs not related. Young gilts, either bred, bred if desired. Pigs shipped at my risk. Pedigrees furnished. M. H. ALBERTY, Cherokee, Crawford Co., Kas. Mention FARMER, AND POLAND-CHINAS.

SWINE.

BROWN COUNTY HERD, PEDIGREED POLAND-CHINAS. ELI ZIMMERMAN, Hiawatha, Kas. 46 brood sows in herd, headed by Black U. S. Nemo (Vol. 9), Model Wilkes (Vol. 9), Sunset Chip (Vol. 9) and Billy Bunt (Vol. 9). Female lines: All Right, Short Stop, King I. X. L., Wilkes, Free Trade, Wannaker. Aged sows, bred gilts and fall pigs for sale.

ELM BEACH STOCK FARM IRWIN & DUNCAN, Wichita, - Kansas, Sedgwick Co. Breed and have for sale Bates and Bates-topped Short-horns - Waterloo, Kirklevington and other fashionable families. Also breed and have for sale the best thoroughbred Poland-Chinas that can be obtained. Write or come and see.

HIGHLAND KENNELS, TOPEKA, KAS.—Great Danes and Fox Terriers. The first prize and sweepstakes winner, Great Dane King William, in stud. Dogs boarded and treated for all diseases; also, remedies by mail. Correspondence solicited.

DR. U. B. MCCURDY, Veterinary Surgeon. Graduate Ontario Veterinary college, Toronto, Canada. Can be consulted on all diseases of domestic animals at office or by mail. Office: 114 West Fifth Street, Topeka, Kas.

J. M. HOSMER, Live Stock Auctioneer, Maryville, J. Mo. Fine stock a specialty. I respectfully solicit your business and guarantee satisfaction. Terms reasonable. Secure Cates early.

F. M. WOODS, Live Stock Auctioneer, Lincoln, Neb. Refer to the best breeders in the West, for whom I do business. Prices reasonable and correspondence solicited.

JAS. W. SPARKS, Live Stock Auctioneer, Marshall, Mo. Sales made everywhere. Reference to the best breeders in the West, for whom I have made sales. Catalogues compiled and printed. Terms reasonable.

ELI ZIMMERMAN, Hiawatha, Kansas, Live Stock and General Auctioneer. Pedigreed and registered live stock a specialty. Write for dates. Sales conducted anywhere in the country. Best of references and satisfaction guaranteed.

S. A. SAWYER, FINE STOCK AUCTIONEER—N. Manhattan, Riley Co., Kas. Have thirteen different sets of stud books and herd books of cattle and hogs. Compile catalogues. Retained by the City Stock Yards, Denver, Colo., to make all their large combination sales of horses and cattle. Have sold for nearly every importer and noted breeder of cattle in America. Auction sales of fine horses a specialty. Large acquaintance in California, New Mexico, Texas and Wyoming Territory, where I have made numerous public sales.

THEOS. B. SHILLINGWALD, Real Estate and Rental Agency, 117 East Sixth St., Topeka, Kas. Established in 1884. Calls and correspondence invited.

Send \$1.00 at once for Iowa Turf and Picture Magazine one year. Iowa Turf Pub. Co., Des Moines, Ia.

FINE BLOODED Cattle, Sheep, Hogs, Poultry, Sporting Dogs. Send stamps for catalogues, 150 engravings. N. P. BOYER & CO., Coatesville, Pa.

5—Choice Cruickshank Bulls—5 We have or sale five choice Cruickshank bulls, 10 to 18 months old, suitable to use in any Short-horn herd. Prices low, quality good. Inquire of W. A. HARRIS & SON, Linwood, Kas.

CANCER Tumors and Scrofula cured without knife, plaster, caustic or poison. Send 2 cents for certificates of cure, mentioning this paper. DR. H. C. W. DESHLER, 306 VanBuren St., Topeka, Kas.

BONNER SPRINGS NURSERIES We shall offer in the spring, 1895, at surprisingly low prices, a large stock of apple trees—mostly Gano, Bon Davis and Jonathan—the apples. Also small fruits of all kinds. Greenhouse bedding plants and bulbs for spring planting; asparagus, evergreens and a general collection of nursery stock, all being of the leading and most popular kinds. Address H. H. KERN, Manager, Bonner Springs, Kas.

Kansas Redeemed! As a result business is "picking up" wonderfully and prices are looking better in all lines. In Farm Property there will be no exception. Prices that now range are exceeding low—they are bound to advance, and holders will get a farm in this section of Kansas between this and spring. I have hundreds of way down bargains. First come, first served. You can better yourself now and have money left for other use. Write me now or come and see. Car fare refunded to all purchasers. Address WALTER LATIMER, Garnett, Kansas.

Farmers, Spay Your Sows For fall fattening. Also your Nannies, Ewes and Gip Dogs, with Howsley's Spaying Mixture. Easily used, quick, absolutely certain and safe. Price, \$3 per bottle; \$2 half bottle. One new spay one hundred head. Write for testimonials and particulars. THE HOWSLEY SPAYING CO., Kansas City, Mo., or New Orleans, La.

TWO-CENT COLUMN.

"For Sale," "Wanted," "For Exchange," and small advertisements for short time, will be charged two cents per word for each insertion. Initials or a number counted as one word. Cash with the order. Special!—All orders received for this column from subscribers, for a limited time, will be accepted at one-half the above rates, cash with order. It will pay. Try it!

WANTED—Sale bills, horse bills, catalogues and other printing. A specialty at the Mail job printing rooms, 900 North Kansas Ave., North Topeka.

READ—Famous Duroc-Jersey and Poland-Chinas for sale cheap. Great breeders, rustlers and growers. D. Trott, Abilene, Kas.

COCKBRELS FOR SALE—But Cochin, Light Brahms, Buff Leghorn, White Minorca and Barred Plymouth Rock. Will sell for \$1.25, or \$1 each where more than one is taken. Mrs. E. E. Bernard & Son, Dunlap, Morris Co., Kas.

WANTED—Millet, cane and Jerusalem corn. Send samples. Trumbull Seed Co., Kansas City, Mo.

FOR SALE—Seventy-four three-year-old steers, now being fed corn on good pasture. H. H. McCormick, Yates Center, Kas.

WANTED—To buy a first-class incubator in good condition. Must be cheap. Address Lock Box 143, Peabody, Kas.

WE CAN FURNISH CORN, OATS, MILL FEED, bran, flour, ground wheat or feed wheat in car lots. Write or wire. Hodges & Seymour, Wichita, Kas. Mention Kansas Farmer.

IRRIGATION PUMPS.—For prices of irrigation pumps used by the editor of KANSAS FARMER write to Prescott & Co., Topeka, Kas.

SEND TO-DAY FOR FREE SAMPLE COPY OF Smith's Fruit Farmer, a practical Western horticultural journal, 50 cents a year. Smith's Fruit Farmer, Topeka, Kas.

WANTED—Car-load of 1894 alfalfa, German millet, cane and Evergreen broomcorn seed. Address Geo. A. Arnold, Box 146, Kearney, Neb.

WE MAKE A GOOD FARMER'S SPRING WAGON, two lazy backs and let-down end-gate, for \$55. Warranted. Kinley & Lannan, 424-426 Jackson street, Topeka.

SUNNYSIDE—YAKIMA VALLEY.—Irrigated lands. Produce apples, pears, peaches, hops, alfalfa. Worth \$30 to \$500 per acre. "Twenty acres enough." For map, prices, particulars, write F. H. Hagerty, Sunnyside, Washington.

FARM LOANS—I have arrangements to negotiate loans with funds of a life company at a low rate of interest on long time. Correspondence solicited at 110 West Sixth Ave., Topeka, Kas. Milo Norton, Agent.

TWO-CENT COLUMN—CONTINUED.

LARGE ENGLISH BERKSHIRE—Young sows of choicest breeding and individuality, bred to our grand imported boar; also, choice young boars. Special prices to immediate buyers. Wm. B. Sutton & Son, Russell, Kas.

FOR SALE—Fifty acres, ten acres, within eighty rods of Santa Fe depot. Used for farm and gardening. Lot of hotbeds, good house and barn. Lots of water, fruit of all kinds. All well improved. Price, \$3,500. Apply to Geo. Lelsner, Carbondale, Kas.

WANTED—Buyers for three young Holstein bulls, of famous stock. For particulars address E. L. Yoder, Morrill, Brown Co., Kas.

CLOSING OUT—Entire stock of Hamburgs, incubators, brooders, bone-mill, clover-cutter, etc., on account of death of wife. J. P. Lucas, Topeka, Kas.

CHEAP FOR SIXTY DAYS—Great big Light Brahms and beautiful Black Langshans. Wm. Plummer, Osage City, Kas.

FOR EXCHANGE FOR ALFALFA, SORGHUM or red Kamir corn seed, several pure-bred Poland-China boars, ready for service. J. H. Taylor, Pearl, Kas.

WANTED—To trade a \$50 scholarship in Pond's Business college for a good milch cow. W. B. Roby, 316 West Eighth St., Topeka.

YOUNG BULLS for sale. Short-horns and Herefords. Prices reasonable. Address Peter Sim, Wakarusa, Shawnee county, Kas.

WANTED—Buyers for Large English Berkshires. One hundred pure-bred pigs, farrowed in March and April, are offered for sale at from \$10 to \$15 each. Farm two miles west of city. Riverside Stock Farm, North Topeka, Kas.

EARLY KANSAS SEED POTATOES—Three pounds, by mail, postpaid, 50 cents; fifteen pounds, f. o. b., \$1. The most prolific, hardiest and best table potato ever grown in Allen county. C. Norton, Morantown, Kas.

YORKSHIRES—The grass hogs. Langshans, the winter layers. Leghorns, the everlasting layers. Price stock. James Burton, Jamestown, Kas.

FOR SALE—Sixty Mammoth Bronze turkeys, from top scoring 97 1/4; hens averaging 97. In November, 1894, at Warrensburg and Sedalia shows, I won four first, six second and five third. Eggs in season. Toms, \$2.50; hens, \$1.50. Mrs. F. W. Ives, Knob Noster, Mo.

FOR SALE—120 acres unimproved land, twenty-five miles from Topeka, \$5.50 per acre; 250-acre farm, seven miles from Topeka, \$16 per acre. John G. Howard, Topeka, Kas.

FRESH ALFALFA SEED. Crop of 1894. MCBETH & KINNISON, GARDEN CITY, KANSAS.

Feeders, Attention! WHAT ARE YOU DOING? FEEDING WHEAT INSTEAD OF CORN? EXPECT TO MAKE A HATFUL OF MONEY?

We hope you will, and to help you do it we offer a friendly word of warning. Those who know, say wheat fed to farm animals acts as an astringent, and causes constipation; therefore something else must be combined with the wheat to overcome this difficulty. You cannot put on flesh and fat unless the digestive organs are in a healthy condition, so that the food can be easily and properly assimilated. This can be secured by feeding an article that is not only a natural food but also a regulator of the system. If you will feed OLD PROCESS GROUND LINSEED CAKE (OIL MEAL) you will find that your animals will eat more wheat, grow faster, take on flesh and fat faster, get in good health, and put money in your pocket. Hog feeders particularly should give heed to these suggestions. For prices and further particulars, address

TOPEKA LINSEED OIL WORKS, Topeka, Kansas.

HORSES! SOLD AT AUCTION. On Tuesday, Wednesday, and Thursday of each week. Private sales every day. At the KANSAS CITY STOCK YARDS, HORSE & MULE DEPT.

THE LARGEST & FINEST INSTITUTION OF THE KIND IN THE UNITED STATES. 85107 head handled during 1893. All stock sold direct from the farmer, free from disease, and must be as represented or no sale. Write for mar. W. S. TOUGH & SON, Mgrs., Kansas City, Mo.

THE UNION STOCK YARDS, CHICAGO.

(Consolidated in 1865.) The largest live stock market in the world. The center of the business system from which the food products and manufactures of every department of the live stock industry is distributed.

Accommodating capacity: 50,000 cattle, 200,000 hogs, 30,000 sheep, 5,000 horses. The entire railway system of Middle and Western America center here, rendering the Union Stock Yards the most accessible point in the country. The capacity of the yards, the facilities for unloading, feeding and reshipping are unlimited. Packing houses located here, together with a large bank capital and some one hundred different commission firms, who have had years of experience in the business, all an army of Eastern buyers, insure this to be the best market in the whole country. This is strictly a cash market. Each shipper or owner is furnished with a separate yard or pen for the safe keeping, feeding and watering of his stock, with but one charge of yardage during the entire time his stock remains on the market. Buyers from all parts of the country are continually in this market for the purchase of stock cattle, stock hogs and sheep. Shipper should ask commission firms for direct information concerning Chicago markets.

The Greatest Horse Market in America, the Dexter Park Horse Exchange. N. THAYER, President. JOHN B. SHERMAN, Vice President and Gen. Manager. GEO. T. WILLIAMS, Secretary and Treasurer. J. C. DENISON, Ass't Secretary and Ass't Treasurer. JAS. H. ASHBY, General Superintendent. D. G. GRAY, Ass't Superintendent.

The Kansas City Stock Yards

Are the most complete and commodious in the West and the second largest in the world. Higher prices are realized here than further east. This is due to the fact that stock marketed here is in better condition and has less shrinkage, having been shipped a shorter distance; and also to there being located at these yards eight packing houses, with an aggregate daily capacity of 9,000 cattle, 40,000 hogs and 4,000 sheep. There are in regular attendance sharp, competitive buyers for the packing houses of Chicago, Omaha, St. Louis, Indianapolis, Cincinnati, New York and Boston. All of the eighteen railroads running into Kansas City have direct connection with the yards.

Table with 6 columns: Cattle and calves, Hogs, Sheep, Horses and mules, Cars. Rows include Official Receipts, 1893, Slaughtered in Kansas City, Sold to feeders, Sold to shippers, Total sold in Kansas City.

O. F. MORSE, General Manager. E. E. RICHARDSON, Secretary and Treasurer. H. P. CHILD, Assistant Gen. Manager. E. RUST, Superintendent.