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BREEDERS' DIRECTORY.

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HEREFORDS—My females are top selections, out of the best herds of this country. Entire herd of about 30 head of females for sale. Ill health cause for selling. Lord Spencer, Vol. 19, 84318, very best son of Beau Donald 58996, at the head of herd.

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(Mention Kansas Farmer.)

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Have no equal as an all-purpose fowl. I have high-scoring birds and eggs from first prize-winners for sale. Prices reasonable. Address Jeff. Payne, Hutchinson, Kas.

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THIS SPACE WAS WON AS A PREMIUM By the Best Pen of Buff Cochins at the Kansas State Show, 1899.
Eggs, \$2.50 to \$5 per sitting. Write for circular.
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150 BARRED PLYMOUTH ROCKS and FOR SALE SILVER-LACED WYANDOTTES Buy now and save higher prices next spring. They are from birds that have won prizes wherever shown. For prices, etc., address J. P. Johnson, JUNCTION CITY, KAS.

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THOROUGHbred BUFF COCHINS Eggs and stock from prize-winners at Kansas State Poultry Show, January, 1899. Write for description and prices. Address
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DOSE POULTRY FARM—J. M. & C. M. Rose, Elm- Dale, Kas., breeders of Light Brahmans. Yard, 92 1/2 cockerels; females 92 to 94 1/2. B. P. Rocks, yard, 92 1/2 cockerels; females 92 to 94 1/2. W. C. B. Polish, 91 1/2 cockerel; hen 93 and 94. S. C. B. Leghorn, yard No. 1, 93 1/2 cockerel; first prize at Sedgwick, Cottonwood Falls '98, and Topeka '99; females 92 1/2 to 94. Yard No. 2, headed by cock 94 1/2 as a cockerel last year; pullets 92 1/2 to 94. No more stock for sale. Eggs \$1.50 per sitting of fifteen.

GOLDEN WYANDOTTES and GOLDEN SE-BRIGHT BANTAMS. Prize-winners at State Show, Topeka, January, 1899. Eggs, \$2 for 15; \$3 for \$3.50. Eggs after June 1, \$1 for 13.
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GEO. W. COOPER, BREEDER OF THE LORDLY Black Langshan, 323 Lake street, Topeka, Kas. I won at our last State poultry show, January 9-14, with 107 Langshan competition, first on cock, first on cockerel, first on pen, tied first for pullet, tied second for hen, third on pullet, third on hen, and had the highest-scoring pen of chickens in show room. I have without doubt the best Langshans in the West. Eggs \$2 per sitting. Write me for prices on stock. Correspondence a pleasure. (Mention Kansas Farmer when you write.)

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Our record for 1898-99: Won 5 out of 6 first premiums at State show in Topeka, including sweepstakes, in January, 1899. Won 6 out of 7 first premiums, including sweepstakes in Asiatic class, at Sedgwick (Kansas) show in December, 1898. Won 6 out of 6 first premiums, including sweepstakes, at Butler County show, held in Eldorado, December, 1898. Eggs \$1 to \$3 per sitting. Also breeders of Red Polled cattle. Address
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Royal Blue Barred Plymouth Rocks, White Plymouth Rocks, Partridge Cochins, Buff Cochins, White Cochins, Light Brahmans, Black Langshans, Silver Wyandottes, White Wyandottes, Brown Leghorns, White Leghorns, Silver Spangled Hamburgs, Black Javas, White Guineas, Pearl Guineas and Pekin Ducks. Pairs, trios and breeding pens. Prices low, considering quality. Circular free.
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Buff Cochins, B. P. Rocks, W. P. Rocks, Black Langshans, White Wyandottes, Rose and Single-Comb Brown Leghorns, Imperial Pekin Ducks and Mammoth Bronze Turkeys. Eggs \$2 to \$5 per sitting. Circular giving matings and prices for 2-cent stamp. Guide to Poultry Culture and Catalogue of Poultry Supplies, 10 cents.
EXCELSIOR FARM, C. B. Tuttle, Prop., Topeka, Kas.

SWINE.

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

M. H. ALBERTY, CHEROKEE, KANS., DUROC-Jerseys and Pig Teeth Clippers.

DUROC-JERSEY HOGS—Registered Stock. Send stamp for 64-page catalogue, illustrated. Prices and history.
J. M. STONEBRAKER, Panola, Ill.

D. L. BUTTON, North Topeka, Kas., breeder of Improved Chester Whites. Stock for sale. Farm 2 miles northwest of Reform School.

RIVERDALE HERD of Light Chester White swine and Light Brahma poultry. J. T. LAWTON, BURTON, KAS., proprietor. All stock guaranteed. I can also ship from Topeka, my former place.

Standard Herd of Poland-Chinas

Has some fine sows, 1 year old this fall, sired by Tecumseh Chief (he by Chief Tecumseh 2d), and are bred to Look Over Me (he by Look Me Over); also, an extra lot of Spring Gilts, bred the same, and some good Spring Males of the same breeding. Come and see, or write and get prices. Wm. Maguire, HAVEN, KAS.

H. W. CHENEY, North Topeka, Ks.

POLAND-CHINAS

of the fashionable prize-winning Chief I Know strain. Cheney's Chief I Know at head of herd. Pigs for sale. Prices low.

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

SUNNYSIDE HERD POLAND-CHINAS

BRED FROM LARGE-BONED, BROAD-BACKED, LOW-DOWN, MATURED STOCK.
Sanders, Short Stop, Corwin, Black Bess, Black U. S. and Tecumseh Blood.
Choice Young Stock for sale.
M. L. SOMERS, Altoona, Kas.

Wamego Herd Imp. Chester Whites and Poland-Chinas.

Mated for best results. Also Barred Plymouth Rock chickens and eggs for sale. Correspondence or inspection invited. Mention FARMER.
C. J. HUGGINS, Proprietor, Wamego, Kas.

VERDIGRIS VALLEY HERD—Large-Boned Poland-Chinas.

Three hundred head, six good spring boars, good bone, large and growthy, very cheap. Six June boars, very heavy bone and fancy, four of them will make herd-headers. Twenty yearling sows and spring gilts, bred, good ones, at from \$12 to \$15. One hundred and fifty of the finest fall pigs we ever produced. For sale cheaper than you ever bought as good pigs before. WAIT & EAST, Altoona, Wilson Co., Kas.

M. C. VANSSELL,

Muscotah, Atchison, County, Kansas, Breeder of Pure-bred Poland-China Swine and Short-horn Cattle of the most desirable strains.

For Ready Sale Thirty Poland-China Bred Sows

One and two years old, bred for fall farrow; very choice; price low if ordered soon; must make room for 170 pigs now on hand. Come and see or write.

THE WILKES QUALITY HERD OF POLAND-CHINA SWINE.

Thos. Symms, Prop., Hutchinson, Kas. Herd boars, Darkness Quality and Reno Wilkes. For ready sale 45 very choice pigs out of Bessie Wilkes, Beauty Sedom, Chief I Know, Standard Wilkes, Ideal Black U. S. and Chief Tecumseh 2d sows. Farm one mile west of Hutchinson, near Star Salt works.

F. L. and C. R. OARD, Proprietors,

HEDGEWOOD HERD OF POLAND-CHINAS VASSAR, KANSAS.

Popular Blood. Individual Merit. Brood sows of the most popular strains and individual merit. The best that money can buy and experience can breed. Farm one and one-half miles south and half mile east of Vassar, Kas., on Missouri Pacific railroad.

When writing to any of our advertisers, please state that you saw their "ad." in Kansas Farmer.

SWINE.

KAW VALLEY HERD OF POLAND-CHINAS—1899 pigs from the following prize-winning boars: Perfect I Know, Chief I Am, Gem's U. S. Chief and Dick Wainwright. M. F. Tatman, Rossville, Kas.

CRESCENT HERD POLAND-CHINAS.

Boars and gilts for sale.
S. W. HILL, Hutchinson, Kas.

BARGAINS.

We have a few very fine Poland-China Boars ready for service that we will sell you so cheap you cannot afford to buy a scrub. Sired by Knox All Wilkes and Highland Chief. Some fancy fall boar pigs by same sires.
DIETRICH & SPAULDING,
Richmond, Kas.

Mains' Herd of Poland-Chinas.

Chief Tecumseh 2d, Klover's Model, U. S. Model, Moorish Maid and Chief I Know strains. A selected lot of bred sows and young stock for sale at very reasonable prices. Over thirty years in the business. Stock equal to any. Satisfaction given.
JAMES MAINS,
Oskaloosa, Jefferson Co., Kas.

CAP-A-PIE HERD OF Poland-Chinas

Geo. W. Falk, Richmond, Mo. Is still doing business at the old stand, where, for the past fifteen years, he has been breeding and selling a class of hogs that have been winners at the leading State fairs, and have been topping the markets in Chicago and Kansas City—the end of all hogdom. Has constantly on hand boars large enough for service and sows bred and unbred. Write for prices, which are always reasonable.

Nation's Poland-Chinas.

Fifty boars and gilts for this season's trade. My herd boars consist of Darkness Quality 14861, Princeton Chief 14543, Col. Hidestretcher 87247 and Standard Wilkes. My sows are splendid individuals and of the right breeding. Personal inspection and correspondence invited.
LAWRENCE NATION, Hutchinson, Kas.

HORSES.

PROSPECT FARM—CLYDESDALE STALLIONS, SHORT-HORN CATTLE, and POLAND-CHINA HOGS. Write for prices of finest animals in Kansas. H. W. McAfee, Topeka, Kas.

CATTLE.

MAPLE LAWN HEREFORDS. E. A. Eagle & Son, Props., Rosemont, Osage Co., Kas. For sale, five yearling pure-bred bulls. Also one carload of high-grade cows and one car bull calves. Will be in Kansas City with young bulls for sale February 28, 1899.

Geo. Groenmiller & Son,

Centropolls, Franklin Co., Kas., Breeders of Red Polled Cattle and Ootswold Sheep, Buff and Partridge Cochins, Light Brahmans, Brown S. C. Leghorns and Golden Wyandottes. Only a few seven-eighths Red Polled bulls for sale.

CLOVER CLIFF FARM.

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

SILVER CREEK HERD SHORT-HORN CATTLE.

Scotch and Scotch-topped, with the richly-bred Cruickshank bulls, Champion's Best 114671 and Gwendoline's Prince 130013, in service. Also high-class DUBOC-JERSEY SWINE. Can ship on Santa Fe, El Paso and Missouri Pacific railroads.
J. F. STODDER, Burden, Cowley Co., Kas.

D. P. NORTON, Breeder of Registered Shorthorns, DUNLAP, KANSAS.

Imp. British Lion 133692 and Imp. Lord Lieutenant 120019 in service. Sixty breeding cows in herd. Lord Lieutenant sired the second prize yearling bull at Texas State Fair, 1898, that also headed the second prize herd of bull and four females, any age, and first prize young herd of bull and four females.

Agricultural Matters.

PLANT BREEDING.

Plant Variants--Food Supply.

(Continued from March 16.)

SOIL--ITS PHYSICAL NATURE.

The physical nature of the soil is largely responsible for variation in plant forms. This includes many physical qualities, such as size of component particles, depth to solid rock, moisture supply, and whether there is a large percentage of sand, clay, or humus in the soil. A comparatively small percentage of the most fertile soil consists of available elements which plants use as food. The great bulk of the soil is inert towards plant life and might well be compared to a sponge in which the plant foods are held in solution. The most important substance in the soil is the solvent, water. The presence of moisture is largely dependent upon the physical qualities of the soil; and, conversely, the physical qualities are greatly influenced by the moisture content. The various degrees of wetness in soils are in a large measure the cause of the widely different forms which plants assume and of their distribution. Warming says: "No other factor has such an influence upon the distribution of plant species as the water content of the soil."

Where evaporation is very rapid, and the soil is deficient in its water supply, the plants adapt themselves to such unfavorable surroundings by reducing the evaporating leaf surface. In this way plants of widely different genetic relationship inhabiting the same soil have frequently come to resemble each other in outward appearance. It is well known that wild plants have fitted themselves, by means of adaptations, to live on almost every description of soil upon the earth's surface, from the fertile plains to the arid deserts. Cultivated plants, however, do not seem to have undergone such adaptations to a very marked degree. It is true that we speak of alfalfa, Kafir corn and sorghum as drought-resisting plants. They are not able, however, to inhabit deserts, and have not developed the ability to reduce evaporation from their leaf surface to any great extent. These plants are drought-resisting because of their extensive root systems, which enable them to draw their supplies of moisture from subterranean stores.

I am satisfied, however, that varieties of maize are in existence which have adaptations to resist drought. Such varieties would be found in the arid districts of Mexico and Peru, where the maize plant has been cultivated for ages. Seed ought to be obtained from those countries and used for crossing with our Kansas corn in order to evolve a type suitable to the arid prairies of the West. The same could probably be said for the wheat plant. I have no doubt that varieties could be found in central Asia that would be better suited to the western part of our State than American sorts. If such varieties should prove to be inferior in some of the essential milling qualities, they could be improved by crossing with our best varieties.

The physical nature of the soil largely determines whether it is warm or cold, sweet or sour, pervious or impervious, fertile or barren. The farmer improves the physical nature of the soil when he plows, subsoils or drains it. The greatest artificial improver of the physical nature of the soil is the plow. Since the advent of the lister it has become unfashionable to plow in many parts of Kansas. The result is that the soil has deteriorated more in the past ten years under the use of the lister than it had in the thirty years preceding the introduction of this lazy man's implement. It is true that the lister and drill have taught us that corn will yield better when planted in trenches, one stalk at a place. This fact had been known in some parts of the country for many years before the invention of the lister.

In order to be in a condition to absorb a maximum percentage of the rainfall, the average soil should be stirred up at least once a year to as great a depth as is possible. The nature of the soil, however, will determine this matter, a very sandy soil needing little stirring. The capacity of the soil to retain or hold the rainfall depends upon the fineness of the particles--the finer, the greater the amount of water it will hold. Wallny found that quartz-sand particles one to two millimeters in diameter could hold only about a tenth the water that the same kind of sand could hold when the particles were one to seven-hundredths of a millimeter in diameter. The water-holding capacity of quartz-sand is the least, of lime-sand next higher, clay and fine particles of lime still higher, and humus soil the greatest. Different soils lose water by evaporation at very different rates. Less water evaporates from loose than from hard soil.

Not only does the water content of the soil modify the physiognomy of the vegetation, but it profoundly modifies the composition of the plants. In volume 8, on page 15, of the "Experiment Station Rec-

ord," Edmond Gain, a great French vegetable physiologist, says: "The proportion of the internal water influences not only the dry weight of the final product, but also modifies completely the chemical nature of certain of the elaborated materials." Again, on page 16 of the same volume, he says: "According to Deherain, the spikes of oats contained 12.37 per cent of nitrogen in 1879, a dry year, and only 6.50 per cent in 1878, a very wet year, the conditions being otherwise the same." On page 18, in the same article, in relating his own experiments, Professor Gain says: "As regards increase in weight, the author's experiments show also that humidity, and especially excessive irrigation, is very harmful to plants intended for seed production. On wet soils, the seeds are somewhat more numerous, but smaller and subject to rapid degeneration. Dryness of the soil, in compelling the individual to grow slowly and by decreasing considerably the number of its descendants, strengthens the species and protects it against external influences causing variation." Again I quote from this excellent article: "Periods of relative humidity and drought are in general very advantageous to plants, and the number of land plants which require a permanent humidity for maximum production is very small." "In comparative experiments with tobacco, Mayer studied the influence of water upon the production of nicotine, and found that the more moist the soil the less the nicotine." "For two stems of the same weight, there will be the greatest development of the root in a dry soil." ("The Physiological Role of Water in Plants." E. Gain, in Experiment Station Record, Vol. 8, pp. 3-21.) It is evident from the above citations that the plant breeder will need to pay attention to the regulation of the water content in the soil, if he is to be successful.

FOOD SUPPLY--THE SEED.

The seed not only contains the embryo of the future plant, but it is a storehouse of nourishment for the subsistence of the young plantlet. This nourishment suffices to keep the seedling supplied with food until it becomes able to draw its subsistence from inorganic nature. There is abundant evidence that both the quantity and the composition of the food stored up in the seed have a powerful influence upon the subsequent growth of the plant. The quantity is indicated by the weight of the seed. Many experiments have been conducted to test the relative values of heavy and light seed. Hellriegel has made the most exhaustive researches upon this subject of any experimenter that I know. He concluded that during the early life of the plant, the growth of the seedling corresponds very nearly to the weight of the seed. If the soil is very fertile, this difference disappears by harvest time. If the soil is poor, the difference continues until the ripening of the crop. Professor B. T. Galloway made some very interesting experiments with the growth of light and heavy radish seed. He found, in every case, that the plants grown from light seed weighed very much less at a given time after germination than those grown from heavy seed for the same length of time. H. Ebeling found that the use of the heaviest kernels for seed of silver-gray buckwheat and blue lupines produced a crop with an increased protein content. Dr. G. Marek found that the heavier wheat usually consists of the smaller grains and is richer in protein than the lighter, larger grains. J. H. Manshott, in the Deutsche Landwirtschaftliche Presse for February 23, 1898, proves by a series of very careful experiments that the largest grains of a given variety of wheat or oats usually come from the lightest plants having a small reproductive power. Hence with cereals, size of grain is a poor basis for selection. Manifestly such a basis would lead to breeding from the smallest and weakest plants. The more I investigate the subject, the more firmly I am convinced that specific gravity, and not size, is the only true test of desirable qualities in seed wheat. Hellriegel and Rimpau, for years, practiced separating their seed upon a specific gravity basis. They used solutions of salt, sugar, molasses, Chile saltpeter, etc., for this purpose. The experiments at the Minnesota Experiment Station, by Professor Snyder, have demonstrated the fact that heavy wheat contains more phosphoric acid, potash and nitrogen, pound for pound, than light-weight wheat. They also found, at the same station, the germinability of very light wheat to range from only 12 to 50 per cent.

Prof. J. C. Arthur found that the selection of unripe tomato seed for a number of generations developed a variety which ripened its fruit considerably earlier than the parent variety. The fruits were not as firm and of as good shipping quality as those of the original variety.

The seed is the source of many potent variant qualities in addition to its service as a storehouse of reserve materials. Some of these qualities will be discussed in a future communication.

GEORGE L. CLOTHIER,
Cornell University, March 21, 1899.

(To be continued.)

Nebraska State Fair and Exposition Combined.

The State Board of Agriculture and the managers of the Greater America Exposition, after discussion of the subject, have agreed to a plan for holding the Nebraska State Fair within the Exposition grounds the coming fall. At a recent joint meeting at Omaha the plan of co-operation between the Exposition management and the Nebraska State Board of Agriculture by which the State Fair will be merged into the Greater America enterprise was ratified so far as the Exposition was concerned. It is confidently expected the State Board will ratify the action of its committee at a meeting to be held soon.

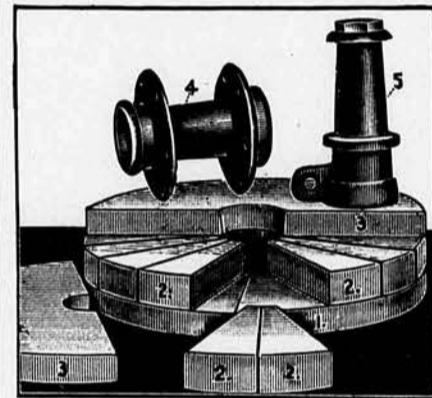
The Greater America Exposition agrees to place at the disposal of the State Board of Agriculture whatever space may be found necessary for a creditable exhibit in the Agricultural, Horticultural, Dairy and Apiary Buildings, and to afford proper accommodations for all the live stock that may be placed on exhibition.

The Greater America Exposition agrees to employ such officers as may be mutually agreed upon to superintend the agricultural, horticultural, live stock, dairy and apiary exhibits.

The Exposition directory appropriated \$100,000 for the organization of a colonial exhibit and to send a representative to the Philippine islands at once.

Broad Tire Wheels.

There are three old and true sayings, viz: that a chain is not stronger than its weakest link, that a horse will not outlast its feet; and that the life of a wagon is gauged by the durability of its wheels. This being true it is wise for every farmer to look well to the durability of the wheels on any wagon he proposes to buy, and as there is nothing but what may be injured, it is well to keep in mind the ease with which a wheel can be repaired. There has probably never been a more durable wheel made than the one shown in this cut.



These wheels are made of thoroughly seasoned white oak, dressed on both sides and edges. The pieces marked No. 1 are keyed tightly together and then the wedges or spokes (No. 2) are fitted in. These wedges are all cut with the grain running lengthwise, and form a solid series of spokes from the iron hub (No. 4) to steel tire (not shown). After the last wedge is driven in tight, the planks marked No. 3 are placed on top with the grain running crosswise of the grain in layer marked No. 1. The wheel is thoroughly bolted by ten bolts which pass through all three layers. The hub (No. 4) and skein (No. 5) are made from high-grade Lake Superior iron with smooth wearing surfaces. The box is made with a wide flange on each end, and these fit up on each side of the wheel and are drawn up tight to it by bolts which reach through the wheel from one flange to the other. There is a wide sand band on each end of the box to keep the sand out.

The tires are made of steel, and are given a draft that would crush any open spoke wheel. After the foregoing description we need say nothing more about the strength and durability of these wheels. Neither arid or wet climates have any effect on them, as the grain of white oak cannot shrink endwise. When the tires are shrunk on, the end grain of the middle layer cannot be compressed, and the tire therefore has a slight crown in the center; and to slip off either way the tire would have to climb this ridge. It is absolutely impossible to start these tires with blows from the heaviest sledge.

Another very important feature about these wheels that is not found in any other wheel lies in the fact that any part of the wheel can be replaced by the farmer without the assistance of a wheel-maker or a mechanic; and there is still another advantage in these wheels; they furnish a solid support to the broad tire. A very essential feature, as an unsupported tire will break when half worn out.

The patents on these wheels are owned by the Farmers' Handy Wagon Co., of Saginaw, Mich., and are used only on their famous farm trucks.

It was the strength and durability of these wheels that led the United States government to order all of the trucks used by them in the late war to be built by the above company.

The Lowest Rates East

are offered via the Nickel Plate Road. With solid through trains to New York, and through sleeping cars to Boston, travelers via this deservedly popular low-rate line are offered all conveniences of an exacting traveling public. Then, too, the quality of the service is unsurpassed. Modern day coaches and luxurious sleeping cars contribute to the comfort of passengers, while unexcelled dining cars cater to the tastes of the most exacting. (2)

Two Wagons at One Price.

It is a matter of great convenience and saving of labor for a farmer to have a low, handy wagon. They save more than half the labor of loading in hauling manure, hay, grain, corn fodder, wood, stones, etc. The man who already has a wagon may have one of these low handy wagons at the small additional cost for a set of wheels. These Electric Steel wheels, with either direct or stagger spokes, with broad-faced tire, are made to fit any axle. You can convert your old wagon to a low, handy wagon in a few moments' time. You thus virtually have two wagons at one price. Write to the Electric Wheel Co., Box 46, Quincy, Ill., for their catalogue, which fully explains about these and their Electric Handy Wagons, Electric Feed Cookers, etc.



The Manager of a Skimming Station.

Paper by William J. Williams, read at Students' Farmers' Club, Kansas State Agricultural College.

Most of our successful creameries have established sub-creameries outside of the radius of the main plant for the convenience of those farmers who want to go into the dairy business, but being so far from a creamery, the time taken to deliver the milk would make it unprofitable. These plants are known as skimming stations--that is, they receive the milk from the surrounding country and skim it, sending the cream to the main plant for churning.

The large majority of our creameries depend upon the successful management of these stations, as here is where most of their butter fat comes from. So the manager of the station must know his business, must know how to handle machinery. As the separator is one of the fastest running machines there is, there would be danger to life and property; and not only dangerous, but if they were not handled properly, would be losing hundreds of dollars a year for the company, as a properly handled machine will separate the cream from the skim-milk, leaving only a trace of butter-fat in the skim-milk, but if running unsteady will lose from 1 to .5 per cent. A machine handling on the average of 5,000 pounds of milk daily and losing only one-tenth of 1 per cent of butter fat, would lose five pounds per day, and at the average price paid last year would come to the large sum of \$310.75 for the year.

He must be neat and clean, not only in his attire, but throughout the outside and inside of the building, setting an example for the patrons; and particularly, all utensils and vats which will come in contact should be thoroughly clean.

The cream should be handled from the time it leaves the separator in such a manner that it will be delivered to the main plant in the best condition for making fancy butter. If a can of sour milk is delivered he should know how to reject such milk without offending the patron, and explain to him the cause and how to guard against further trouble of this kind, or any other which will affect the milk.

As the majority of the patrons of creameries in Kansas are not getting more than half the returns from their cows as they should from the cost of feed they are now giving them, the manager of the station should know how to tell these farmers that with the same cost he could get two and three times as much by feeding more milk-producing feeds.

The skim-milk is a loss to most patrons, while others get as high as 30 to 40 cents per hundredweight. For example: At a farmers' institute last summer, two patrons of the same creamery had different views of this by-product. No. 1 said it was worth absolutely nothing to feed calves--in fact, killed them; while No. 2 said he raised his calves on skim-milk, and the calves put in a pen with calves of the same age which had run with the cow, were pronounced 10 per cent better than the others. Patron No. 1 needs information on this subject, and the man at the weigh-can is just the fellow to give it.

In fact, these places should be a kind of school house, and the manager should have a thorough instruction in all these lines at some agricultural school to act as teacher.

Health for 10 cents. Cascarets make the bowels and kidneys act naturally, destroy microbes, cure headache, biliousness and constipation. All druggists.

"Gave Good Satisfaction."

Lorena, Texas, Sept. 10, 1897.
The Lawrence-Williams Co., Cleveland, O.:
Enclosed please find money order for \$1.50. Send me one bottle of Caustic Balsam. The bottle I bought some time ago gave good satisfaction. Please be prompt, as I need it at once.
J. W. WHITSITT.

\$32.50.

\$32.50.

The above greatly reduced rate has been made by the Union Pacific to California points. Through tourist sleepers, quicker time than any other line.

For tickets and full information call on F. A. Lewis, City Ticket Agent, or J. C. Fulton, Depot Agent, Topeka.

We can save you money, if you want most any paper or magazine, in connection with Kansas Farmer. Write for special club list.

The Stock Interest.

THOROUGHbred STOCK SALES.

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

APRIL 27—G. W. Glick & Son, Powell Bros., and John McCoy, combination sale of Shorthorns, stock yards sale pavilion, Kansas City.

CATTLE BREEDING IN GREENWOOD COUNTY.

Paper by A. A. Baldwin, read before Greenwood County Farmers' Institute.

Greenwood County proudly claims the honor of being the banner county of Kansas for steer cattle, and credit is due to the energy that many shrewd fellow citizens display in their methods. Of course, this is no accident, but a fortunate combination of circumstances and surroundings—rich grasses, pure water, alfalfa, and corn shocks by the tens of thousands.

Favored land of the sun, our climate is at once dry, mild and healthful, enabling the feeder to scatter on solid ground hay, Kaffir and corn fodder for his herds to eat in winter, or furnishing rich pasturage of grass from our limestone hill pastures in summer.

The natural advantages for breeding cattle in this region are so great that I have decided to call your attention to them in comparison to the speculative method now in favor here.

The Texan theory of a Southern breeding ground has caught the mind of many here to the great advantage of Texas; and the restless energy of our people has seemed to disqualify them for breeding cattle—making them impatient of delay, and reluctant of the investment of capital for years ahead with so small returns as that given by a herd of cows. This branch of stock husbandry is slow—hum-drum, if you please; but I believe it to be safe and satisfying above the other method. It is more in accord with average capacity and requires less business training; because this renders it necessary not to sell everything each year, but rather to keep, to manage, to accumulate. Thus you become a producer instead of a trader.

It is known to many of you that I have always bred cattle since my first coming amongst you. Now, according to the Southern breeding ground theories, I have nearly always been losing pots of money by breeding instead of buying cattle. But, you must try to remember, these things are partly a matter of temperament as well as capacity. We cannot all be great men. Ours is a life of moderate returns and perhaps of narrow opportunities, yet one of peaceful industry—far removed from the noise and smoke and confusion of what others call the battle of life.

Many of our people have lost money in cattle speculation for every one who has made a success of it; yet, I never knew a careful man with any gift for the business to fail in breeding them.

Have not the public sales of the last few months shown the utter folly of cattle speculation? Good cattle, worthy of attention and feeding, can only be had by breeding them. Then why not breed them? With our corn and Kaffir and sorghum, our alfalfa and bright green prairie hay; our fine, dry climate, with its many sunny days, "who holds the edge over us?"

The annual losses of the southern Texas breeding grounds, on range alone, will more than pay for the production of these cheap forage plants necessary here. Add to this the difficulty of introducing fine blooded stock into that fever-cursed region, where only legs and horns are fully developed, and the advantage falls to us. Our climate and grass, which so much improves their cattle in development and beef quality by early removal from the Southern breeding grounds, will not these enable us to produce choice stock—pure breeds or high grades—against any land under the sun? Then Greenwood County against the world as a breeding ground for beef cattle. This is not the place nor time to scour the earth for all the arguments favoring a great change. I can only tell you that I believe, with all my heart, that we ought to breed our own cattle, and I rest my theory or belief in the wisdom of this (over buying range steers) on the general inability of farmers to buy from professional traders.

Can you not see you are not "in it?" Go look at yourself in the glass. Now, do you look like a business man, fit to deal with Grant Gillett? If so, you would become a great light in the Kansas City Stock Exchange, where his genius found most profit in skinning men who are regarded as hard and smooth as glass. But you cannot always tell a fool boy by his looks; and remember, the man you can readily spot as a rascal is really the biggest fool you have seen all day. If I can impress on your mind this one truth it shall be my excuse for coming here. One may be a fool without being a rascal, but he cannot be a rascal without being a fool.

Criminality is mostly hereditary and the result of mental infirmity. Then, too, an honest man and a good fellow—one who

has mistaken bright parts for business faculty—may be so enveloped by difficulties and debts that he knows not what to do.

Stop! Sit down and think! Be strictly honest, but not rash! Reflect, then sell and pay up without favor towards any one. Don't fool away the property. You have no rights in it. It belongs to the dull-minded people who have trusted your genius, or maybe to those who made you think you have genius. No matter, make the property pay the debts, and all alike.

Now you are on the road to become a business man and a decent citizen, instead of a great financier. If you are still in trouble, with your affairs all tied up, sit down and go slow. Your wife will sell butter and eggs, and manage affairs better than you can. Women are more cautious and thrifty than men. If you would listen to advice from your wife you will never pay a prodigious price for a motley crew of scrub steers. What is the matter with you whilst the seller is telling you they are "strictly natives and mostly white-faces?" A little too credulous!

I never knew a man to fail ignominiously in business who did not himself work actively to pitch things to the devil. Sit down in your despair! Don't go hunting! You are not fit to be trusted with a gun. Wiser people will take your property and release you from your debts. Then you can go out and walk around your wife's old milk cows and pledge yourself to keep them out of bad company in future in order that the next generation may the better help your wife to support the family. The successful stock grower must never speak of any necessary trouble as too much trouble. There is no excellence without great labor. "Seest thou a man diligent in his business. He shall stand before kings. He shall not stand before mean men."

Breed your cattle strong in constitution, straight and wide of back, on short legs, with deep, natural flesh and abundant hair. The buyer will cavil and haggle, and you cannot always be in the fashion; yet, you have good cattle and some one always wants them.

As to their feed—it seems to me you should not break up good prairie meadow or pasture to sow in alfalfa. We are plowing up too much prairie sod. We are farming too much land. Twenty years hence you will remember these words of caution about native grasses when all else I have said is forgotten.

Finally, be a man, a good husband, a kind father, and a thoughtful citizen. Be steadfast and faithful, so that character and time may make of you a pillar of the state, whereas you might have been, under the speculation system, a broken adventurer.

Let us build up rural homes of peace and plenty—loving the still communion with nature.

"Low of cattle and song of birds,
Peace and quiet and loving words."

Sheep and Wool in Greenwood County.

Paper by Isaac Detheridge, read before Greenwood County Farmers' Institute.

Some years ago this county made a fair showing in the sheep industry, no doubt with profit to their owners, and naturally some advantage to the business of the towns, as well as the rural districts. The basis of the business then was the outcome of the wool; but when the price fell gradually from 23½ cents per pound to 6 cents, the wool business was like the tradition of the house built on the sand; the storms of free-tradery beat upon that house and it fell, and thus ended the wool business in Greenwood County. A few men in the county turned their attention to feeding sheep, but that is a special feature of the business, and not so generally applicable in all situations and to everyone, as keeping and rearing a few sheep, which may be done successfully almost anywhere in the county. Perhaps it is generally advisable for those not accustomed to the care of sheep to commence with a moderate number, and as the flock increases they will, of course, gain experience, for there really is but little to learn, and anyone will soon find himself entirely at ease in caring for them. Even though now they think they do not know much about them, if they will try a few it will be found that there are no difficulties—neither the labor, vexations nor losses too often attending the feeding of hogs.

I do not propose that we all give up raising hogs; we can not do without them; the hogs fill a place better often than anything else can, and many are permanently fixed for successfully handling them. Some do not have as good fortune with them, and might be interested in a few sheep. Suppose we start with five young pigs in the spring. We count the cost of wintering the mother—say one dollar each for the little ones—and then there is always a great uncertainty in keeping any, and even though we may have many to-day, to-morrow we have none. We have seen them disappear almost like snow in sunshine, when cholera stalks from pen to pen and place to place. Now, there is no such risk with lambs,

and no such cost, either. If we have five lambs, they are not chargeable with their mother's keep the past winter, for her fleece will pay the bill. Well, both these pigs and lambs must be kept on suitable pasture all the summer; the five pigs must have at least 6 bushels of corn, on the grass or clover, but the lambs will not need any. In the fall those pigs will need about 12 bushels of corn each or more—yes, and perhaps more yet—besides the shorts and milk they consume in infancy. It takes lots of work and a vast amount of feed to make a fat hog. These fellows may now have made 1,000 pounds for the five head. They may bring \$30; they need to, and better still, to make much clear money.

Now, I believe the five lambs will make as good a showing with half the work, and all of the disagreeable part left out, and I may say without any risk, for no cholera stalks abroad here, and when it is time to fatten these five lambs the five head will not eat and waste \$2 worth of hay. It must be the best of hay, or it may be some fodder for change, but \$3 for roughness and 25 bushels of grain at 40 cents, \$7.50, salt and a little medicine, maybe; anyway we will add 75 cents, making less than \$12 in all, including freight, yardage, commissions and shrinkage. They ought to weigh more, but call them 80 pounds, at 5 cents, or \$4 a head. I know the above estimate of cost is very liberal, for we have fed 40-cent wheat and sold yearlings at a profit of \$3.75, during the depression.

Now, I think I have shown that sheep, with less work, cleaner work, easier work—in fact, with all that is disagreeable left out—yes, and the risk left out, too (for there is scarcely any), will pay quite as well as hogs. There are too many hog raisers here for me to venture too far; but if these men here were all sheepmen, I would just out with it and say they pay lots better. Yes, and I believe it, too.

Some two or three years since I fed a bunch of Shropshire grade lambs that weighed, April 1, over 100 pounds each. I think four of them weighed 500 pounds. They were probably 14 months old and were considered above the average. Mr. Robert Loy had Shropshire yearlings last spring that weighed 100 pounds.

These results are best attained in small numbers as a general thing, but those I fed were in a lot of 500 head of lambs, notwithstanding that it is considered all the large breeds do best in small numbers. The Shropshire is as good as any in this locality—not the largest and not the heaviest shearer, but a good, profitable mutton and wool sheep. If for wool, get the grade Merinos; they can be kept in large numbers together, and for those that have pasture it will pay well now to keep such a flock of ewes, and feed out your grade Shropshire lambs each season.

The question of fencing or herding depends so much on circumstances, the number you have, etc., that no general rule can be laid down. It is usually expected that a five- or six-wire fence will hold sheep, unless close to a crop or where grass fails, and for a small number the woven wire makes a capital sheep and lamb fence. Do not put sheep on your farms with the idea that they will clear the land of everything you don't want, and repair the fences as a sort of by-play, for they will not do it. These stories you may read of briars and bushes and weeds, ad infinitum, may be taken with a great big grain of allowance. Lambs may run in the cornfields at times with little damage. In early spring, when vegetation is scarce, sheep will do much to help keep down weeds. Of course they run on stubble ground at times, if you are fenced for it, and so assist in destroying much weed seed, etc. But for the most part reckon on furnishing good pasture (but not alfalfa) in summer, well watered; in winter good hay, about 10 tons to the hundred, and not less than 2½ bushels of grain to the head. Cornfodder is good feed for them and they will also do well in the stalk fields. We think Kaffir corn one of the best of feeds, and it can be grown almost anywhere. The grain will be well digested by young sheep, but for old sheep it had better be ground. We found it best to head it and feed it in troughs. We have found half Kaffir and half corn (shelled), with alfalfa hay and a little fodder, and both salt and water within reach, to be about as good fattening feed as there is. If you have sowed Kaffir, the sheep will pasture it off with very little waste and not much labor for you.

I have not said much about wool, but you will find it quite an item. Wool is gradually improving in price, and will soon begin to attract more attention from growers than it has lately, unless Congress should unsettle the market again.

Just now, in this locality, I regard the meat question as uppermost; incidentally the wool will help immensely. Sometimes it pays well to shear fat sheep, but it requires great care about cold rain and exposure; they cannot stand it after shearing.

Many consider that the wool will winter the sheep. Of course much depends on the sheep and price of feed. But suppose you shear eight pounds to the head—well, say

"The Least Hair Casts a Shadow."

A single drop of poison blood will, unless checked in time, make the whole impure. Hood's Sarsaparilla is the great leader in blood purifiers.

It casts no shadow, but brings sunshine and health into every household.

Dyspepsia—"Suffered everything but death for years with dyspepsia. Nothing relieved me until I took Hood's Sarsaparilla and it made and kept me well. Can eat anything I wish." MRS. EUGENE MURPHY, Hull's Mill, Danbury, Conn.

Consumptive Cough—"Five years ago I had a consumptive cough which reduced me to a skeleton. Was advised to take Hood's Sarsaparilla which I did and recovered normal health. I have been well ever since." MATILDA BRIDGEWATER, Cor. Pearl and Chestnut Sts., Jeffersonville, Ind.

Hood's Sarsaparilla
Never Disappoints

Hood's Pills cure liver ills; the non-irritating and only cathartic to take with Hood's Sarsaparilla.

seven pounds, and call it now 16½ cents; that would net you over \$1—quite covering the cost of feed, and you have the lamb.

Give them good, sound feed, shelter them from high, cold winds, feed with the greatest regularity, have water and salt always within their reach and they will be quite contented and thrifty. On fine, bright, quiet nights, you will find but few under the shed. They love to spread out all over the corral, even if very cold.

State of Ohio, City of Toledo, Lucas County, ss.

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. 1886.

A. W. GLEASON,

[Seal.] Notary Public.

Hall's Catarrh Cure is taken internally and acts directly on the blood and mucous surfaces of the system. Send for testimonials, free.

F. J. CHENEY & CO., Toledo, O.
Sold by Druggists, 75 cents.

Greenwood County.

Greenwood County embraces 1,155 square miles of agricultural and pasturage land. It claims to be the banner stock county of the State. Not only is nearly every farmer engaged in the stock industry, but large syndicates in Texas, Colorado, New Mexico, Arizona, Indian Territory, and elsewhere ship their stock by train loads into this county to be pastured and fattened for Eastern markets.

Corn is the product most extensively grown, but Kaffir corn, alfalfa and English blue grass are largely grown. The population of Greenwood County is about 16,000. It is abundantly supplied with beautiful rivers and tributary streams and is traversed by five railroads.

Eureka is the county seat, with 2,500 people. It has electric lights, city waterworks, fine court house, handsome residences and business blocks. It has good schools and has the Southern Kansas Academy. It has several industries, like flour mills, cigar factories, bottle works.

Greenwood is a good county for stock raising and general farming.

TO CURE A COLD IN ONE DAY

Take Laxative Bromo Quinine Tablets. All druggists refund the money if it fails to cure. 25c. The genuine has L. B. Q. on each tablet.

Finest Honey in the World

Is gathered by bees from alfalfa bloom, so say best judges. Send direct to the Arkansas Valley Apiaries for prices of honey delivered at your station, in any quantity, at from 6 cents per pound up. I refer to the Kansas Farmer concerning the excellent quality of this honey, and for fair dealings of Oliver Foster, proprietor, Las Animas, Bent Co., Colo.

RAPE IS THE BEST FORAGE PLANT.
It furnishes succulent food from May to December. No equal for summer and autumn SHEEP FOOD. Equally good for cattle, calves and pigs. Beats clover and alfalfa by scientific test.
Grows 20 to 40 Tons Green Feed to Acre
—no green food approaches it for fattening. Salzer's Dwarf Essex, best, 100 lbs. \$7.00; 10 lbs. \$1.15 to \$2 lbs. 8 cents per lb.; for less than 100 lbs. add 25 cts. cartage if sent by freight. Send 5 cents for pamphlet on Rape.
Seed Dep. Amer'n Sheep Breeder, 124 Michigan St. Chicago.

Save the Pennies.



The butter fat left in the skim-milk by the old process of dairying would go a long way toward educating the boys and girls if saved and converted into fine flavored, high quality butter. The Sharples Separators will save the butter fat and make it sell at the highest market price. Learn all about them in our free Catalogue No. 19.

BRANCHES: P. M. SHARPLES, Toledo, O. Omaha, Neb. West Chester, Pa. Dubuque, Ia. St. Paul, Minn. San Francisco, Cal.

Gossip About Stock.

Our readers interested in high-class registered Shorthorns should keep in mind that the Gifford Bros. will sell next Tuesday, April 4, 35 head—33 serviceable bulls and 12 cows and heifers—at Manhattan, Kans. Col. S. A. Sawyer will officiate on the block.

Manwaring Bros., breeders of Large English Berkshire swine, Lawrence, Kans., report a very lively trade, having made a number of recent sales. They seem much encouraged over the outlook for spring trade and say their stock is in exceptionally fine form.

The third annual sale of Shorthorn cattle, the property of Thomas Andrews & Son, Cambridge, Neb., will be held at the stock yards, Omaha, on Wednesday, April 12, 1899. The offering consists of 27 females and 24 bulls, desirable representatives of the breed, including their show herd of last season.

Makin Bros., breeders of Hereford cattle, who have for several years been located at Florence, Marion County, Kansas, have removed their herd to a splendid Jackson County, Missouri, farm, their postoffice address being Lee's Summit, Mo., where they will be pleased to see their old customers at any time.

The combination Shorthorn sale, to be held at Kansas City, on April 27, 1899, is perhaps the most unique offering from a breeder's standpoint ever dispersed from that famous mart of improved stock. Messrs. Glick, McCoy and Powell will present an offering of Shorthorn blood and individual quality that the enterprising breeders of the West cannot afford to overlook.

D. P. Norton, Council Grove, breeder of Shorthorn cattle, writes as follows: "I received an order from Texas last week that pleased me. A wealthy stockman in Texas brought in from other States a hundred head of Shorthorns. His representative gave me a call on his trip but bought nothing. However, after he returned to Texas with his stock he sent me an order for two bull calves to head his herd, leaving their selection entirely to me. Last winter I shipped him two bull calves on a mail order and he reported them the finest he ever saw."

All of the older Shorthorn breeders here in the West will doubtless call to mind the very excellent cattle bred and owned by the Giffords, of Riley Co., Kans. The father, the late Mr. Gifford, Sr., started right in 1873, and all through the years since the sons, F. M. and J. B., have stayed by the idea of having none but the best. On Tuesday, April 4, they will offer 35 head, consisting of 23 serviceable bulls and 12 cows and heifers, Scotch-topped and out of select cows belonging to the standard Shorthorn families. The visitor at the farm finds that the offering is a good one, and the writer feels sure that the prospective buyer need not be disappointed on sale day. The reader is respectfully referred to the sale announcement elsewhere in this issue.

The Breeder's Gazette, in referring to the Greater Sunny Slope sale of Kansas Herefords, very sagely remarks: "The fact that Herefords from Sunny Slope are to be offered to the public will command attention. Mr. C. A. Stannard, the new proprietor of this famous farm, will make his first public offering of 100 Herefords at Kansas City, Mo., April 18. There will be included two young Wild Tom bulls of unusual promise. All told there will be 45 young bulls, mostly about 12 to 14 months old. The grand breeding bull, Kodax of Rockland, will be included. None will be sold for any fault whatever, but since the combination of Mr. Stannard's herd with the great array of herd bulls at Sunny Slope he finds himself with more bulls than he can use to advantage. It has not been an easy task for the proprietor to decide which bulls to let go. They have all made their mark as sires of more than ordinary ability, but as it was imperative that some should go, it was finally decided to catalogue these great bulls. We were very much impressed with the young bulls consigned to the sale

the get of Archibald Mc, son of Archibald V. They are the thick, stocky sort, with great backs, low on legs and big middles—in fact, the ideal feeders' sort. There will be 40 females in the sale bred to Wild Tom, Imp. Keep On, Imp. Sentinel, Archibald V, Kodax and Java."

Two New Millets from Dakota.

Of all the new forage plants introduced in years, the "New Siberian Millet" and the "Broomcorn" or "Hog Millet" are attracting the most widespread attention, and are apparently destined to equal if not excel in popularity and importance either of the old standard sorts.

The New Siberian is the most recent candidate for public favor, and if what is said of it is true, will no doubt prove a most successful one. It is claimed to be of Russian origin and to be the most wonderful millet ever introduced, and many very substantial reasons are given to establish its claims for excellence and superiority over any of the older varieties. These are certainly worthy of the thoughtful perusal and consideration of the farmer and stock grower, to whom a forage plant possessing the qualities of the New Siberian, in the way of earliness, hardiness, increased productiveness, etc., means a saving of many dollars in certainty of crops and abundance of yield. It means much to the farmer, should he wish to sell, and to the stockman, who feels the need of an early-maturing forage, available at a time when other green feed is scarce, as is the case often in Kansas and the Southwest during the hot, dry months of July and August.

Briefly speaking, the claims for the New Siberian millet are as follows:

1. That it is from two to three weeks earlier than the German millet, thereby making a crop when the latter may fail on account of unfavorable weather at the time of maturing.
2. That it grows an extra fine stalk, with a wonderful profusion of blades, being of a stooing habit, forty-one stalks having, it is said, been grown from one seed, which is remarkable, indeed.
3. That it has been known to yield from twenty acres, 905 bushels of seed, while as much as three to four tons and over of the choicest hay have been cut from one acre of ground.
4. That coming from Russia, a cold climate, the seed possesses a vitality and vigor not found in the seed originating in a warm climate.
5. That the seed of the New Siberian millet, being so much smaller than that of other sorts, the cost is lessened greatly in quantity of seed required per acre, which is given as only four quarts if wanted for seed and from six to eight if wanted for hay, according as it is drilled or broadcasted.
6. That it not only grows much higher than any other millet (four feet or over), and though the average length of the heads is six inches, yet the stalk is elastic and stands up well, a point of excellence worthy of note.
7. That it is rust-proof, and that chinch bugs do not relish it, but that stock eat it as readily as other kinds, and waste much less in the feeding, owing to the fineness of the stalks.

Reports from the Brookings (S. D.) Agricultural Experiment Station bulletin on millets, under date of May, 1898, speak of the New Siberian as "the most promising variety yet tested."

Description.—Plant, about four feet in height; blades, pea-green color, very profuse; stalk, fine and very elastic; heads, about six inches in length; seeds, of brown-red color; habit of growth, stooing to a remarkable degree; not subject to rust; maturity, first crop about July or August.

It has been grown in Dakota for a few years, in a small way, however, owing to the scarcity of the seed, those who were fortunate enough to possess it appreciating a "good thing" too much to allow it to get into other hands than their own so long as they could prevent it. Also it has been tried in Kansas and many of the other States, as well as Canada, and wherever tested has elicited the same unstinted words of praise, and it would seem that the up-to-date farmer could not afford to let the chance slip to be among the first to secure seed of such a valuable and promising addition to the list of forage plants.

The "Broomcorn millet," or as commonly known, the "Hog millet," is not of so recent introduction, having been grown in Dakota and other States north for a number of years, and needs no special words of praise or commendation. It is grown principally for the seed, which is an excellent feed for hogs, especially when other feed is scarce. It is a most generous and abundant yielder, often producing as much as 100 bushels per acre. The seed ripens while the fodder is yet green, consequently if desired, the millet can be cut and used for feed as well. Unlike the German, the heads of the Broomcorn millet are branching and the seeds are much larger and very glossy. The fattening properties are excellent for

hogs, making it extremely profitable to grow where corn does not succeed.

F. Barteldes & Co., of the Kansas Seed House, at Lawrence, Kans., always alive to the best interests of their patrons and the agricultural welfare of the West, have at considerable trouble and expense succeeded in securing a limited amount of the New Siberian millet and will supply it as nearly at cost as possible, and will cheerfully give any information regarding the same on application. This firm was the first to introduce at great cost of time and money such valuable forage plants as alfalfa clover and the Kaffir corn into the State of Kansas. These have been of inestimable value to the farm interests of the State, and they are of the opinion that this new variety of millet is destined to rival the Kaffir corn in the race for supremacy. The seed they offer is from Dakota and possesses all the qualities of hardy constitution and vigor which northern-grown seed always has.

Registered Saddle a ons.

I have on hand for immediate sale two registered saddle stallions. Shropshire's Homer 179, sire Homer by Mambrino Patchen; dam by King William 67 by Washington Denmark 64; second dam by Shropshire's Tom Hal or Bald Stockings 76. Certified to under rule 3, National Saddle Horse Breeders' Association. His get has sold recently in Chicago and New York at prices ranging from \$450 to \$1,500. Chestnut Hal 1271 is by Eddy Ward 178, he by Expert 77; dam Lou Davis 126 by Expert 77. This horse is a high school saddler of large size and great style. Color dark chestnut, 16 hand high, and weighs 1,200 pounds. He is in good flesh, has heavy bone and sound feet, heavy mane and tail. He is well gaited to walk, trot, rack, canter, running walk.

These two saddle stallions have been consigned for sale by A. C. Shropshire, of Leesburg, Ky. These horses will be warranted breeders and as represented. Mr. Shropshire is now here ready to make transfers any time. Any of the readers of the Kansas Farmer needing registered saddle stallions should take up the matter at once as this is an exceptional opportunity.

We also have for sale two jacks, 15 hands high, one 4 and the other 6 years old. For further information address W. H. Wren, Marion, Kans.

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And particulars how to secure 100 acres of the best wheat-growing land on the continent, can be secured on application to the Superintendent of Immigration, Ottawa, Canada, or to the undersigned. Specially conducted excursions will leave St. Paul, Minn., on the first and third Wednesdays in each month, and specially low rates on all lines of railway are being quoted for excursion leaving St. Paul on April 5 for Manitoba, Assiniboia, Alberta and Saskatchewan.

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A New Obstacle.
The old obstacles that used to prevent the marriage of loving couples are out of date. The blood-and-thunder villain is a myth nowadays. The cruel father is only a tradition. Distance, absence and shipwreck in these days of cheap, safe and swift transportation do not count. The new obstacle is a common sense one. It is ill-health on one side or the other, and sometimes on both.

Men nowadays hesitate to marry a woman, no matter how beautiful, no matter how attractive, or interesting, or witty, if she is a sufferer from ill-health. All men worth having desire happy, healthy children. Any woman who will, may fit herself for the duties of wifehood and the exalted function of motherhood. Dr. Pierce's Favorite Prescription banishes all hindrance in the nature of local ill-health. It gives health, power and capacity to the delicate and important organs concerned in wifehood and maternity. It corrects all displacements, allays inflammation, heals ulceration, stops exhausting drains and soothes pain. It prepares for natural, healthy motherhood. It makes maternity easy and safe and almost painless. It insures a new-comer constitutionally strong and able to withstand the usual ills of babyhood. It is the greatest of nerve tonics and restoratives. Medicine dealers sell it and an honest dealer will not urge a substitute upon you. "After suffering untold tortures," writes Mrs. J. Ferguson, of Box 29, Douglas Station, Selkirk Co., Manitoba. "I thank God I found relief and cure in Dr. Pierce's Favorite Prescription."

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will soon be needed to "turn into." How are the fences? We make a business of keeping "the old mare" and other stock where they belong.

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TRY THIS PUZZLE

Here is a puzzle picture of a man who is looking around for his wife. He cannot see her yet she is there in full view, standing near him. Can you find the missing woman? If so, make a mark on the picture with pen or pencil, showing just where she is concealed, clip this out, return to us with only 10 cents to pay for samples of our charming magazines and we will send you a special prize send you free.

the beautiful Simulation Diamond Ring illustrated here; it is size of a 1 Kt. Diamond, in pretty rolled gold plate ring and will delight you or send your money back. Send strip of paper showing size around finger. Send 10 cents silver to **HARTZ & GRAY, Box 407, New York, N.Y.**

FOUR AMERICAN POETS.

BY J. P. McCASKEY.

His brother tells that when William Cullen Bryant came back from school on vacations and at other times he was accustomed to recite, or declaim for the entertainment of the family circle, his own and other compositions in prose and verse. In a letter to a friend, Bryant himself says that he was in the habit of repeating verses constantly to himself when a pupil in the district school, a habit which he continued for many years. We can readily imagine him, as he grew older, repeating his greatest poem, "Thanatopsis," written before he was twenty years of age, and "To a Waterfowl," "The Crowded Street," "The Past," "To the Evening Wind," and others, letter perfect upon them all, as the good actor cons his lines. He spent a long, busy, useful life as author and editor. When a gray-haired man, he was drawn more and more to the home of his boyhood. As he grew older he returned, and set about restoring and improving the old place, and spent a few weeks each year amid the old surroundings. "On September 2, 1877," says one who lived in this vicinity and knew him well, "it was the happy privilege of the writer to share with the neighbors and country people in the Sunday services at the little church in West Cunningham, Massachusetts, where Mr. Bryant recited his poems, "Thanatopsis," "To a Waterfowl," and "Waiting by the Gate." As we saw the lithe, quick movement with which he ascended the hill, and heard the clear, ringing voice, and saw the bright kindling eye, how could we think that these were his last words to his native villagers?" He had not lost the habit of his youth. It had long since become as easy as breathing for him to recall and repeat much of what he had learned to know and love during his youth and mature manhood, whether written by himself or another.

Ralph Waldo Emerson had a wonderful memory. By nature strong and active, it was greatly improved by constant exercise. He was trained from childhood in acquiring and imparting what he had found best in all the literatures which had fallen in his way, and which he had made the subject of careful study. Poetry and eloquence especially attracted him and always clung to his memory. "He once told me," said F. B. Sanborn, who knew him well, "that in his first long voyage, perhaps to Sicily in 1832, finding himself with little companionship, he occupied a part of the time in testing his memory to see what long poems he could recall from beginning to end." He was pleased to find the number so large, and also that he knew the whole of Milton's "Lycidas" and "Comus," the latter being much the longer poem, both of which he says are "pure poetry." Milton had been familiar to him from boyhood, and so continued through life, though he did not prefer Milton to Shakespeare. He could quote almost entirely the "Prelude" and "Excursion" of Wordsworth, so much had he pondered them. In the last years of his long life he published, through Houghton, Mifflin & Company, one of the best collections of poetry that has ever been made. He gave it the fitting name "Parnassus." It was made up mainly from his scrap-books of choice things which he had been collecting with rare taste and judgment for many years—things that he enjoyed and loved, and had read and re-read, many of them, dozens, perhaps hundreds of times, and not a few of which he had committed to memory and knew literally "by heart."

The memory of Henry Wadsworth Longfellow was a treasure chamber into which, through a long life of study and travel and teaching and writing, there was gathered the best wealth of the world's literature. When a mere boy, he was in the habit of going about the house declaiming the misty utterances of Ossian. This habit of quoting from the wide range of prose and poetry characterized him throughout his life. He regarded as of great value the habit of committing choice things to memory. A suggestion as to this is given by Edward Everett Hale, who says of him: "He began with familiar ballads, read them to us and made us read them to him. Of course, we soon committed them to memory without meaning to do so, and I think this was probably part of his method." His biographers, and they are many, seem to take this memory habit of Longfellow for granted, and say but little about it. He had learned so much, and knew so much, and retained so much in methodical and accurate form—which is but another way of saying that he was a man possessed of a cultivated memory of extraordinary range and power—that, with his fine sense of the meaning and fitness of words, the musical flow of his lines, his quiet fancy and tender sympathy, his deep insight, his exuberant and vivid imagination, and the wide range of subjects touched by his magic pen, it is little won-

der that he more than any other man of our time, but in a sense different from Shakespeare, is spoken of as the "universal poet," that is, one known, and read, and quoted, and loved throughout the civilized world.

And John G. Whittier, of whom it is said that "at no time in his life, from youth to age, could he devote a half-hour to composition—even the writing of letters to friends—without bringing on a severe headache." All his work—and much of it the work of a true poet as well as a friend of humanity—was done subject to this distressing affliction. It was, we are told, the habit of most of his life to relieve the tedium of the long hours of the night, when he could not sleep, by reciting aloud the lines of his favorite poets, with which his memory was so richly stored. It was in the night that many of his own best thoughts came to him, and that he composed some of his best poems. He spoke his lines aloud that he might get the sound of them, and wrote them out, often on odd scraps of paper, the backs of letters, or whatever came first to his hand, his changes and corrections usually ceasing when the work had passed beyond his control. His voice in reading or reciting poetry was so full and deep as to surprise his friends who heard his poetical recitations for the first time. He scanned the lines with a majestic movement, acquired perhaps through his habit of recitation in the solemn watches of the night when to him the darkness was no darkness, for "light had arisen."

When Whittier was a boy 14 years old his schoolmaster loaned him a book of poems by Robert Burns, many of which the teacher had read to his eager and delighted listener, explaining words and phrases which he did not understand. Not a few of these poems he came to know by heart. This book was a revelation to the lad, and had much to do in determining his future course. If he had written no more than this, it would be worth the lifetime of tens of thousands of ordinary men to put these perfect lines into the thought of the world:

I know not what the future hath
Of marvel or surprise,
Assured alone that life and death
His mercy underlies.

And so beside the Silent Sea
I wait the muffled oar;
No harm from Him can come to me
On ocean or on shore.

I know not where His islands lift
Their fringed palms in air;
I only know I cannot drift
Beyond His love and care.

Publishers' Paragraphs.

Don't throw away an old "Acme" harrow. It is an implement that never wears out, viz., only the coulters wear, and they can be replaced at small cost. The manufacturer will furnish extra parts for any "Acme" harrow made since the beginning of the world, and at very reasonable prices. See advertisement in another column.

In the April McClure's, Captain Mahan will conclude his valuable series of articles on "The War on the Sea and Its Lessons," with a paper treating especially of "the guard set over Cervera and the watch kept on Camara"—a double duty that the navy, with very insufficient means, achieved in the most brilliant and triumphant manner.

PRICES ADVANCING.—The certainty of a speedy advance in the price of iron and steel prompts us to advise our readers intending to purchase articles made of these metals to anticipate their wants at once. The Kansas City Roofing & Corrugating Company, of Kansas City, Mo., warn the public that they may expect higher quotations any time in the near future on iron and steel roofing, metal shingles, etc. Their catalogue, with prices, will be sent all enclosing 2-cent stamp.

There are many readers of the Kansas Farmer who are also interested in news concerning the public school interests of Kansas, whether as teachers or school directors. To such we would say you will find the Western School Journal an excellent periodical to keep you duly informed upon all subjects of interest to school teachers and school officers. \$1.75 will pay for one year's subscription to Kansas Farmer and the Western School Journal. Send your orders addressed to Kansas Farmer.

We have received from the American Waltham Watch Company a thirty-six page illustrated brochure which we intend to keep. It treats of the perfected American watch, and is as dainty and beautiful a product of the printer as has been seen in many days. The illustrations are almost absolutely perfect and are most artistically arranged. It is bound in an embossed cover, the title appearing in silver letters upon an oxidized repousse shield. The author has made a most entertaining book, and conclusively proves that Waltham watches have earned for Americans the title of watchmakers to the world. It is full of bright phrases which have a decidedly prac-

tical bearing. We quote one: "How much is an overcoat that cost \$40 worth after five years' wear compared with a watch that cost the same?" Facing the title page is a portrait of Ralph Waldo Emerson and a quotation from his essay on "Eloquence," in which, referring to a man, whom he describes as a "Godsend to his town," he says: "He is put together like a Waltham watch."

Are you a dairy farmer? If so, are you making money out of your cows? This is a pertinent subject discussed by our advertisers, the De Laval Separator Co., of New York and Chicago, in their latest catalogues on the cream separators. No farmer who is interested in the dairy industry should be without the valuable information contained in these catalogues, which they have just recently gotten out. By mentioning Kansas Farmer anyone interested will receive one by mail gratis.

EMPIRE HAND-POWER SEPARATORS.—We are in receipt of the most elegant and interesting catalogue regarding hand-power separators ever received at this office. It is from one of our recent advertisers, the U. S. Butter Extractor Co., Newark, N. J. It tells a splendid story about the Empire hand-power cream separator that should interest every dairyman. The Empire is guaranteed as described and women are interested in the twelve points of advantage claimed over other hand separators. However, anyone interested should consult their advertisement and secure one of these handsome books, sent free to anyone mentioning this paper.

Dr. Bull's Cough Syrup is a true friend to all suffering with coughs or colds. This reliable remedy never disappoints. It will cure a cold in one day and costs but 25 cents.

BLOSSOM HOUSE—Opposite Union depot, Kansas City, Mo., is the best place for the money, for meals or clean and comfortable lodging, when in Kansas City. We always stop at the Blossom and get our money's worth.

NEW SCALE, STYLE AA
Believing that there is always demand for the highest possible degree of excellence in a given manufacture, the Mason & Hamlin Company has held steadfast to its original principle, and has never swerved from its purpose of producing instruments of rare artistic merit. As a result the Mason & Hamlin Company has received for its products, since its foundation to the present day, words of greatest commendation from the world's most illustrious musicians and critics of tone. Since and including the Great World's Exposition of Paris, 1887, the instruments manufactured by the Mason & Hamlin Company have received wherever exhibited, at all Great World's Expositions, the HIGHEST POSSIBLE AWARDS.
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CLOTHING SALESMEN WANTED.

\$150.00 PER MONTH AND EXPENSES MADE BY ALL OUR ACTIVE MEN. WE PAY MANY FAR MORE.

WE WANT MEN IN EVERY COUNTY in the United States. If your references in satisfactory we will start you at once. No experience necessary. No capital required. We furnish a full line of samples, stationery, etc. A tailor-for-the-trade complete outfit ready for business. NO COMMISSION PLAN. You regulate your price to suit yourself. No base to house canvass. This is not one of the many catchy advertisements for agents, but one of the very few advertisements offering a rare opportunity to secure strictly high-grade EMPLOYMENT AT BIG WAGES.

We are the LARGEST TAILORS in America.

We make to measure over 300,000 suits annually. We occupy entire one of the largest business blocks in Chicago. We refer you to the Corn Exchange National Bank in Chicago, any Express or Railroad Co. in Chicago, any resident of Chicago. Before engaging with us, write to any friend in Chicago and ask them to come and see us, then write you if it is a rare opportunity to secure steady, high-class, big-paying employment. Better still—come to Chicago yourself and see us before engaging and satisfy yourself regarding every word we say. You can get steady work and big pay. Work in your own county \$100.00 per year and you can't make less than \$5 every day above all expenses. WE WANT TO ENGAGE YOU to take orders for our Made-to-Order and Measure Custom Tailoring, (Men's Suits, Pants and Overcoats). We put you in the way to take orders from almost every man in your county; a business better than a store with a \$20,000.00 stock. You will have no competition.

WE ARE THE LARGEST TAILORS in AMERICA of Fine Custom-Made Garments. We buy our cloth direct from the largest European and American Mills. We control the product of several Woolen Mills. We operate the most extensive and economical custom tailoring plant in existence, thus reducing the price of Suits and Overcoats made to order to \$5.00 and upward; Pants from \$1.50 to \$5.00. We show a large line of suits at \$1.00 to \$5.00. Prices so low that nearly every one in your county will be glad to have their suits made to order.

We Furnish You a large, handsome leather bound book, containing large cloth samples of our entire line of Suits, Pantaloonings, etc., a book which COSTS US SEVERAL DOLLARS;

also Fine Colored Fashion Plates, Instruction book, Tape Measure, Business Cards, Stationery, Advertising Matter, and your name and address on rubber stamp with pad complete. We also furnish you a salesman's list of Confidential Price List. The name and address on rubber stamp with pad complete. You can fill in your own selling prices, arranging your profit to prices are left blank under each description so you can fill in your own selling prices, and have our book of instructions yourself. As soon as you receive your sample book and general outfit and have read our book of instructions carefully, which teaches you how to take orders, and marked in your selling price, you are ready for business and can begin taking orders from every one. At your low prices, business men, farmers, and in fact every one will order their suits made. YOU CAN TAKE SEVERAL ORDERS EVERY DAY AT \$1.00 TO \$5.00 PROFIT ON EVERY ORDER. EVERY ONE WILL BE ASTONISHED AT YOUR LOW PRICES.

YOU REQUIRE NO MONEY. Just take the orders and send them to us, and we will make the garments within 5 days and send direct to your customers by express C. O. D., subject to examination and approval, at your selling price, and every week we will send you a check for all your profit. You need collect no money, deliver no goods, simply go on taking orders, adding a liberal profit and we deliver the goods, collect all the money and every week promptly send you in one round check your full profit for the week. NEARLY ALL OUR GOOD MEN GET A CHECK FROM US OF AT LEAST \$40.00 EVERY WEEK IN THE YEAR. THE OUTFIT IS FREE. We make no charge for the book and complete outfit, but as each outfit costs us several dollars, to protect ourselves against many who would impose on us by sending for the outfit with no intention of working, but merely out of idle curiosity. As a GUARANTEE OF GOOD FAITH on the part of EVERY APPLICANT, we require you to fill out the blank lines below, giving the names of two parties as reference, and further agreeing to pay, merely as a temporary deposit, ONE DOLLAR and express charges for the outfit, when received. If found as represented and really a sure way of making big wages. WE WILL REFUND YOUR \$1.00 as soon as your orders have begun to pay the cost to us, but insures us you mean business. The \$1.00 you agree to pay when you receive the outfit is refunded to you. Fill out the following lines carefully, sign your name, cut out and send to us, and the outfit will be sent you AT ONCE.

AMERICAN WOOLEN MILLS CO., West Side Enterprise Bldg., CHICAGO, ILL.
GENTLEMEN:—Please send me by express, C. O. D., subject to examination, your Sample Book and Complete Salesman's Outfit, as described above. I agree to examine it at the express office and if found exactly as represented and I feel I can make good big wages taking orders for you, I agree to pay the express agent, as a guarantee of good faith, and to show I mean business (merely as a temporary deposit) one dollar and express charges of \$25.00. If not found as represented and I am not perfectly satisfied I shall not take the outfit or pay one cent.
Kansas Farmer.

Sign your name on above line.
Name of Postoffice, County and State on above line.
Your age
Married or single.....
Address all orders plainly to
AMERICAN WOOLEN MILLS CO., Westside Enterprise Bldg., CHICAGO, ILL.
On above two lines give as reference names of two men over 21 years of age who have known you one year or longer.
In above line give name of your nearest express office.

The Home Circle.

EASTER.

Awake, thou wintry earth—
Fling off thy sadness!
Fair vernal flowers, laugh forth
Your ancient gladness!
Christ is risen.
—Thomas Blackburn.

Yes, He is ris'n who is the First and Last;
Who was and is; who liveth and was
dead;
Beyond the reach of death He now has
pass'd,
Of the one glorious Church the glorious
Head.
—Horatius Bonar, D. D.

O Risen Christ! O Easter Flower!
How dear Thy Grace has grown!
From East to West, with loving power,
Make all the world Thine own.
—Phillips Brooks.

'Twas Easter Sunday. The full-blossomed
trees
Filled all the air with fragrance and with
joy.
—Longfellow.

Ring snow-white bells, your purest praise
To glorify this Easter day,
And let our risen Savior's joy
Your voiceless, fragrant breath employ—
Fill every valley with perfume
And lighten death's appalling gloom,
Teach ye our troubled hearts the way
To trust our Savior every day.
—W. J. R. Taylor.

"Christ the Lord is risen to-day,"
Sons of men and angels say,
Raise your joys and triumphs high;
Sing, ye heavens, and earth reply.
—Charles Wesley.

CULTURE.

In these last years of the nineteenth century it may seem that there is little need to say a word in praise of culture. In certain circles, indeed, the worship of culture has been carried to an absurd extent; it has been considered as a panacea for all evils, as the sole remedy of bad manners and bad morals—the one requisite for a golden age. Those who best know what true culture is will be the last to claim for it any such extreme merits; they realize too well its limits, as also its grand and undeniable advantages. It may safely be affirmed that neither the world nor any individual will ever be reformed by culture of the imagination and intellect alone. Rightly speaking, that which we know as culture is not moral at all; it is mental. Moral culture is more generally known as religion—or some may call it philosophy. A great deal too much moral virtue has been claimed for intellectual culture and education. Even the arts, noble and beautiful as they are, are not in themselves moral, however excellently they may be adapted to moral purposes. Music, painting, poetry, are in themselves absolutely non-moral, though one may be used for anthems and hymns, one for sacred pictures, and the other for teaching the highest lessons. Before we make a claim for greater culture in these things, we must learn to estimate them at their true value. Although, in the best sense, only that is beautiful which is good, yet there is a quest of beauty which may entirely miss, and not even seek for, the noblest good. Reformers whose cry has been education and art have too often forgotten how slight the moral worth of such may be. It is the culture of the heart alone that will reform the world, not that of the imaginative and mental faculties. Having admitted this, it is possible to place a just and fair valuation on the part that should be played by general culture. This part is truly a most important one, and has hardly yet been fitly recognized.

One of the charges brought against England by foreigners has usually been that we have neglected culture—that we are a nation of shopkeepers, with ideas only reaching to the limit of our counters. The charge, as such wholesale accusations must be, has always been an exaggerated one; yet there has been enough of truth in it to give it a certain sting. We deserve it now less than ever before, but it may still be pressed with some force. In all ages and countries there is a struggle between the utilitarian spirit and the spirit that makes for beauty and adornment. That struggle still goes on, and it is often assisted by the binding necessity of earning daily bread. Culture, the busy tradesman will say, does not pay. Culture, to the equally busy clerk, salesman or saleswoman, appears little short of an impossibility. Such education as has been acquired at school is forgotten within a year of leaving. Young people of 16 or 18 hasten to forget the little that they learned, and say that their education is "finished." It is astonishing how many persons of so-called education are profoundly ignorant, even of the history and geography of their own country, and their knowledge of our glorious literature is limited to the latest novels. But the lack of culture is not confined to persons of this description. Persons who

have primed and loaded themselves with special knowledge, passing difficult examinations, often prove to us the fact that the mere acquirement of information is something very different from culture, and that with all their boasted knowledge they are very dull folk indeed. To a great extent true culture must be self-acquired, and almost the only avenue to its riches is the study of literature. Nothing so truly refines the mind and enlarges its vision as the absorption of good books, and of books which usually the special student ignores completely.

Poetry and the highest literature may be of small use in coaching for an examination, but their value is more abiding than that of a thousand college books. It is in this respect that the educated and lettered are often as uncultured as the ignorant and illiterate. There is a utilitarian spirit in the acquirement of knowledge, as well as in the pursuit of commercial prosperity; and both of these are too fond of sneering at that which, to their narrow vision, does not appear to lead immediately to anything practical and remunerative. But the harvest of culture is in the soul of man itself, and it remunerates even beyond the mere learning of facts and figures, or the produce of markets.

There are persons who boast with great pride that they never read a book in their lives, perhaps not even a novel. Such are, indeed, to be pitied, and, what is more, they will generally be avoided by people of cultivated mind. With few exceptions, the people who do not read, and who neglect all culture, are very dull and uninteresting; their conversation is of the pettiest description, and consists of the smallest talk possible. As a man who always stays in his native village must ever have the most circumscribed notions of the world, so he who never reads must have similarly confined ideas as to what other persons have said and thought and felt. Reading is a species of travel for the mind; it admits us to the minds of others greater and wiser than ourselves. If our consideration of culture becomes narrowed down to a eulogy of reading, this is little wonder, for in a wise reading does truly exist nine-tenths of the best education. For our own sake, and the sake of those with whom we have intercourse, it is well for us to seek such culture. Its acquirement is not a task, but the greatest of pleasures. Cultured people are rarely dull, and rarely become bores. They alone can enjoy the truest sweets of leisure, and their mind is stored with resources. But we must never forget that culture alone is not a moral agency.—Globe-Democrat.

Burroughs' Marriage Plant.

The Rev. A. H. Burroughs, perhaps better known as "Parson Burroughs," of the city of Bristol, Tenn., probably bears the distinction of marrying the most runaway couples during the last nine years of any licensed clergyman in this country. Parson Burroughs is an ordained Baptist minister of the State of Virginia. In August, 1889, he decided to give up regular preaching and moved to Bristol, Tenn., where he leased the Nickles House and established himself in the hotel business. The hotel building is a two-story and very dilapidated structure.

He soon discovered that his location and his authority to perform the marriage ceremony could be put to profitable use. During the first four months of his hotel life he had been called upon to marry eleven couples, nearly all of them being runaway couples, and in the case of either one or both of the contracting parties there were insurmountable obstacles in the way of their getting married in the State where they lived, for they were nearly all from the States of Virginia or West Virginia. He made an investigation and found that the marriage laws in the State of Tennessee permitted the marriage of any woman of 12 years of age or over, and of any man of 14 years of age or over, without the consent of their parents or guardians, while in the States of Virginia and West Virginia the consent of the parent or guardian must be obtained for both parties for all ages under 21 years.

The hotel kept by Parson Burroughs was most admirably situated for the marriage and entertainment of runaway couples. Bristol is what is known as the Twin City. It has a population of about 10,000, and is divided practically in the center by its Main street. The State line between Tennessee and Virginia is the center of Main street. The union depot is situated on the Virginia side of Main street, and the Nickles House, where Parson Burroughs presides, is on the Tennessee side and only about 300 feet distant. When the good parson got these conditions all figured out, he decided that keeping a hotel, preaching on Sunday as occasion offered and marrying runaway couples, if not wholly consistent, would be a source of profit, besides making a

lot of people very grateful to him. A little judicious advertising soon brought his business into notice, and business began to come his way.

During a recent interview, Parson Burroughs stated that his business increased very rapidly until he reached his maximum number for a single year, as follows: In the last four months of 1889, 11 marriages; in 1890, 53; in 1891, 95; in 1892, 111. This last year was during the boom, which at that time was spreading all over the South and which soon after came to a disastrous end. Since that year runaway marriages have not been quite so plenty, and the parson has not kept his tally by years. His total number of marriages for the past nine years, however, reaches the large number of 750, an average of over 80 a year. Marriage licenses in Tennessee are issued by the county clerk, or a deputy by him appointed. The deputy in the city of Bristol is John R. Snow, and one of the recent licenses by authority of which Parson Burroughs had made an eloping couple happy, read as follows:

"State of Tennessee, County of Sullivan: 'To any minister of the Gospel having the care of souls, judge, chancellor or any justice of the peace of Sullivan—Greeting: You or either of you are hereby authorized to solemnize the rites of matrimony between James F. Branson and Ellen Taylor, of your county, agreeable to the direction of the act of assembly in such cases made and provided.'"

Parson Burroughs felicitates himself that he has never married a couple where the bride was under 14 and only one of 14. This 14-year-old bride was married to a man 21 years old. With one couple which the parson married the bride was 18 and the groom 70. Among the 750 couples there have been those of all ages and social and financial conditions. In nearly every case there was some circumstance which rendered it impossible for them to get married in almost any other State but Tennessee. While the most of the couples who come to the parson to be married come from Virginia or West Virginia, his record shows the following other States as having contributed a small quota: North Carolina, Kentucky, Ohio, Indiana, Pennsylvania and Michigan. Parson Burroughs' record for one day is four couples.

He said that he always left the matter of the fee to the generosity of the groom, with the result that his fees had run all the way from a "thank-you-sir" to \$10. But the mere fee is not the only income from the business. He keeps on hand a fine assortment of marriage certificates designed for framing, for which, when properly filled out, he collects a fee ranging from 25 cents to \$1. This matter of a certificate he claims is a very popular feature of his business, for being mostly runaway couples they invariably want to possess themselves with the best possible evidence of their new relations when presenting themselves to their wrathful parents for forgiveness.

Parson Burroughs, as the time for the arrival of the trains approaches, puts on his most clerical-looking garments and leisurely saunters over to the passenger station. If a couple bent on getting married should alight from the train the good parson never needs a second look to detect their errand. He has a quiet way of slipping up to them and letting them know that he is just the man they are looking after. Then, taking them in a carriage, if they are rich enough to pay for it, and on foot if they are not, he escorts them to the deputy county clerk, where the license is procured, and back to the Nickles House, where the knot is firmly tied in the shortest possible time. It is said in Bristol that so expert has the parson become that he never makes a mistake. He never approaches the wrong party or allows the right party to escape him.—Hartford Courant.

Betrothals in Spain.

A curious custom obtains in some portions of Spain in regard to betrothals. A young man who looks with favor upon a handsome senorita and wishes to gain her hand, calls upon the parents for three successive days at the same hour of the day. At the last call he leaves his walking stick, and if he is to win the desired bride the cane is handed to him when he calls again. But if he is not regarded with favor, the cane is thrown into the street, and in this way the young man is made to understand that further calls will be useless.—Washington Star.

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MICHIGAN AVE. AND MADISON ST.
CHICAGO.

The Kaiser's Big Soldiers.

"The tallest man in his army," who is accompanying the German Emperor in the visit to the East, is a grenadier named Chiemke, who is nearly 6 feet 10 inches in his stockings. This Frederick William mania of the Kaiser's is an old device of his for impressing the foreigner. On returning from his first visit to Constantinople in 1889 the Emperor sent the Sultan a complete set of kettledrums, which he entrusted to the tallest officer in his army, Lieutenant Pleskow, who is very little, if at all, under 7 feet. Once, indeed, when this Prussian guardsman looked over a 7-foot garden wall and asked a girl picking gooseberries therein what was the way to so-and-so, the simple maiden told him to ride first to the right and then to the left, and he would find the place he wanted. The nymph had honestly fancied that an officer overpeering her garden wall like that must necessarily be on horseback.—London Chronicle.

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Hood's Pills are easy to take, easy to operate, cure biliousness, indigestion. 25 cents.

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Nothing but a local
remedy or change of climate
will cure it.

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GREAT PRIZE PICTURE PUZZLE!

Somebody has broken one of the grocer's bottles, he is accusing a woman but she is innocent, the real culprit is a hidden man who has a basket. He is in the picture. Can you see him? If so, put a pencil or pen mark around him, clip this out, return to us with 10 cents to pay for sample copies of our Illustrated Journal and we will send as a prize, the handsome triple stone rolled Gold plated finger ring, mounted with a Simulation Diamond and 2 Superb Rubies or Emeralds. These are simulations of real stones and will delight you. The ring is a dazzling wonder and people are surprised at getting such a nice prize for a few cents, yet we do just as we say, and will send it promptly for only 10 cents all over. Send strip of paper showing size around finger. Address: **SAWYER PUB. CO., 217 Sawyer Bldg., Waterville, Maine.**



The Young Folks.

THE COUNTRY LIFE.

Mine be the country life, content
With the mild ways that shepherds went,
Who by the stream cut reeds and blew
The country's praises in the dew.

To drive my silly sheep to feed
On the sweet herbage of the mead
Through all the sunny hours, and then
To fold them in to sleep again.

To know my flocks, to love my lambs,
All the sweet babies and their dams,
And see them leap to hear my call
From the sweet morn to eventfall.

Or by some pleasant riverside,
To watch my kine stand dewy-eyed,
Grateful to Him who brings to pass
The lilled water and sweet grass.

Or 'twixt the handles of a plow
Upon some purple upland's brow
To follow steaming steeds and see
God's beauty written on hill and lea.

This is the rustic's lot of bliss,
Which he of towns shall daily miss,
To see God's rainbow mercy bridge
The high heaven and the mountain ridge.

My shepherd dog upon my knee
His head shall rest for company
In hours of leisure, and shall keep
My wandering kine and straying sheep.

Shall taste my drink and share my bread,
Milk from the kine myself had fed;
Oat-cake and butter, golden-dyed
As honey that my bees provide.

To market at the peep of day
My way would wend with corn and hay,
But sell no harmless, joyous life
To cry against the butcher's knife.

Be mine to foster life instead,
Bid life to leap on hill and mead,
His humble image, who once said
"Let there be Life!" and Life was made.
—Katharine Tynan.

Wild Animals That Adopt the Young of Other Species.

There is a queer propensity among some animals to adopt the young of others, and the oddity of the common barnyard chicken mothering a brood of awkward, squabbling ducks has many similar parallels among the wild animals of forest and field. The average cuckoo is an adopted child of a bird of very different species, and it is generally reared at the expense of the children of the foster mother. But this is a case of forced adoption. The mother cuckoo lays an egg in the nest of another bird, and this hatches earlier than the eggs that rightfully belong to the nest. Then the young cuckoo grows so rapidly that it crowds out the eggs of the cat birds, and gobbles down all the food that the fond parents bring. In the end the birds look with astonishment upon the prodigy they have brought forth, but they continue to feed the cuckoo—their adopted child—until it is able to care for itself. Then they undoubtedly feel relieved when the bird goes back to its kind, and no longer demands food to satisfy its ravenous appetite. But among many animals there is a voluntary adoption of the young of very different species. Darwin mentions several instances of a peculiar nature. One was that of a female baboon, which not only adopted monkeys of other species, but actually stole young dogs and cats to rear them, showing the greatest maternal feeling and sympathy for them. One kitten thus adopted scratched the affectionate baboon mother while fondling it. This apparently surprised the mother, for it immediately regarded its adopted offspring with curiosity, and then began to examine the offending claws. The result of it was that the baboon bit off the kitten's sharp claws, and then proceeded to fondle and nurse it as before.

Another case is on record of a monkey adopting a small puppy dog, and it showed as much maternal affection for it as if it had been its own child. The two grew up together, exhibiting the greatest love, and when the dog began to wander away to seek the society of other dogs it greatly distressed the old monkey. But that the maternal instinct was not destroyed by this coldness on the part of the adopted dog was manifested one day when the latter got into a fight with another and larger dog. It was getting decidedly the worst of the conflict when the monkey appeared on the scene. With a wild cry, followed by a series of agitated squeaks, the old monkey flew to the rescue of its adopted child, and pounced upon the offending dog so savagely that it soon changed the tide of battle. The latter retreated from the scene, growling savagely at the strange animal which had inflicted such painful wounds on its back. The rescued animal seemed to show signs of thankfulness, and when it licked the monkey's body the latter seemed to go into ecstasies of delight.

In the London Zoological Gardens an old baboon once adopted a Rhesus monkey, and the two lived together in the most affectionate manner. But one day

a young drill and mandrill were put into the cage. The old baboon seemed greatly agitated at the appearance of the two strangers. It examined first its own adopted child, then the two new monkeys. Evidently it dawned upon its mind that these two newcomers were nearer relatives than the Rhesus monkey. At any rate it deserted its former child and immediately adopted the drill and mandrill. This was not pleasing to the Rhesus, and it attacked and worried the two interlopers whenever possible. This excited and angered the old baboon, who finally punished its first child, and eventually disowned it.

A large Maltese cat in one of our traveling circuses adopted a young Java monkey quite recently. The peculiar sight of the mother cat nursing the little monkey attracted many visitors. But as the monkey grew in size and activity, the cat began to regret her bargain. The monkey clung to its mother so persistently that the cat finally had to punish it. The little fellow would insist upon clinging to the cat's neck and riding on her back when she went foraging around. This became so burdensome in time that the mother had to bite and scratch the monkey to make it let go. Nevertheless, it often felt regret for this, and after an absence of an hour or two it would return to console the adopted child.

Bears have been known to adopt dogs, and to rear them with all the care they exercise over their own cubs. Wolves naturally adopt dogs, for the two are closely allied, and it is hard sometimes to distinguish the wild dogs from the true wolves. The story of the adoption by wolves of the two founders of Rome may be a piece of classic fiction, but that such a thing might have happened is not doubted by modern scientists. Certain species of animals show a decided kidnapping propensity, and in Africa many of the dog-faced apes steal the little babes of the savages and try to rear them as their own. It is said that when a small child of certain African tribes is missing a search is immediately made among the rookeries of baboons and apes in the neighborhood.
G. E. W.

Facts About Diamonds.

South Africa is the world's greatest diamond mine, and the United States is the best market in the universe for diamonds. The exports of diamonds from South African diamond fields exceed £3,000,000 per annum, and the world's total output is about £4,000,000. Of this total the United States buys about £2,500,000 worth, almost entirely in cut stones.

While tariff changes have affected somewhat the diamond trade in the United States, and have recently promoted the business of diamond cutting and setting there, they have been without serious effect upon the American market, which for diamonds is the best in the world.

In the United States one is impressed with the extraordinary popularity and almost lavish use of diamonds. Not only are there more diamonds there than in any other part of the world, but they are in more general use.

The most valuable individual diamonds of the world's supply are seldom worn. The largest known diamond weighs 366 carats. The value of the famous Kohinoor, which weighs 103 carats, is £100,000, but the value of diamonds is not wholly regulated by weight, color being an important factor.

Until a century and a half ago the world's diamond field was India, and for nearly a century India held this position. Then the finding of diamond mines in Brazil brought South American diamonds into the market, and in 1868 the South African or Cape diamond fields were discovered, and have been worked with great profit ever since, while the Brazilian fields have been practically abandoned.

The South African diamond field covers 15,000 square miles, and one field—the Kimberly, covering 9 acres—has produced more than £20,000,000 worth of diamonds since 1871.

The present annual export of diamonds from the South African diamond fields averages 1,500 pounds in weight, to a value, as we have stated, of over £3,000,000.

Two thousand white and 20,000 native miners are employed there. For some reason, which is not very plain, although the products of diamond mines have been for many years in territory owned and controlled either by England, Spain or Portugal, the business of diamond-cutting has centered in and about the Netherlands, and particularly Belgium. The first guild of diamond-cutters was established in the town of Burges, in that country, more than 500 years ago, and since that time the business has been a very profitable one, both in Antwerp and Amsterdam.—Canton Spare Moments.

A Kaffir Snake Story.

A road party, comprising the usual gang of from 50 to 60 Kaffirs, with a white man as superintendent, was employed on the construction of a road in the Tugela Valley, Natal, about thirty or more years ago. In the course of their work they came to a huge stone which it was necessary to remove, but beneath it was the home of a large black mamba, well known to the neighboring inhabitants as being old, and therefore very venomous. The mamba is the most deadly of the South African snakes, and the superintendent anticipated some trouble over that rock. He offered a bribe for the snake's skin and the gang "wow'd!" and sat down to "bema gw!" (take snuff). But a slim youth sauntered forward, and amid the jeers and protestations of the rest, declared himself equal to the task. He took from his neck what looked like a bit of shriveled stick, chewed it, swallowed some of it, spat out the rest on his hands, and proceeded to rub his glistening brown body and limbs all over. Then, taking up his stick and chanting a song of defiance, he advanced with great confidence and swagger to the boulder. There he roused up the mamba, who, in great fury at being disturbed, bit him in the lip. The boy took no notice of the bite, but broke the snake's back with his stick, and, bringing it to his master, asked for the reward, obtaining which he went back to his work, and the bite of the reptile had no effect on him whatever.

No bribe, not even that of a cow (better than any gold in the eyes of a Kaffir), would induce this native to disclose the secret of his antidote, which, he said, had been handed down in his family for generations. The snake was a very long one and so old that it had a mane. It is a well-known fact that certain of the Zulus have antidotes for the more deadly snake poisons, which they preserve as a secret within their own families.—London Spectator.

Sea Birds and Their Eggs.

If the murre is disturbed by an egg-hunter and its single egg taken it will return and replace its successively stolen ovum until eight have been laid. It is loth to leave its nest, even when the despoiler approaches, and when he comes up she leans away from him and moves over to the far side of the nest. But presently, yielding to the alarm within her breast, she emits a sudden squawk and flies off, flushing the entire rookery as she moves toward the sea, leaving the pickers to fill their pouched shirts with the booty. They must hurry the work, for as soon as the eggs are uncovered the gulls hover close and become thick upon the scene. These the men must fight off, for they brazenly interpose themselves and battle with the humans for the possession of the eggs.

The opportunity being open, the gull sweeps down upon the murre egg, seizes it in its mouth and goes sailing aloft, cracks it in its bill and gobbles what of its contents it can, the residue falling upon the rocks below. Then it takes another swoop away and balances itself

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That these islands were a great repository of edible eggs became known in the early fifties. At the time of the discovery of this fact provisions were scarce and gold plentiful in San Francisco, and the rookery eggs offered in the markets of that city brought \$1 a dozen. The opening of this new and free opportunity to acquire wealth precipitated numbers of people upon the islands and in the business of egg-gathering. Quarrels ensued between the competitors as to their respective "rights" in the premises, with the result that a company was formed among a number of the pickers, which bought out the claims of the others. This company managed to hold on to its advantage for some years, not, however, without experiencing contests and encroachments, until the bickerings ultimately grew so fierce as to attract the attention of the United States district attorney at San Francisco. He sent a detachment of Government soldiers there and deported every egg-picker.—Harper's Magazine.

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Objectable 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 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.
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Every advertiser will receive a copy of the paper free during the publication of the advertisement.
Address all orders—
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The question has been raised as to the rates of increase of the white and colored races in the United States. The United States census shows that for the period from 1880 to 1890 the colored population increased at the rate of about 11% per cent, and that during the same period the whites increased at the rate of 26% per cent. There does not appear to be much prospect of negro preponderance.

The statistician of the United States Treasury makes an estimate each month of the number of people in this country on the first of the month. According to this authority, the number of people who awoke on the morning of March 1, 1899, in the United States was 75,601,000. This number exceeds that of February 1 by 136,000. At this rate of increase the rising sun of March 2 looked upon 4,500 more citizens of the United States than were greeted on March 1. For the year ending January 1, 1899, the estimated increase was 1,605,000, enough to people a State, really more people than are within the borders of Kansas.

The merits of Kansas hard winter wheat are receiving recognition abroad. A great grain dealer, Mr. H. F. C. Schacke, from Copenhagen, Denmark, visited Kansas City this week to establish connections with exporters of Kansas wheat, corn and bran. He said: "Kansas hard wheat is used to mix with our soft wheat to give strength to the flour. We use corn wholly for feeding stock. The efforts of American corn commissioners a few years ago to introduce maize as a food product did not succeed. Our people did not take to it, although the dinner given by the commissioners to the municipal officers and army officers was very elaborate, and everyone admitted that the various dishes tasted good."

One by one the Kansas pioneers are passing away. On Friday evening, March 24, Mr. G. W. Berry, of Berryton, Shawnee County, died after a short illness, at the age of 82 years. He was born in Mason County, Kentucky, in 1817. He settled in Shawnee County as a homesteader in 1854, where he has been engaged in farming and stock raising during this period. His first visits as a trader to Kansas Territory date as far back as 1836. The death of his wife occurred last month (February 21, 1899). He was a member of the Masonic order, belonging to No. 17 A. F. & A. M., Topeka, having joined this organization in 1865. He received Masonic burial Sunday, March 26. His son, George W. Berry, Jr., is well known to the breeding fraternity of the West, and his friends will regret to learn of his double bereavement.

A valuable table has been issued by O. P. Austin, Chief of the Bureau of Statistics of the United States Treasury Department. It gives for each fiscal year since the formation of the Government the value of exports and imports of merchandise, the exports and imports of gold and silver and the excess of exports or imports of merchandise and of gold and silver, the total exports and total imports of merchandise and specie and the excess of total exports or imports. The general footings show for the entire period imports of merchandise amounting to \$29,979,961,487; exports of merchandise amounting to \$30,953,202,985; the excess of exports over imports being \$972,241,498. During the same period we have imported specie worth \$1,940,150,320;

and we have exported specie worth \$3,400,623,581; the excess of exports over imports of specie being \$1,460,473,261. While we have sold to foreigners about one billion dollars worth of goods in excess of what we have bought from them, we have sent along an excess of nearly a billion and a half dollars more of gold and silver than we have received in return. Surely we are not making a very proud record as traders when we give more value in goods and pay boot besides.

TRUSTS.

The existence and operation of the "trust" became a reality to Kansas people one day last week when the wire mill at Lawrence was closed down indefinitely and 200 workmen were discharged with no hope of reinstatement. The former proprietor explained that he had disposed of the property to the wire trust. The business had been profitable and was one in which the proprietor would have been glad to continue. But he explained that to resist the trust would be but to dissipate the accumulations of a lifetime, with the inevitable result of eventually closing the mill over his ruin. The 200 men and their families are left to make the best terms they can in a world which never before seemed to them so cold and selfish as now.

Almost simultaneously with the close of the Lawrence wire mill came the announcement by the Attorney General of the United States to the effect that the Federal statute known as the Sherman anti-trust law, is of no avail as against these combinations. He says broadly:

"A combination or trust for the purpose of maintaining a monopoly in the manufacture of a necessary of life is not within the scope of the Sherman act and cannot be suppressed by the Federal courts. This was decided in 1894, in the case of the United States against the combination of sugar companies."

Further on the Attorney General says: "It is a popular error to assert that the Attorney General of the United States has control of the corporations or combinations which engage in manufacture in the various States. This is entirely a matter of State control, and unless the functions of interstate commerce are interfered with I would be superfluous to attempt a crusade against affairs with which I have no business."

Indeed, in the opinion of the Attorney General, those who most need protection in the premises are the investors in the trusts. He says:

"With reference to these large combinations of capital which are now forming, my own judgment is that the danger is not so much to the community at large as it is to the people who are induced to put their money into the purchase of the stock."

The rapidity with which trusts have been formed during recent months makes it worth while to inquire what they really are and what their purpose. Henry Clews, the New York financier, says of them:

"The name of these industrial trusts would be more appropriate if called 'trade combinations,' as they are really not trusts. To state the case of these combinations in plain and simple terms, the object sought to be attained is to put various interests belonging to different parties together so as to form a large concern represented by stock capital without personal liability, having in view a reduction in expenses, greater efficiency, and production on a larger scale, and the realization of greater profits without advancing prices. When a number of small individual plants are thus united for a common object under efficient official management the expenses are materially cut down. With the increased capital which this method admits of, better machinery is secured, with better results in meeting foreign competition, which adds largely to this country's exports. In this way this country has, during the past ten years, increased its ability to compete successfully with Great Britain and other European countries."

Such matters as the experience of the Lawrence workmen are noticed by Mr. Clews, with perhaps a bit of sarcasm thrown in, in this wise:

"People who take a narrow view of the subject talk about the system throwing men out of employment. To my mind it is evident that there must have been far more money spent in wages when the manufactured exports were \$182,000,000 than when they were only \$78,000,000, ten years previously. More than double the value of material by nearly three millions' worth certainly could not be moved by a less number of men. It probably required more than half as many more, namely, 50 per cent, and during this period labor itself has only increased 25 per cent, thus leaving the workman better off than before the combinations began to make such progress in the improvement of machinery."

As illustrating the advantages claimed for the large combinations, and at the same

time illustrating the advance they are making, Mr. Clews cites the case of the railroads, as follows:

"Can anybody imagine that the railroads could employ an army of 800,000 workmen at good wages and that 1-100 part of a cent per ton per mile would make the difference between dividend and no dividend to certain prosperous roads if the principle of combination were not worked extensively in the railroad industry?"

The argument most potent with the broad thinker, who realizes that industrial progress will inevitably proceed along the lines of least resistance from natural causes, with little regard to artificial restraints or individual hardships wrought, is that in which Mr. Clews says:

"One of the results inseparable from combinations, no matter how selfish the promoters may be, is that they make everything which they produce cheaper to the consumer than it possibly could be without their existence; and the larger the combination, as a rule, the better and the cheaper is the consumer served."

The apprehension that, having gained control of the markets, the trusts will advance prices, is disposed of briefly by saying:

"The fact that a reduction in the price of a manufactured article invariably stimulates consumption, needs no more demonstration than that the inflexible law of supply and demand disposes of any fear as to arbitrary advances in prices."

Quite in a different vein were the interviews given out by officials of Kansas and several other States. These generally declared that if existing legislation by Congress were insufficient to prevent trusts, laws must be enacted sufficiently broad and sufficiently rigorous to accomplish this purpose. Almost all of the politicians who have rushed into print with their views have overlooked the fact that the greatest obstacle to Federal control of trusts is the lack of constitutional authority to Congress to deal with any such question except as it may come under the power to regulate commerce between the States.

The Attorney General kindly suggests that the regulation of trusts is a power reserved to the several States. This is nearly equivalent to saying that the power does not exist. What power, for instance, has Kansas to regulate a trust chartered in New Jersey, making fence wire in Illinois, and selling it in every State in the Union?

One of the interesting political phenomena of the near future will be the gymnastics by which some of the politicians who now vociferate against the trusts will bring themselves into harmony with the doctrines of Banker Clews as set forth in extracts above quoted from his latest circular.

PORT ARTHUR OPENED.

The Port Arthur ship canal was opened to commerce last Saturday. The significance of this fact is deeper than is implied by the announcement that 2,000 people were present. This canal is 7 miles long, and has the same width and depth as the great Suez Canal. The Port Arthur Canal extends from the deep water of Sabine Pass along the shore of the shallow Sabine Lake to an artificial land-locked harbor at the town of Port Arthur, Texas. The jetties constructed at an expense of several millions of dollars, by the United States Government, had already opened a deep-water channel over the bar, so that now a deep waterway extends from Port Arthur out into the deep water of the Gulf of Mexico. The great West is connected with Port Arthur by the Kansas City, Pittsburg & Gulf Railway. Thus last Saturday's canal opening marks the completion of a direct and short route by which Western farm products are to be placed on the high seas.

The opening of the Port Arthur Canal is significant in another way. When Major Stilwell had projected the building of the K. C., P. & G. Railway, he is reported to have gone to wealthy parties interested in land at Sabine Pass and proposed that they finance the enterprise and share the profits of developing an exporting and importing city. This was during the great panic of the early 90's. The wealthy bankers, it is stated, treated the project with scant courtesy, informing him that it appeared to them that he was a very young man—"a very young man." "Do you not know," they continued, "that old trunk line railroads are not able to build branches these times? How do you expect to build a great main line 700 miles long in times of distrust like these? You impress us as a very young man—a very young man." But the enthusiasm and energy that this young man developed was manifested in Europe. The staid old Dutch of Holland were impressed with the value of the proposed outlet to the Gulf. They financed the project. A large body of level prairie was bought at the head of Sabine Lake; Port Arthur was laid out, and the great railroad was terminated 7 miles from deep water. It must be remembered that Sabine Lake varies from 1 inch to 7 feet in depth. Now a Hollander

knows of no better use for money than to invest it in canals and dikes. The Port Arthur Canal Company was easily financed. The ditch has been dug and opened for ships. Pluck and enterprise, youth and energy have overcome obstacles and have won the day. Its rewards are to come in the service of the great railroad and the new city in furnishing a near and safe shipping port for the rich products of one of the great producing regions of the world.

OUT OF JOINT.

John Bull has for months been singing so complacently his accord with all that America has done or proposed, and has proclaimed his relationship so sweetly that the discordant note of the London Saturday Review comes like a clap of thunder from a clear sky at Christmas.

After pointing out that "nothing material has yet been the outcome of the passing wave of sentimental hypnotism," it proceeds to blame the American trusts for the failure of the British-American-Canadian commission, saying:

"These trusts may be expected to menace British trade supremacy with the same unscrupulous rivalry in the far East as is now shown in Canada and ultimately everywhere in the world. And, as the trusts control American politics, such immediate advantages as England might gain from an alliance would be largely overshadowed by the dangers into which the trusts are likely to force America by insisting upon an indefinite policy of expansion."

The article concludes by advising England to pursue her own way, "treating America with the same courtesy which she extends to the continental nations, no less and no more."

KANSAS EXPERIENCE IN ORCHARDING.

From "The Kansas Apple."

S. Reynolds, Lawrence, Douglas County: I have lived in Kansas forty-three years; have an apple orchard planted from two to forty years. I planted my first orchard in 1858, and, not knowing anything about what sorts would be suitable for Kansas, I had to rely entirely on what the Missouri nurserymen recommended. Among the sorts planted which proved failures were Yellow Bellflower, Fulton Strawberry, White Winter Pearmain, Baldwin, the Russets and some others. Winesap, Rawley's Janet, Dominion and White Bellflower all did fairly well. Of all the sorts the Winesap has been the most profitable. If I had planted that first orchard chiefly to Winesaps, the cash receipts would have been more than double. My later experience and observations prove that the Missouri Pippin is the most profitable apple to grow for the market, the Winesap and Ben Davis following next in order. For a family orchard, I prefer Early Harvest, Maiden's Blush, Jonathan, and Winesap. I prefer second bottom, with a rich soil and a porous subsoil. I prefer two-year-old, vigorous trees, set in rows two rods apart. Use a potato hook.

I consider the best plan of planting is to throw two furrows together and plant on this double thickness of surface soil; the roots will luxuriate in this bed of fertile soil and with proper care the tree will make a vigorous growth. Plant early in the spring, before the buds start. I cultivate my orchard with a disk harrow followed by a common harrow, until they begin to bear; plant corn, potatoes or other hoed crop in a young orchard. Seed the bearing orchard to clover. Wind-breaks are not essential in eastern Kansas. For rabbits I wrap the young trees; dig borers out. Pruning should be done at the time of planting. After that give the tree all the top it can grow. Never fear but the roots will keep pace with the top. Remember that every time you cut out a large limb you threaten the life of the tree. Give the tree plenty of room, so that the roots will not overreach each other. The moisture in the soil is only sufficient for one set of roots. About two rods apart is the proper distance. I prune with a knife to keep the limbs from crossing. I do not thin the fruit while on the trees, they usually thin themselves. My Ben Davis and Missouri Pippins are in mixed planting. I fertilize my orchard with stable litter; I think it beneficial and would advise its use on all soils after the trees begin to bear. I pasture my orchard in the fall after the fruit is gathered, with horses. I cannot see any injury. I never let horned cattle in.

My trees are troubled with root aphid and round-head borers. I do not spray. I find that all apples must be gathered before they are quite ripe if we want them to keep well. In order to have them in the best condition for keeping they must be picked without bruises; I hand-pick mine in a sack over the shoulder. They must be kept perfectly cool and at an even temperature. This, of course, can be done by placing them in cold storage. I sort from a table in the orchard into two classes, large and medium. Pack in barrels, mark with grade, and haul

to market. I sell apples in the orchard, generally wholesale them; sell the best to shippers. Sell the culls for cider. My best markets are west and north. I have tried distant markets, through agents, and found it paid. I do not dry any apples, but sell many low-grade apples to the evaporating factory. Do not store any; sell in the fall to shippers. Do not irrigate. Prices have been from \$1 per barrel up. Dried apples from 4 to 6 cents per pound. I employ young men at \$1 per day. The profits from a good apple orchard are more than those from any other crop which requires no more labor and expense. The profits from one good crop of apples are more than from three crops of wheat or corn; but apple-growing, as well as the growing of all other kinds of fruit, requires constant, patient labor and attention, in order to be successful, and even then the money will not come in with a great rush. In conclusion, I would say, that the business of growing fruit is much more certain of success than that of mercantile business. It has been ascertained from actual statistics that, of every one hundred merchants, fifty utterly fail in business, forty are only moderately successful, and of the remaining ten only one will become rich.

W. J. Griffing, Manhattan: Were that old fisherman, Izaak Walton, alive to-day, and an enthusiastic fruit-grower of eastern Kansas, he would probably express himself in the book he would write, "The Complete Horticulturist," that "doubtless God might have made a better apple country than this, but doubtless He never did." If there is a strip of land in the United States equal in size to the eastern third of Kansas able to grow as many and as fine apples as this particular strip, it has not yet been discovered. Our own experience in this line dates back just forty years. In 1858 the old family account-book shows the purchase by my father of \$3 worth of apple trees (the number not given). This amount judiciously expended now would secure considerable nursery stock; but the same record shows the purchase, the month previous, of wheat at \$2 per bushel; sugar, six pounds for \$1; flour, \$5 per hundredweight; so the number of trees obtained was probably not large. The following year, however (1859), seventy-one apple trees and some cherry trees were purchased, at a cost of \$17.75. These efforts to start an orchard were successful. The location was on the old homestead, about two and one-half miles east of what was at that time a frontier village called Topeka. The trees bore the first fruit in 1867. Other and more profitable orchards have been planted since then on the farm, but a few of the original plantation are still standing and bearing occasional crops of fruit (so my brother informs me).

On locating at Manhattan, in 1870, the sod was broken, and the following year an orchard was planted; and we have planted trees more or less every year since. It has proven a source of pleasure and profit. After it commenced bearing I do not recall a year when the crop was an entire failure, and although we cannot now command \$2 per bushel, as we could for the apples from the Topeka orchard, yet they have paid well. The number of varieties we have tried is no less than seventy-five, not including seedlings. The following varieties I would unhesitatingly recommend as having proved profitable and more or less hardy. For early summer, Early Harvest and Red Astrachan; both are tender apples when fully ripe and will then not bear shipping well. I have found it best to gather the ripest at least every other day and find buyers in the local market. The next to follow these, Chenango Strawberry, Maiden's Blush, and Pennsylvania Red Streak; the two latter are good shippers. The Pennsylvania Red Streaks are a decided success with me, and have paid nearly as well as my best winter sorts; don't fail to plant some of them. Next, I would recommend the following winter varieties in the order named: Winesap, Missouri Pippin, Ben Davis, Jonathan, and if you like a first-class sweet apple plant some Bentley Sweet, if you can obtain them. I have been obliged to top-graft some seedlings in order to perpetuate my own stock of them. I think it is also advisable to plant some Rawle's Janet trees. They are a late bloomer and will occasionally produce a crop when the other sorts have been injured by late freezing. In fact, they have the faculty of bearing in the "off" years, as we call them—years when the balance of the orchard is resting from previous labors.

Much has been said as to the proper location for an orchard—bottom land or hill-top, level ground or sloping. The fact is, with careful attention to the trees, any good, rich soil will answer. Anything that can in a measure ward off the evil effects of the fierce summer gales and the droughts of July, August and September will tend to minimize the losses. Were it possible for me to choose a piece of land exactly to my notions, I should select a river bottom farm in the neck of some large "horseshoe," being

where it would be possible for the trees to reach down their roots and draw moisture during the dry season by natural sub-irrigation. Marketing the crop is the last but not the least work of the apple grower. In fact, when the orchard is well established, this is about the only work connected with the orchard. And in that respect the orchard has a decided advantage over other farm crops, that require yearly preparation of the soil, sowing, harrowing, cultivating, etc., as well as the harvesting of crops. The early summer apples can usually be sold on the local market at fair prices; the later summer and fall can be shipped, and are usually in fair demand by Western buyers. Ship only your best; it will hardly pay to send any other grade. There is usually a good demand at this point for winter varieties by farmers from the West, who come in and buy their winter supply by the wagon-load. Occasionally, if the Eastern crop is short, buyers from Chicago will be on the ground. We do not believe in holding apples long in the hope of obtaining higher prices. Cold storage will solve this difficulty of the orchardist; we hope it will prove a success.

The most convenient thing to gather apples in from a tree or ladder that we have tried is a picking-sack—a grain sack with a heavy wire or a stiff leather strap fastened around the mouth, and a broad strap connecting the top with the bottom of the sack. This can be carried over the shoulder with considerable comfort. There are always more or less inferior and unmarketable apples left after the best have been disposed of, and what to do with them is a question that confronts every great apple grower. For the last fourteen years we have been working this grade into vinegar. We found there was considerable to learn and care exercised to avoid losses. I will mention a few important things that are necessary to produce a good article of cider vinegar. First, obtain good, iron-bound oak barrels—vinegar or whisky barrels preferred. Never use soft wood barrels of any kind. Paint them well with ochre before using; they will last longer. After filling with cider, keep in a shed until cool weather; then draw off and run into barrels in the cellar for winter, although, if well protected and not too full, they could remain out in the shed over winter. In the spring draw off again and run into other barrels; you will, in this, hasten the fermentation of vinegar and obtain an article free from sediment. It requires from one to two years for vinegar to cease working. Sell it then, and not before. Though it may be very strong, it will not keep pickles unless the process is complete. Much of the vinegar sold on the markets as apple vinegar is made from corn, and now that corn has risen in price it is possible that the price of this kind of vinegar may rise also. It has not the quality or flavor of cider vinegar, but it can be manufactured so cheaply that it has hurt the market for a better article.

Maj. Frank Holsinger, Rosedale, Wyandotte County: Has resided in Kansas since March 7, 1867—thirty years; has 1,500 apple trees from one to twenty-nine years planted, "big as a barn." Prefers Gano, Ben Davis, Missouri Pippin and York Imperial for commercial purposes, and Early Harvest, Cooper's Early White, Maiden's Blush and Jonathan added for family use. Says life is too short to tell how many varieties he has tried and discarded. Prefers a loose soil, and used to think hilltop best, but says there is no choice between bottom and hilltop, and that any particular slope is a delusion, as all are equal. Plants medium 2-year-old trees, "usually roots downward—tops up." Cultivates with double-shovel plow and hoe up to seven years, planting with corn or potatoes. Then grows clover and weeds, "weeds mostly," ceasing to cultivate when it becomes inconvenient. Says wind-breaks are unnecessary, and should only be made of the sun—"let her shine"—and does not understand how a rabbit can do a "mechanical" job of gnawing. Does not prune; he "trains;" leaves the pruning tools in the tool house, and says it pays. Would thin apples on tree if labor did not come so high. His experience as to difference in fruitfulness between planting of one or of several kinds [together] is unsatisfactory. Believes fertilizers are good for trees if spread out, never if piled around the tree; would surely advise its use on all orchards. Would never allow an orchard pastured by any kind of live stock.

Has a large list of insects to contend against, but is not bothered with leaf-eaters, hence does not spray, and does not believe anyone has lessened the codling moth by spraying. Uses common sense on borers, and digs them out. He first mounds the tree, and thereby gets what larvae there may be deposited high up in the collar, few remain; these I dig out, which is all "simple enough." He describes gathering apples thus: "Pick 'em by hand; surround the apple with your fingers, break back gently, which loosens the stem, then lay gently in the basket. It is very simple, the process."



Ralph Waldo Emerson, in his Essay on Eloquence said in speaking of a man whom he described as a Godsend to his town. "He is put together like a Waltham Watch."



"The Perfected American Watch," an illustrated book of interesting information about watches, sent free on request.

AMERICAN WALTHAM WATCH CO., WALTHAM, MASS.

Makes two classes, one the best, the other of seconds. In the first he puts all that seem perfect; in the second, all others that are not culls. Packs in barrels, well shaken down and pressed; marks with name of variety, and always rolls [?] them to market. Sells the best any way possible, peddles seconds, and lets the culls rot. His best market is Kansas City—three miles. Never dries any. Stores for winter in various ways. Has had varying success, and believes loss in cold store was owing to varying temperature and lack of proper care. Does not irrigate, but trusts in the Lord. Prices range from \$6 to \$10 per barrel. For help he uses "men and mules," and pays as "little as possible, believing that is often too much."

John E. Sample, Beman, Morris County: Have been in Kansas twenty years; have 1,000 trees planted twelve years, of Ben Davis, Rawle's Janet, Missouri Pippin, and Winesap; also Red and Sweet June, Early Harvest, and Maiden's Blush. Have discarded the Twenty-ounce Pippin as no good here. I have a deep, black loam with a clay subsoil, on upland, with southeast slope. I plant 2-year-old trees a little deeper than they grow in the nursery, in rows thirty feet apart, and thirty feet in the rows, alternating the trees. I cultivate to corn and potatoes for about eight years, and then sow to red clover. I believe wind-breaks beneficial, and would make them of red cedar or Russian apricots planted on the west, south and east sides, thirty feet from the orchard. I feed the rabbits corn and clover; have no trouble with borers. I prune heavily, to make the apples large and keep down too much wood growth. I fertilize my trees with timber dirt, and think it pays. I believe it pays and is advisable to pasture orchards with hogs. I pick by hand, and sort into three classes—large, medium, small and blemished. Have not dried any. Store in the cellar, in crates two feet long, ten inches wide, and eight inches deep. Have sold at 50 to 80 cents per bushel.

E. K. Wolverton, Barnes, Washington County: I have resided in Kansas twenty-eight years; have an apple orchard of 18,500 trees from five to twenty-seven years old. For market I prefer Missouri Pippin and Ben Davis, and for family orchard would add Duchess of Oldenburg. Have tried and discarded Winesap and Rawle's Janet on account of shy bearing and poor keeping quality. I prefer a rich bottom with a porous subsoil, an east and north slope. I prefer good, thrifty 2-year-old trees. I plant by wire after the principle of check-row corn-planting; make the links twenty feet long, tie a white cloth in each link coupling, make the line long enough to plant ten trees (eleven links in length), stretch the chain east and west, say on north side of plat intended for planting; stick a stake at every tag. Draw another line ten trees south of it, and stick a stake at every tag, and so on to the south side of the plat. Then draw the line from the northeast stake to the east stake of the second row, the one due south, having the north tag at the stake. Then plant at every tag, placing the tree on east side of wire. When the row is planted move the wire west to the next stake, and so on till you reach the west side. The ground should first be prepared by plowing as for corn; float off every evening all that you have plowed

that day, which leaves the ground in the best condition.

I cultivate my orchard to corn for six to eight years. I plant twenty feet each way, and take an oak plank sixteen feet long, and place one section of a disk at each end of it, making it cut sixteen feet wide from outside to outside, and running within two feet of the trees at either end, leaving a space eight feet wide in the middle. Run another disk on that ground with another team and you have the space between the rows all clean of weeds if ground is in good condition when work is done. Cultivate both ways as often as necessary. I grow no crop in a bearing orchard. Wind-breaks are not essential. For rabbits I tie coarse grass around the trees with label wire, and leave it on two years. I also use traps. I do not prune my trees; it is too injurious to the trees. I do not thin my apples while on the trees; it is too expensive. My trees are planted in blocks. I fertilize my orchard with stable litter; think it beneficial and would advise its use on all soils. I do not pasture my orchard. My apples are troubled with worms. I spray the first of May with London purple for canker and apple worms.

I pick in baskets and sacks. Sort into two classes—marketable and culls, using a sorting table. Sell my apples in the orchard to wagons from the West. I evaporate the second- and third-grade apples when the crop is large; make the culls into cider and vinegar. I tried distant markets for two years and found they paid. When apples are abundant we dry for market; use the same kind of driers as are used at Fairmount; sell them in sacks to the stores, and find a ready market for them; but it does not always pay. I do not store any for winter market if I can sell them in the fall. I do not irrigate. Prices have been in 1896, 25 cents per bushel; 1897, 40 cents per bushel.

Shawnee County Horticultural Society.

The next regular meeting of this society takes place in the rooms of the State Horticultural Society, Thursday afternoon, April 6. The following is the program: "Strawberries—Planting, Cultivation, and Marketing," H. E. Goodell; "Gardening," F. P. Rood; "Destruction of Fungoids," Judge F. Wellhouse; "Reports on Winter Injury to Fruit Trees," everybody. A special invitation is extended to the berry growers of the county to be present and possibly to perfect arrangements to obtain materials for the berry grower at reduced rates.

B. B. SMYTH, Secretary.
B. F. VAN ORSDAL, President.

A reader of the Kansas Farmer inquires whether any nursery in this part of the country has Burbank, Wickson and Climax plums.

The new game "Clio" is very interesting and fascinating. It is introduced by the Clio Card Co., of Minneapolis, Minn., who will be pleased to receive inquiries concerning it.

CANDY CATHARTIC
Cascarets
REGULATE THE LIVER

In the Dairy.

Conducted by D. H. Otis, Assistant in Dairying, Kansas Experiment Station, Manhattan, Kans., to whom all correspondence with this department should be addressed.

ALFALFA AS A FEED FOR DAIRY COWS.

Paper read by H. P. Nielson, before Farmers' Institute, Denmark, Kans., November 28, 1898.

Alfalfa is a native of Persia. It was introduced into Greece in the fifth century, where it was cultivated extensively. It was brought from Europe to the eastern part of South America, thence to Chili, and from there it was brought to California in the latter part of the seventeenth century, from which place it has spread over the United States.

In order to understand the superiority of alfalfa for the dairy cow, it is necessary that we first find out what the cow needs and must have; then, comparing this with alfalfa we will be able to see how nearly those requirements are filled by it.

ANIMAL NUTRITION.

Scientists divide the nutrients of feed into three classes, according to the uses they serve in the animal system. The first of these is that part of, or those elements of the plant food that are used in the animal system to make blood, muscle, hair, hide, milk, etc.; in other words, the elements which are used to build up the frame, including the organic matter and bony structure. This part is called protein, or nitrogenous or albuminous elements.

The second are those parts of food used to keep up the animal heat—the fuel elements, so to speak, which, when given in excess, are stored away as fat for future use. These parts are called carbohydrates and fats.

The third is known as the ash, and is that part which is left of the plant after it is thoroughly burned and which is used by the animal to build up the bony structure.

The feeding of farm animals rests upon well-defined principles. To feed a cow from which you want milk such food as will produce the greatest possible amount of milk without feeding her other nutrients in excess; to feed a fattening animal such food as will produce the greatest amount of fat in the least possible time, or to feed a work animal such food as will produce muscle. This is what constitutes scientific feeding. The materials of the body are continually breaking down and being consumed, and to keep the animal in a healthy and vigorous condition there must be a constant supply of new material. If this is lacking or insufficient, hunger, and finally death, results.

Now for the protein, or flesh-forming element as it is often called, because it furnishes the material for the lean flesh and also enters largely into the composition of blood, skin, muscles, nerves, hair, horns, wool, and the casein (curd) of milk. For the formation of these materials protein is absolutely indispensable. No substance free from nitrogen can be worked over into protein or take the place of protein. It is then absolutely necessary for an animal to be provided with a certain amount of protein in order to grow or maintain existence. Protein may also be a source of fat in the body and may be burned, yielding heat and energy. A dog will live and thrive on lean meat alone, while if fed fat and sugar he would die, no matter in what abundance they were supplied.

CARBOHYDRATES.

As lean meat is the best example of nitrogenous material, in other words, protein, so is sugar and starch the best examples of the carbohydrates, or heat-furnishers. We seldom eat sugar thinking of it as a food, and yet sugar has a greater percentage of digestibility than any other food article. The sugars or carbohydrates are not stored in the body as such, but produce heat and serve as a source of animal fat.

FATS.

Fat, or the material dissolved from a feeding-stuff by ether, includes besides real fats, wax, the green coloring matter of plants, etc.; for this reason the ether extract is designated "crude fat." The fat of food is either stored up in the body as fat or burned to furnish heat and energy. The cow requires not only materials for maintenance, but must also have protein, fat and carbohydrates to make milk. The milk contains water, fat, protein, casein or curd, sugar and ash, and these are all made from the constituents of the food. If insufficient protein, fat, and carbohydrates are contained in the food given her, she supplies this deficiency for a time by drawing on her own body, and gradually begins to shrink in

quantity or quality of milk, or both. The stingy feeder cheats himself as well as the cow. She suffers from hunger, although her belly is full of swale hay, but she also becomes poor and does not yield the milk and butter she should. Her milk glands are a wonderful machine, but they cannot make milk casein out of carbohydrates in coarse, unappetizing, indigestible swale hay or sawdust, any more than the farmer can make butter from skim-milk. Until this fact is understood and appreciated, successful and profitable dairying is out of the question. The cow must be regarded as a sort of a living machine. She takes the raw materials given her in the form of food and works them over into milk. If the supply of proper materials is small the output will be small. The cow that will not repay generous feeding should be disposed of.

In a general way, it may be said that the dairy cow, growing calf, colt or lamb, or horse hard at work, require much the same ration, while the fattening steer, pig, lamb, and horse at rest require a different ration. Let us see what these requirements are. According to Wolff (a German), a 1,000-pound cow requires daily 2.5 pounds protein, 12.5 pounds carbohydrates and 0.4 pound fat. The Wisconsin station collected the rations fed by 128 successful dairymen and breeders in different parts of the United States, and, while they varied some, the average was found to be 2.15 pounds protein, 13.27 pounds carbohydrates, and 0.74 fat. It is believed, however, that the standards proposed by Wolff are not far from correct, and are the best we have at present. They have a value for farmers in indicating approximately the amount of nutrients required and enabling them to make up rations.

Let us see now what happens when the farmer violates these principles. He is trying to get some money out of his cows during the winter season. There is ash enough in almost any kind of a ration; therefore we can leave that out of consideration.

He feeds her 25 pounds cornfodder, which contains 0.5 pound of digestible protein, 8.3 pounds of digestible carbohydrates and 0.15 pound of digestible fat. He enriches this cornfodder with 10 pounds of corn, which contains 0.78 pound of protein, 6.67 pounds carbohydrates, and 0.43 pound fat, or a total of 1.28 pounds protein against the needed 2.5 pounds; 14.97 pounds carbohydrates, which is about 2.5 pounds more than necessary, and 0.58 pound fat, which is about 0.18 pound more than the animal requires. He is disappointed that he does not receive enough milk and proceeds to double the amount of corn. That gives him 2.06 pounds protein, still not enough; 21.64 pounds carbohydrates, which is nearly twice as much as needed, and 1.01 pounds fat, which is far in excess of what the cow can use in milk production. The result is that the cow gives an abundant flow of milk for a little while, then dries up and fattens and he gets disgusted with the dairy business. If, however, he would substitute good alfalfa hay for the fodder, or if he had the cornfodder and not the alfalfa, he would substitute 10 pounds of bran for the 10 pounds of corn first given, he would have a ration that would come very nearly filling the requirements.

A comparison of feed-stuffs from a table of digestible nutrients will show that when bran is worth \$10 per ton, alfalfa hay is worth \$8.33. Alfalfa is worth 5.4 times as much as cornfodder, more than twice as much as prairie hay and over five times as much as cane. Now, by feeding 20 pounds of alfalfa and 6 pounds of corn you get almost an ideal milk ration.

	Protein.	Carbohydrates.	Fat.
Twenty pounds alfalfa.....	2.02	7.92	0.24
Six pounds corn.....	0.48	4.00	0.25
Totals	2.50	11.92	0.49

Now, with alfalfa at \$5 per ton and corn at 30 cents per bushel, it will cost just 8 cents per day to feed the cow, and any ordinary good cow if reasonably sheltered will produce a pound of butter with that feed. In order to get the best results from cows, they must have some feed which they relish. It should be the aim of everyone who is feeding cows for milk to induce them to eat more, and not to feed them just as little as they will go through the winter on.

There is no more palatable roughness for farm animals than good alfalfa hay. This hay is best suited for milch cows, though it is suited to a limited extent for horse feeding.

In making alfalfa hay, the greatest care should be exercised to save the leaves and finer parts so easily wasted. Hay-making from alfalfa cannot be taught by books, but when it is known that a ton of alfalfa leaves is worth as much as 2,400 pounds of bran, the farmer will soon become convinced that a little time spent in studying the best methods is

A Good Cream Separator

THE BEST OF FARM INVESTMENTS.

McEwensville, Pa., Dec. 26, 1898.

"The 'Alpha-Baby' separator which I purchased about two months ago is giving perfect satisfaction. When the agent told me that we were losing a pound of butter to the cow each week by our crotch system, I did not believe it. I am now inclined to say, like the Queen of Sheba when she viewed the riches of Solomon, that the half has never been told, for he never told me of one-half the actual benefit which the use of the separator would bring. This I discovered after one week's trial. People would hardly believe me if I were to give the entire truth of what the separator has done for me. I had been selling from 12 to 14 lbs. of butter per week before using the machine. There has not been one week since that I have not sold as much as 25 lbs. My records are very carefully kept and I have the figures to show for it. This certainly goes to show very decidedly that a cream separator is the best paying machine on the farm. It is like money drawing interest; it works rain or shine, Sundays and every other day. It pays a higher rate of interest on money invested than anything else in which a farmer can invest. It gives a clean profit every day in the year, while any other piece of machinery is only used for a couple of days throughout the whole year. It saves time, labor and money. There is no carrying or repeated handling, storing away or replacing of crocks and pans, no long and tedious washing of utensils, no fires to keep up for warming skim-milk for calves, and no sick calves on account of having fed them sour skim-milk. One more point is this, it will soon tell you which cow is a boarder and which is paying for her keep."

Very respectfully,
T. F. MENGES.

Send for new 1899 "Dalry" catalogue.

THE DE LAVAL SEPARATOR CO.

Western Offices: RANDOLPH & CANAL STS. CHICAGO.	GENERAL OFFICES: 74 CORTLANDT STREET, NEW YORK.	Branch Offices: 1102 ARCH STREET, PHILADELPHIA.
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time well spent. The green plants cut with the mower should be gathered when partly dry with the hay rake into windrows sufficiently loose to dry still more, but compact enough to hold the leaves and finer parts.

Some writers, and good authority on alfalfa, too, go so far as to say six hours in the swath, four to six hours in the windrows, and over night in cocks, stacking the next morning what was cut the day before. This sounds like rather too rapid a method unless in very dry weather, yet it must be remembered that alfalfa will not settle in the stack sufficiently to keep out rain; hence it does not settle so much but that air circulates through the stack all the time, making it possible to stack alfalfa greener than any other feed.

The question then arises, "Can we raise this alfalfa which is so essential to profitable dairying?" I should answer, "Yes." As yet each one who has started a patch of alfalfa has used his own judgment, doing what he thought best in regard to putting the ground in proper condition without following any certain plan. The time will come, and is not far distant, when every farmer will prepare his ground and sow his alfalfa seed with as much certainty of a stand as he now sows his wheat or plants his corn. A discussion of raising alfalfa does not properly enter into this paper, and I will therefore say no more about it. This I will say, though: Sow some alfalfa and feed it to the cows. It will pay.

Last winter I had the opportunity to watch 20 cows, poorer than many cows in this neighborhood, fed up to a little over a pound of butter a day with 20 to 24 pounds alfalfa and 3 to 5 pounds Kaffir corn meal. Our cows here will give that much, too, but they cannot do it on corn fodder, Kaffir corn hay, sorghum hay, prairie hay, or millet hay, even if corn is added to the ration. There is not enough protein in these feeds so that when fed alone they will produce a good flow of milk.

Alfalfa vs. Millet for Milk.

Mr. C. Carlson, a patron of the Manhattan Creamery, milks three cows. Up to the 20th of February he had been feeding these cows one ton of alfalfa every thirty days and had been sending to the

creamery an average of 54 pounds of milk per day besides what was needed at home for the use of a large family. At this time, which was during the severe cold weather of February, his milk was testing 4.6 per cent and butter fat was worth 17 cents a pound. We will estimate the skim-milk at the low price of 15 cents per 100 pounds. For thirty days this would amount to \$14.84, or \$4.94 per cow per month.

Having a chance to sell alfalfa at a good price, Mr. Carlson thought he would feed millet. He tried it for two weeks with the result that his cows gave an average of 42½ pounds of 4.1 per cent milk, besides what was needed at home. Had millet been fed a month instead of two weeks the average would doubtless have been lower, but taking the figures at the above rates for thirty days, the income from the three cows would be \$10.60, or an average of \$3.53 per cow per month. Granting that the cows received no more millet than alfalfa, the results show that the latter is worth \$4.24 more per ton than millet for milch cows.

D. H. O.

Gilt-Edge Butter

is the only money-making kind. But to make it, and the most of it, you must use the latest improved machinery. It is just this sort of product that has built up the demand for our

Empire Cream Separators.

They get all the cream from the milk and leave it in the best condition for churning. Lightest running and simplest in construction. Our catalogue will tell you why.

U. S. Butter Extractor Co., Newark, N. J.

THERE IS MONEY IN THE DAIRY BUSINESS
IF YOU USE THE

Improved U. S. Triple Current Separator.

With it a better grade of butter is possible, and there is no loss of cream. It also is simple, durable, easy to operate and clean.

U. S. Butter Brings 5 cents above Market Price.

CARNES, IOWA, Nov. 24, 1898.

Have used a No. 6 Improved U. S. Separator about one and one-half years, and must say I am more than pleased with it. We have no trouble to sell our butter to regular customers for about five cents above market price, and sometimes more. We are milking only five cows at present, but would not think of doing without the separator. Every farmer should have an Improved U. S. Separator.

H. PAULSON.

Write for special catalogues. **Vt. Farm Machine Co., Bellows Falls, Vt.**

CREAMERYMEN'S EXAMINATION

At Kansas State Dairy Association, November 16, 1898.

Examiner—Prof. H. M. Cottrell. Judge—D. W. Wilson.

I.—What type of cow returns the most money to your patrons?

J. E. Nissley—The Shorthorn, because she gives a good quantity and quality of milk and the calves are always sought for in the market.

W. F. Jensen—An all-purpose cow. C. F. Armstrong—A grade of Shorthorns tending towards the dairy type.

E. H. Forney—Under the present conditions we would want a dairy cow and stock cow also.

Question—What kind of a cow is that? Answer—A cow that would raise good calves and give good quality of milk.

Q. What kind of a bull are you going to tell him to get, Shorthorn? A. Perhaps.

Q. If your patrons follow out your ideas they must know what to do, what kind of stock to get, must they not? A. I could not consistently answer that question. The same bull would not breed you good milkers and good stock raisers, too.

Q. What would you do about that? A. Raise cows that would vary with the conditions. The dairy cow.

Q. Why? A. On account of the quantity and quality of the milk and the quality of the offspring.

A. Jensen—I should say a general-purpose cow.

Q. What is a general-purpose cow? A. That is no certain breed. The cow that will raise the best calf and return the farmer the best money in butter fat.

Q. Suppose four or five of your patrons would say: "Mr. Jensen, what bull will we get to breed to our cows so as to give us the best results?" What would you tell them—Shorthorn, Holstein, Jersey, Guernsey, Angus or what? A. That would depend on the breed of cow, of course.

II.—What do you advise your patrons to do to prevent a drop in milk yield during the summer drought, and what feeding in winter will give them greatest profits?

J. E. Nissley—Be prepared with green, succulent feed, about the middle of July; either corn or sorghum, or alfalfa, if they can raise it, and a little later green rye.

Judge Wilson—What feed in winter will give them the greatest profits? A. Ensilage or alfalfa with a little grain at all times and some meal in light messes.

W. F. Jensen—Plant some forage crops, such as sorghum and Kaffir corn, for the dry months.

Q. What is the best winter feed? A. Alfalfa, Kaffir corn, millet, fodder, and ensilage.

C. F. Armstrong—I would advise them to cut up whatever green feed they have on hand in the summer time to supplement the pasture, and in winter time, I advise them to feed such grains and feed that they can get that will come nearest the green feeds.

E. H. Forney—Watch for the drought and start in with heavy feed.

Q. What kind of feed? A. Grain to produce milk.

Q. What winter feeding gives them the best profits? A. A mixture of bran, corn and some oil meal.

C. F. Pressy—I advise the growing of alfalfa, sorghum and Kaffir corn to be fed during that time.

Q. What feeding is most profitable in winter? A. Alfalfa hay and grain.

Q. Suppose they do not have alfalfa hay and sorghum and grain? A. I recommend Kaffir corn and sorghum, with some corn, grain, etc.

A. Jensen—In summer drought I would advise my patrons to use alfalfa and some corn and Kaffir corn. In winter time I would have them feed alfalfa hay, some prairie hay, with corn and oil meal.

III.—What are your instructions to your patrons in regard to handling milk in winter and summer? J. E. Nissley—Strain the milk and keep it as cold as possible without freezing in some cool room, with covers off. In summer time aerate and cool the milk as soon as drawn from the cow.

Q. How do you tell them to do that? A. Keep an aerating machine; if they do not have that, pour the milk back and forth from one can to another, to get out the heat and animal odor.

W. F. Jensen—Never mix the morning's and evening's milk until the morning's milk is cooled down, and leave the lid off. Put some cloth or sheet over it to keep out the dust.

Q. Do you pour your milk direct into the can without cooling? A. Yes, sir.

C. F. Armstrong—In winter cool it and put in a cool place where it will not freeze.

Q. And put the covers on?

A. Yes, if thoroughly cooled, if not leave the covers off until it is cooled.

Q. How about the summer time? A. The same instructions, except, so far as possible, I advise them to set their milk in cool water.

E. H. Forney—In summer cool it at the earliest possible convenience after milking; stir it often while it is being cooled. In winter time cool and keep it in a place where it will not freeze, with covers off.

C. F. Pressy—I advise them to have it as clean as possible and cool it as thoroughly as possible by frequent stirring and put it in a cool place in water, with covers off.

A. Jensen—My patrons have instructions to bring good, sweet milk in winter as well as in summer. I advise them to strain their milk and cool it as soon as possible in summer as well as in winter, and set it in cool water in the summer time and keep it cool until it is taken to the creamery.

IV.—How much do patrons lose through improper handling of milk? J. E. Nissley—Not very much. The loss probably would be more from an inferior article which would be general.

W. F. Jensen—Very little.

C. F. Armstrong—I should estimate it at 1 per cent, including the milk rejected at the factory and that not sent in.

E. H. Forney—A great deal.

Judge Wilson—In what way is it occasioned? A. There is not so much loss to the patron as there is to the creameryman on his butter, which makes a lower price for butter fat.

Q. That is the fault of the patron at the end, is it not? A. Yes, sir, it is.

C. F. Pressy—Quite a percentage is lost.

A. Jensen—They lose all the way from 10 to 50 per cent.

V.—What can be done with skim-milk to get the greatest profits from it? J. E. Nissley—There is more value to skim-milk for feeding it to calves than for any other purpose.

Q. Give us some idea about how to handle it. A. The milk wants to be returned to the farmer in as sweet condition as possible. If that is impossible, I have frequently recommended them to feed it in what is called a clabbered condition. We have had some very good results from feeding clabbered milk.

Mr. Hill—Why is it that around most of the creamery stations we find that they have a lot of hogs? Would it not be better for them to have calves instead of hogs? Calves are undoubtedly cleaner.

A. I presume that they do not have calves enough to consume all of the milk that they have.

Q. They could buy calves the same as they do shoats, could they not? A. No, I do not think that would work out. In a community each man wants to keep his calves, and I do not think there are enough calves to consume all of the milk.

W. F. Jensen—It can be fed to young calves, pigs and in a good many cases can be fed to poultry.

Q. How would you feed it? A. It should be fed with a proper mixture of fattening food, and the milk should be warmed up a little for calves, so as to take the chill off, and I rather think the milk should be a little sour for hogs.

C. F. Armstrong—Feed it to calves and pigs.

Q. Do you give your patron any directions in regard to feeding it? A. No, sir, I do not.

E. H. Forney—I advise patrons to get enough hogs to utilize as much skim-milk as they are entitled to at the creamery.

Q. Do you give them any advice about how to feed it? A. I tell them to see that the skim-milk is properly cared for as early as they can take care of it; to see that they get it in a sweet condition; they should take care of it and see that it is fed sweet or sour, as they want it; not feed it sour one day and sweet the next.

C. F. Pressy—Feed to calves and pigs.

Q. Do you give any directions or instructions to your patrons as to how they should feed and handle it? A. I tell them to feed it at about 80° to 90°; 90° would probably be better in cold weather.

A. Jensen—Sterilize it first and get it back in good shape to the farmer and keep your vessels good; keep up the quality of the skim-milk and feed it to calves and pigs.

Q. Give your patrons any directions about that? A. Occasionally I tell them how to feed it.

(To be continued.)

Mr. A. G. Elliott, senior member of the firm of A. G. Elliott & Co., paper dealers of Philadelphia, died suddenly on the morning of February 25 at his home in Germantown, Pa. He was one of the most successful business men operating in his line in the East, and had established a trade extending to all parts of America. He was the originator of the plan of putting up butter in parchment paper packages, and his parchment paper has been used in every cream-

ery and in every butter-making district in North and South America, facilitating the preparing and shipping and general handling of this article. He recently made a tour through a large part of South America for the purpose of acquainting himself with the growing trade of that section, and as a result was an enthusiastic expansionist. He believed in extending the American trade to the remotest corners of the civilized globe. The death of Mr. Elliott is a serious loss to the commercial interests of his city and is a great bereavement to his family and friends. The business of the firm will be continued under the management of Mr. Elliott's sons, who have ably assisted him for several years.

Horticulture.

Sunflowers.

Editor Kansas Farmer:—There are doubtless many farmers in Kansas who look upon the sunflower as an unmitigated nuisance. They see in it only an enemy. They see nothing but a joke in the poet's really touching refrain, "I want to be in Kansas where the sunflowers bloom." I feel sorry for such people. They ought to go to Canada or the Philippines or Vermont or some other foreign country and live there till they have that homesick feeling after Kansas. All these notions came rushing back to me the other day when I picked up the catalogue of one of the plant dealers in New England and read the following: "All the forms of Helianthus are very decorative when well massed. At a little distance hardly any other plant gives so bright and decorative an effect." The catalogue then offers a list of sunflower plants, including several Kansas species at from 10 to 25 cents apiece.

Gardening, one of the leading London horticultural journals, devotes several columns in a recent issue to sunflowers, adding several pictures and a colored plate. Several of the species that are highly praised by the English journal are native in Kansas. Not long ago I saw a paragraph in Gardener's Chronicle, another London horticultural magazine, and one of the most prominent in the world, praising most highly the perennial sunflower, Helianthus Maximilianii, which grows abundantly in the grass lands all over McPherson County and other parts of Kansas. This last named species was introduced into the botanic gardens of France, I find, in 1836, and has been highly regarded by French horticulturists. I have before me as I write an article in a Parisian horticultural magazine, which says: "This species, Helianthus Maximilianii, deserves to be introduced into all our ornamental gardens. It is remarkable for its abundant and continued flowering." Similar testimony can be found everywhere, except, perhaps, in Kansas.

Even the common annual sunflower, which comes up amongst the stubble after harvest, and which thrives in the office-seeker's cornfield, makes a fine ornamental plant. Every seedsman in America offers two or three varieties of it; and the European seed growers take great pains to breed fancy varieties of the species. Last year I bought from Germany some seeds of a very pretty sort, but one bred, easily enough, from the Kansas stock. It seems a shame to breed Kansas sunflowers at Erfurt, Germany. It might be done better in Kansas, where land is cheap and the stock plenty. Perhaps when my friend Clothier gets his plant breeding farm running he will take an afternoon off some day and turn out a few fancy home-bred varieties of the Kansas sunflower.

I cannot speak very positively from memory, but Kansas has certainly ten to fifteen species of sunflowers, and all of them are good for ornamental planting. That means there is a market for them, but the Vermonters, Germans, Englishmen, and Frenchmen seem to be supplying the market. Couldn't some Kansas man do it just as well? Burlington, Vt. F. A. WAUGH.

American Pomological Society.

The executive committee of the American Pomological Society announce acceptance of the invitation of the Pennsylvania Horticultural Society to hold their twenty-sixth biennial session with that organization in Philadelphia on September 7 and 8, 1899.

The sessions will be held in the beautiful and spacious hall of the Pennsylvania Society, which has been tendered for the purpose. Space for exhibits entered in competition for the Wilder medals, to be awarded by the society for fruits of special merit, will also be provided.

Much interest in the coming session has been manifested among horticulturists throughout the country and it is expected that the attendance will be large and representative of our fruit growing interests.

Ten State horticultural societies have already notified the executive committee of the selection of delegates to represent them at the meeting, and a number of others are expected to do so. Questions of special importance to fruit growers will be discussed and a varied and interesting program is in preparation.

Low railroad rates from all parts of the country are assured, as advantage can be taken of the reduced fares in effect at that time, on account of the Grand Army encampment.

Further announcement of program and other arrangements will be made by circulars, which will be mailed to all applicants who desire to be informed in regard to the meeting. All persons interested in fruits and fruit culture are invited to become members of the American Pomological So-

BURPEE Best That Grow SEEDS

Leading American Seed Catalogue for 1899,—Mailed FREE to all.

A bright Book of 176 pages, with elegant colored plates and illustrations from nature. Gives much valuable new information. THOUSANDS OF DOLLARS in cash prizes. Write a postal card TO-DAY! W. ATLEE BURPEE & CO. PHILADELPHIA

clety, the only requisite being the remittance of the biennial membership fee, which is \$2, to the treasurer. Officers of the society are: President, C. L. Watrous, Des Moines, Iowa; chairman executive committee, P. J. Berckmans, Augusta, Ga.; secretary, Wm. A. Taylor, 65 Q Street N. E., Washington, D. C.; treasurer, L. R. Taft, Agricultural College, Michigan.

STARK TREES have a 74-YR. Record. Fruit Book Free STARK BROS. PAY FREIGHT

Hog's Harvest ARTICHOKES THEMSELVES No. 1 for all Stock. Before buying send your name and neighbor's "address" for FREE ESSAY on kinds, culture, yield (often 1,000 bu. p. a.), with prices and frt. rates to all points. Single bu \$1. Melville Seed Farms, Box 6, Melville, Ill.

HIGH GRADE FRUIT TREES. THEY COST NO MORE than the other kinds. They yield better and more fruit. My trees were examined by our State Entomologist and are free from disease. One-year cherry, \$12 per 100; apple, 3 to 4 ft., \$8 per 100; Concord grapes, \$2 per 100. Pay the freight. Send for catalogue. CARL SONDEREGGER, Fairbury, Nebraska.

KANSAS RASPBERRIES. \$3.50 Per Thousand. For other small fruits apply for prices. Rooted Houghton Seedling Gooseberries, \$4 per thousand. HOLSINGER BROS., Rosedale, Kans.

TREES! Apple, Peach, New Grapes, Cherry, and a full line of Fruit Trees, Grape Vines, Small Fruit Plants, Evergreens, Roses, at low prices. Address J. F. OECIL, Nurseryman, North Topeka, Kans.

PEACH TREES 4 to 6 ft. at 3 1/2 cts.; 3 to 4 ft. at 2 1/2 cts.; all 1 yr. from bud, healthy and thrifty; no scale. Official certificate accompanies each shipment. Sample by express if wanted. Can ship any time. Trees kept dormant till May 10th. R. S. JOHNSTON, Box 17, Stockley, Del.

700,000 BERRY PLANTS 700,000 FOR SALE. My stock of old and the cream of the new Strawberries for 1899 is first-class. Also Raspberries, Blackberries, Gooseberries and Pear Trees. Send for price list. B. F. SMITH, Box 6, Lawrence, Kans.

HEALTHY TREES, HOME GROWN, free from disease. We pay the freight. Apple, 3 to 4 ft., \$6; cherry, 3 to 4 ft., \$14; freestone peach, \$2; Concord grape \$2 per 100. 1,000 Russian mulberry, \$1. Black locust, ash and Osage hedge, very low price. Catalogue free. JANSEN NURSERY, Box 31, Jansen, Neb.

FAIRBURY NURSERIES. We have a complete stock of choice Fruit, Shade and Ornamental trees, vines, shrubs, etc. All stock healthy, well rooted and sent to our customers true to name. Send your name on a postal card. Address C. M. HURLBURT, Mgr., Fairbury, Neb. WE PAY FREIGHT.

Strawberry Plants

In large or small lots, grown from new fields especially for the plants. I keep only the Best and True to Name.

FRUIT TREES. Apple, Peach, Plum, Cherry and Apricot trees, Grape-vines, Gooseberry, Currant, Blackberry and Raspberry plants. Evergreens, Ornamental Shrubbery, Roses and Shade trees. Price List Free.

LITSON NURSERY, - Nevada, Mo.

FOR 14 CENTS We wish to gain this year 200,000 new customers, and hence offer 1 Pkg. Early Ripe Cabbage, 10c 1 " Earliest Red Beet, 10c 1 " Long Light'n'g Cucumber 10c 1 " Salzer's Best Lettuce, 10c 1 " California Fig Tomato, 20c 1 " Early Dinner Onion, 10c 3 " Brilliant Flower Seeds, 10c Worth \$1.00, for 14 cents, \$1.00 Above 10 pkgs. worth \$1.00, we will mail you free, together with our great Plant and Seed Catalogue upon receipt of this notice & 14c postage. We invite your trade and know when you once try Salzer's seeds you will never get along without them. Onion Seed 49c. and up a lb. Potatoes at \$1.20 a Bbl. Catalog alone 6c. No. 70. JOHN A. SALZER SEED CO., LA CROSSE, WIS.

REID'S FRUITS Every tree, plant or vine bought at Reid's is well-rooted, vigorous, and true to name. Every care is taken in growing to insure absolute certainty to the buyer. Save one-half on anything you need in the nursery line, by buying at Reid's. We'll help you to choose by sending complete catalog, estimates, or any information you may ask for, free. REID'S NURSERIES, BRIDGEPORT, OHIO.

Mr. A. G. Elliott, senior member of the firm of A. G. Elliott & Co., paper dealers of Philadelphia, died suddenly on the morning of February 25 at his home in Germantown, Pa. He was one of the most successful business men operating in his line in the East, and had established a trade extending to all parts of America. He was the originator of the plan of putting up butter in parchment paper packages, and his parchment paper has been used in every cream-

The Apiary.

Conducted by A. H. DUFF, Larned, Kas., to whom inquiries relating to this department should be addressed.

Bees and Orchards.

Editor Kansas Farmer:—I send one dollar to pay my subscription. I don't want to do without the Farmer. If I am a woman, I manage a farm. I have been building a new house, which is almost completed. Early wheat looks fine, the ground was never in better condition this time of year than at present. We are having a late spring. I don't know of any oats being sown yet. A few have sown spring wheat to raise chinch bugs. Peaches and cherries are killed. We had a freeze in March that killed the cherries. The ground is covered with snow. It snowed all night last night, and is snowing again to-night. It looks as though we were going to have a repetition of 1891.

Would you please answer this question: Is there a law in this State prohibiting persons from spraying fruit trees when in full bloom? I think I have read that there is such a law in some States, for the protection of bee-keepers. I have eleven colonies of bees and a neighbor about a mile away has a nice orchard, and of course my bees visit the orchard. The neighbor's wife said they were going to spray their trees this year when in full bloom, as they thought it would be more effectual. I said: "If you do that you will kill my bees." She said: "Keep your bees at home then." My bees have been profitable. Two years ago five colonies produced 300 pounds of honey. Last season from six colonies I sold \$35 worth of honey, besides what was used in the family, and all are fond of honey, and the bees were increased to 12 colonies. I lost one in the fall which I think was queenless; didn't lose any during the long cold spell.

Phillipsburg, Kans. [There is no law in Kansas to prohibit spraying fruit trees when in bloom. It is held, however, by the most prominent orchardists in the State that to be effective spraying should be done before the blossoms have reached the stage at which the bees visit them. Further than this, the orchardist finds bees his most valuable co-workers. They distribute the pollen and thereby greatly promote the setting of a full crop of fruit. The orchardist who would so spray as to kill his friends, the bees, has yet to lift his voice in the State Horticultural Society or in any county horticultural society which has published reports.—Editor.]

Dr. Bull's Cough Syrup is unequalled for bronchitis, loss of voice, hoarseness, and other throat and lung affections. It cures more quickly than any other medicine.

EVERGREENS advertisement with image of a tree and text: "Mentioned in the paper. 100, 6 to 8 in. \$1; 12 to 18 in. \$2.50. 100, 3 ft. \$10 prepaid. 100, 4 to 6 ft. 25 varieties, \$15. 50 choice Fruit trees, 25 varieties, \$10. Ornamental & Fruit Trees. Catalogue and prices of 50 great bargain lots SENT FREE. Good Local Agents Wanted. D. HILL, Evergreen Specialist, Dundee, Ill."

DROP advertisement with image of a horse and text: "Me a postal card and I will drive around and leave a price list of. EVERGREEN TREES for sale, thrice transplanted, from one to five feet in height, price 10 to 30 cents each. No fall-dug, root-dried stock. A. W. THEMANSON, Wathena, Doniphan Co., Kans."

NO DRUGS. NO MEDICINE.

Cures every known disease, without medicine or knife. Hundreds willingly add their testimony.

Prof. Axtell heals all manner of diseases, and teaches this art to others.

He grants to all men the power he claims for himself. The reason why he can heal without medicine is because he knows how; he not only cures all manner of diseases in his office but HE CURES AT A DISTANCE WITH EQUAL EFFICACY. Circulars of many prominent people—who sign their names and recommend his treatment—mailed on application. Prof. Axtell is endorsed by the leading business men of this city. Address all communications to



PROF. S. W. AXTELL, 200 W. 3d St., Sedalia, Mo.

Truth is stranger than fiction You know it And You forget it Until something happens Then You realize it Thus That enormous output Of machines For which McCormick is famous All over the world That output Which dwarfs all other outputs By this shrewd advertisement Shows its mammoth proportions And you are astonished Yet you knew it Knew it well Truth is truth but it needs

A Strange Reflection to emphasize it.

Our great sale is your guarantee. The most modern machine means most for your money. Buy the McCormick, it is always the best and it is always the cheapest in the end.

- BUY MCCORMICK BINDERS. BUY MCCORMICK ONE HORSE MOWERS. BUY MCCORMICK DAISS REAPERS. BUY MCCORMICK CORN HARVESTERS. BUY MCCORMICK BIG 4 MOWERS. BUY MCCORMICK RAKES. BUY MCCORMICK NEW 4 MOWERS. BUY MCCORMICK FODDER SHREDDERS.

The McCormick Harvesting Machine Company of Chicago built and sold 189,760 machines in the season of 1898 just past. Large stylized 'MCCORMICK' logo with a reflection effect.

Special Want Column.

"Wanted," "For Sale," "For Exchange," and small or special advertisements for short time, will be inserted in this column, without display, for 10 cents per line, of seven words or less, per week. Initials or a number counted as one word. Cash with the order. It will pay. Try it! SPECIAL—Until further notice, orders from our subscribers will be received at 1 cent a word or 7 cents a line, cash with order. Stamps taken.

LIGHT BRAHMA EGGS \$3 PER 100. COCKERELS \$1 each. Mrs. N. Van Buskirk, Blue Mound, Kans.

A NICE RESIDENCE IN MINNEAPOLIS, MINN., valued at \$4,500, to exchange for a sheep ranch in southwestern Kansas. Address W. M. Hollister, Box 605, Grand Forks, N. D.

LIGHT BRAHMAS, PURE-BRED—Eggs \$1 per 15, \$1.50 per 30. A. L. Palmer, Thayer, Kans.

LIGHT BRAHMA COCKERELS FOR SALE—GOOD birds, nearly solid black wings. Mrs. Emma Brosius, Quinton Heights, Kans.

FOR SALE—Twenty Mammoth Bronze toms, 25 to 27 pounds, \$2.50 each. Address Emma Anno, Agent, Colony, Kans.

EGGS—M. B. Turkeys, \$2 per dozen. Headed by 4 3/4 pound tom, 3 3/4 hens. Hens weigh 18 to 24 1/2 pounds. Banded Rocks, \$1 per 15; \$2 per 30; more from \$0 to \$3 3/4 points, Hawkins strain. J. R. White, Salina, Kans.

FOR SALE—A complete up-to-date potato outfit for less than one-half cost. This outfit will pay for itself in one year, in labor saved and additional yield on ten or more acres of potatoes. Write for prices. I also have a Planet Jr. combined garden drill and cultivator, \$5 buys it; a \$25 Harris grade level, \$10 buys it; an 18 folding saw for \$10; eight sanitary vermin-proof 2x2 feet brooding coops, with removable bottoms, \$6, cost \$15. Henry E. Peers, 212 Drive street, Topeka, Kans.

FOR SALE—Russian artichokes for hogs. Yield enormous. Fifty cents per bushel, sacked and put on cars here. Order at once. F. W. Truesdell, Lyons, Rice County, Kans.

WANTED—Kitchen help, able to cook and wash. Thirteen dollars per month. J. H. Taylor, Rhinehart, Kans.

FOR SALE—One registered Poland-China sow and several hundred service (or Juneberry) and Crandall tree currant bushes. J. W. Vining, Wilsey, Kans.

WANTED—A sheep farm. Address W. M. Hollister, Box 605, Grand Forks, N. D.

FOR SALE—Buff Cochon Bantam eggs, \$1 for 13. A. T. Cooley, Jewell City, Kans.

FOR SALE—Poland-Chinas and Duroc-Jerseys, all sizes. Banded Plymouth Rocks and Single Comb Brown Leghorns. Eggs \$1 per 15. Write D. Trott, Abilene, Kans.

FOR SALE—160 acre farm near Larkin, Kans.; improvements in perfect condition. Write Edmund Burr, Leavenworth, Kans.

TREES, SHRUBS, VINES AND A FULL LINE OF Nursery Stock at low prices. C. L. YATES, Rochester, N. Y.

EGGS FOR HATCHING—White Leghorns exclusively. One dollar per fifteen. E. F. Ney, Bonner Springs, Kans.

CANE SEED FOR SALE—Greatest forage plant on earth. Buy Iowa grown cane seed and seed corn. Write for our seed book. It is a money-saver and money-maker. Address A. A. Berry Seed Co., Drawer L, Clarinda, Iowa.

STRAWBERRY, BLACKBERRY, RASPBERRY plants. Get prices of J. C. Banta, Lawrence, Kans.

FOR SALE—Two registered Percheron stallions, weight 2,000 to 2,100 pounds. For particulars, address C. Spohr, Rome, Kans.

STRAWBERRY, RASPBERRY AND BLACKBERRY plants. Best varieties at low prices. Sam Morrison, Lawrence, Kans.

FOR SALE—Good hedge posts, in car lots. E. W. Melville, Eudora, Kans.

2,000 BUSHELS SEED SWEET POTATOES FOR Wamego, Kans.

FOR SALE—Imported English Coach stallion and Galloway bulls. W. Guy McCandless, Cottonwood Falls, Chase Co., Kans.

FOR SALE—\$8.00 per acre for improved 160-acre farm 1 1/2 miles north of Bushong Station, Lyon Co., Kans. Address, J. B. McAfee, Topeka, Kans.

CHOICE EGGS FOR HATCHING FROM HIGH-scoring birds. Buff Cochons, Buff Leghorns and B. P. Rocks. Eggs \$1 per 15, \$4 per 100. Give them a trial, they are sure to please. Mrs. E. E. Bernard & Son, Dunlap, Kans.

WANTED TO EXCHANGE—The pure-bred Cruickshank bull, My Lord 116563, bred by Col. Harris; sire Imp. Spartan Hero 77932; dam Imp. Lady of the Meadow (Vol. 30, p. 615), for a pure-bred Cruickshank bull—can't use him any longer in my herd. H. W. McAfee, Topeka, Kas.

PAINT TO THE CONSUMER. We manufacture Paints and Varnishes and we sell them direct. We save you the dealers' profit. Write for prices and our new catalogue. CONSUMERS' PAINT CO., 121 West Van Buren Street, Chicago.

FOR SALE CHEAP—Seven good registered Short-horn bulls. Address John Grattan, Medford, Okla.

FOR SALE—Light Brahma eggs from choice stock; none better. One dollar per 15, \$1.75 per 30. Wm. Plummer, Osage City, Kans.

RED POLLS—Bull 17 months old, cow 8 years old. B and heifer calf 7 months old, all registered, not related, \$200 takes the trio. Wilkie Blair, Beulah, Crawford Co., Kans.

FOR SALE—A good 3-year-old Jack. Address E. Marple, North Topeka, Kans.

EGGS FROM PURE-BRED WHITE AND BARRED Plymouth Rocks, \$1 per 15. S. F. Glass, Marion, Kans.

FOR SALE OR TRADE—Farm of 80 acres, 10 acres orchard; well improved; 3 miles to station. M. E. Charvoz, Allen, Kans.

FOR SALE—100 cars cottonseed meal. Also corn and feed. Address Western Grain and Storage Co., Wichita, Kas.

TOULOUSE GEESE, PEKIN DUCKS, CORNISH Indian Games, Brown Leghorns, Great Danes, Scotch collies and fox terriers. Burton & Maxwell, Topeka, Kans.

WANTED—To lease or buy a cattle ranch, from 1,000 to 1,500 acres; southern Kansas preferred. Must have living water. Address, J. H. Wallace, 2408 E. Eleventh Street, Kansas City, Mo.

J. M. SMYTH, REAL ESTATE AND LOAN AGENT, Eureka, Kans. Correspondence solicited.

LAMB & KENNER, EUREKA, KANS., HAVE EXCELLENT Greenwood county farm and pasture land for sale at favorable prices. They do conveyancing and notary public work. Having bargains in real estate to offer, they solicit correspondence.

BAIRD & MASON, EUREKA, GREENWOOD CO., Kans., Real Estate and Rental Agents. Special attention given to care of property belonging to non-residents. Fine farms for sale. Reference: Eureka Bank or any business man in Greenwood County.

FOR SALE CHEAP—320-acre farm in 30-25-12, near Tonovay, Greenwood County, on Missouri Pacific railroad; 165 acres in cultivation and balance in meadow and pasture. A nice gentle slope. Nearly all smooth and well watered. Four-room house, stable, corrals, etc. Ten dollars an acre. Frank Dibert, Eureka, Kans.

FOR SALE—Imported and full-blood Percheron, Clydesdale and Coach stallions. Good individuals, colors and ages. For further information address W. H. McMillen, Manager, Box 204, Topeka, Kans.

TO EXCHANGE—A daughter of Hadley Jr., dam by Klever's Model, for ten bushels of alfalfa seed on track. F. W. Baker, Council Grove, Kans.

JACKS FOR SALE—Three choice black jacks for sale, 3 to 5 years old. Prices right. Theo. Welch selbaum, Ogden, Riley Co., Kans.

FOR SALE OR TRADE—Imported English Shire horse, 10 years old, sure foot-gaiter. Weight, 1,800 pounds, jet black, gentle, good disposition. Address W. Shackleton, Walnut, Kans.

WRITE TO ALEX RICHTER—Hollywood, Kas how to sub-irrigate a garden, etc., and cost of same. Send him the size or dimensions of your garden, and he will give full information.

MAMMOTH WHITE ARTICHOKEES, F. O. B. AT Kansas City, price 60 cents per bushel. Address F. A. Heller, Bonner Springs, Kans.

HEREFORD BULLS FOR SALE—One carload of very high-grades, some unregistered, from 10 to 14 months old; also 12 head of registered bulls, same age as above, all in good condition or fat. John Drennan, Blue Rapids, Kans.

I HAVE A THOROUGHbred 2-YEAR-OLD Holstein bull for sale or exchange for another Holstein bull. Correspondence solicited. G. J. Coleman, Box 204, Mound Valley, Kans.

FOR SALE—At Wyndon Place, 10 miles southwest of Topeka, on Alma road, four registered Short-horn calves, 8 to 12 months old. Postoffice address, J. W. Sheldon, southeast corner Sixth and Van Buren, Topeka, Kans.

WANTED—Alfalfa, cane and millet seed; also a limited quantity of Jerusalem corn seed. Correspond with F. Barteldes & Co., Lawrence, Kas.

BERKSHIRE SOWS BRED—To farrow in March and April. Choice of individuality and breeding at \$20. Rutger Farms, Russell, Kans.

SHORT-HORNS FOR SALE—Forty-six cows and sheifers, Cruickshank, Young Marys, Rose of Sharon and others; an extra lot. Nearly all were sired by that grand Cruickshank, Royal Prince 100646. Six bulls ready for service, sired by Young Mary bull, Glendon 119371. Theodore Saxon, 222 West Eighth St., Topeka, Kas.

FOR SALE—Four large black jacks. Address, J. P. Wilson, Wellsville, Mo.

WANTED—Millet, Sorghum seed, Kafir corn (red and white), Alfalfa. Send samples, give quantity. Field seed orders solicited. Kansas City Grain and Seed Co., Kansas City, Mo.

HEREFORD CATTLE—Breeding stock for sale. Archibald cattle a specialty. Visitors welcome J. C. Curry, proprietor "Greenacres Farm," Quenemo, Osage Co., Kas.

FOR SALE—Pure-bred Polands and Berkshires from weanlings up, at very low prices. O. P. Udeggraf, North Topeka, Kans.

BERDEN-ANGUS BULLS—Three individuals of serviceable ages; registered. Wm. B. Sutton & Son, Russell, Kas.

HOMEOPATHIC TREATMENT BY MAIL. TWO weeks' trial free. Send list of symptoms. You send no money and run no risk. Each case individualized and made the subject of a council of physicians. All chronic diseases successfully treated. Competent women specialists. Address Homeopathic Home Treatment Co., Topeka, Kans.

THE BEST VARIETIES OF CHOICE EARLY SEED potatoes. Extra Early Six Weeks potatoes, 80 cents per bushel; Early Ohio potatoes, 60 cents per bushel; Early Rose potatoes, 60 cents per bushel; Early Harvest potatoes, 65 cents per bushel; Northern Early Ohio and Early Rose potatoes, 80 cents per bushel. Packed in barrels or sacks and delivered to railroad depot here. Address Calvin Hayes, 307 Kansas avenue, Topeka, Kans.

FOR SALE—A farm consisting of 240 acres, all fenced and cross-fenced. Eighty acres in Walnut River bottom, 155 acres under cultivation, 13 acres of apple, peach, pear and cherry orchard, all bearing, one-fourth acre of grapes. A good three-room frame house with cellar, good barn for five horses, driveway, granary, room for 2,500 bushels, hayloft, granary, 1,200 bushels, two good wells, 1 1/2 acre hog lot with spring, 85 acres pasture and meadow. One-half mile from school, 3 1/2 miles from town, 14 miles from county seat. There are 110 acres in wheat and the price is \$5,000, or \$4,800 and one-third of wheat reserved at machine. Easy terms. Come, and if we trade care fare is deducted. Give possession at any time. H. L. Coleman, Rock, Cowley County, Kans.

Binder Twine advertisement with text: "Our famous 'Blue Label Brand.' Prices and samples ready April 30th. Write now and we will send when ready. Prices will be lower than you think. We deliver from Chicago Omaha or St. Paul, as desired. MONTGOMERY WARD & CO., CHICAGO."

ROOFING IS GOING UP.

Buy your Corrugated iron roofing, steel roofing, metal shingles, etc., before the advance in price. CHEAPER THAN SHINGLES, easier put on, last longer. How to order and how to use, estimates of cost, etc., contained in our catalogue No. 8, to all who enclose 2c for postage. Tells all about DONKEY PAINT, rust proof, for metal, wood or felt. Mention this paper. THE KANSAS CITY ROOFING & CORRUGATING CO., KANSAS CITY, MO.

THE STRAY LIST.

- FOR WEEK ENDING MARCH 16, 1899. Riley County—C. M. Breese, Clerk. STEER—Taken up by S. A. Blomquist, in Jackson tp. (P. O. Randolph), December 17, 1898, one yearling black steer, no marks or brands; valued at \$12. Chase County—M. C. Newton, Clerk. CALF—Taken up by Oscar Duehn, in Cottonwood tp. (P. O. Clements), December 24, 1898, one red and white Hereford heifer calf; valued at \$12. Gray County—C. A. Tabb, Clerk. MARE—Taken up by Jonathan Lees, sw. 1/4, sec. 22, tp. 24, range 29, January 4, 1899, one bay mare with white strip in face, right hind foot white; valued at \$40. FOR WEEK ENDING MARCH 23, 1899. Cowley County—S. J. Neer, Clerk. HORSE—Taken up by J. S. Newby (P. O. Seeley), February 18, 1899, one gray horse, about 17 years old, weight 1,100 pounds, mane and foretop clipped, had kink in lid of left eye, was shod all around, had on halter with wire attached; valued at \$15.

MARKET REPORTS.

Kansas City Live Stock. Kansas City, March 27.—Cattle—Receipts since Saturday, 5,920; calves, 78; shipped Saturday, cattle, 328; no calves. The market was active and strong. The following were representative sales:

Table with columns: No., Ave. Price, No., Ave. Price. Rows include DRESSED BEEF AND SHIPPING STEERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include WESTERN STEERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include NATIVE HELPERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include NATIVE COWS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include NATIVE FEEDERS.

Table with columns: No., Ave. Price, No., Ave. Price. Rows include NATIVE STOCKERS.

Hogs—Receipts since Saturday, 5,972; shipped Saturday, 1,253. The market was steady to strong. The following are representative sales:

Table with columns: No., Ave. Price, No., Ave. Price. Rows include various hogs.

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Corn—Cash, No. 2, 20 1/2; No. 3, 20 1/4. Oats—Cash, No. 2, 28c; No. 3, 27 1/4c. St. Louis Cash Grain. St. Louis, March 27.—Wheat—Cash, No. 2 red, elevator, 76c; track, 77c; No. 2 hard, 68 1/2c. Corn—Cash, No. 2, 84c; track, 85c. Oats—Cash, No. 2, 28c; track, 28 1/4c; No. 3 white, 80 1/4c@31c.

Kansas City Produce. Kansas City, March 27.—Eggs—Strictly fresh, 10 1/2c per doz. Butter—Extra fancy separator, 20c; firsts, 17c; seconds, 14c; dairy fancy, 15c; country roll, 11 1/2@12c; store packed, 10c; packing stook, 9c. Poultry—Hens, 7 1/2c; springs, 8 1/2c; old roosters, 15c each; young roosters, 20c; ducks, 8c; geese, 50c; turkeys, hens, 9 1/2c; young toms, 8 1/2c; old toms, 8c; pigeons, 50c per doz. Vegetables—Navy beans, \$1.35 per bu. Lima beans, 4 1/2c per lb. Onions, red globe, 85c per bu.; white globe, \$1.00 per bu. Beets, home grown, 45c per bu. Turnips, home grown, 15c@25c per bu. Lettuce, home grown, \$1.25 per bu. Peplant, 50c per doz bunches. Potatoes—Mixed varieties, 60@70c.

Spring Valley Herefords. Lincoln 47065 by Beau Real, and Klondike 42001, at the head of the herd. Young stock of fine quality and extra breeding for sale. Personal inspection invited. ALBERT DILLON, HOPE, KANS.



Cedar Hill Farm. Golden Knight 10886 by Craven Knight, out of Norton's Gold Drop, and Baron Ury 2d by Godoy, out of Mysie 50th, head the herd, which is composed of the leading families. Young bulls of fine quality for sale; also offer a choice lot of grade bull and heifer. Shorthorn spring calves. C. W. TAYLOR, PEARL, DICKINSON CO., KANS.



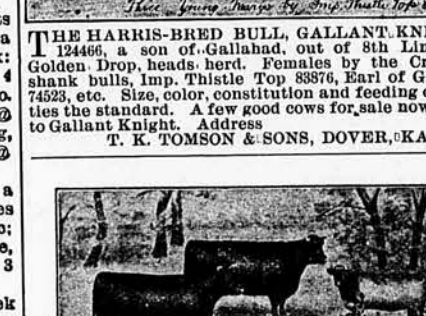
Glendale Shorthorns, Ottawa, Kans. Leading Scotch and Scotch-topped American families compose the herd, headed by the Cruickshank bulls, Glendon 113670 by Ambassador, dam Galanthus, and Scotland's Charm 127264, by Imp. Lavender Lad, dam by Imp. Baron Cruickshank. Young bulls for sale. C. F. WOLF & SON, Proprietors.



Elder Lawn Herd of Shorthorns. The Harris-bred bull, Gallant Knight 124466, a son of Gallahad, out of 8th Linwood Golden Drop, heads herd. Females by the Cruickshank bulls, Imp. Thistle Top 83876, Earl of Gloster 74523, etc. Size, color, constitution and feeding qualities the standard. A few good cows for sale now bred to Gallant Knight. Address T. K. TOMSON & SONS, DOVER, KANS.



Shorthorn Cattle. I have combined with my herd the Chambers Shorthorns and have the very best blood lines of the Bates and Cruickshank families. Herd headed by Baron Flower 114352 and Kirklevington Duke of Shannon Hill 126104. The Cruickshank Ambassador 110811 lately in service. Best of shipping facilities on the A., T. & S. F. and two branches of the Missouri Pacific Railways. Parties met by appointment. B. W. GOWDY, GARNETT, KANS.



Chicago Cash Grain. Chicago, March 27.—Wheat—Cash, No. 2 red, 73 1/4c; No. 3 red, 67 1/2c; No. 2 hard winter, 66 1/2c; No. 3 hard winter, 65 1/2c; No. 1 northern spring, 71 1/2c; No. 2 northern spring, 69 1/2c; No. 3 northern spring, 68 1/2c.

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THE AMERICAN GALLOWAY BREEDERS' ASSOCIATION

Has just issued an interesting pamphlet containing some well-written articles, which will be of interest to every stockman. They are for free distribution and you can get a copy by writing to FRANK B. HEARNE, Secretary, Independence, Mo.

R. S. COOK, WICHITA, KAS., Poland-China Swine BREEDER OF

The Prize-winning Herd of the Great West. Seven prizes at the World's Fair; eleven firsts at the Kansas District fair, 1893; twelve firsts at Kansas State fair, 1894; ten first and seven second at Kansas State fair, 1896. The home of the greatest breeding and prize-winning boars in the West, such as Banner Boy 28441, Black Joe 28603, World Beater and King Hadley. For Sale, an extra choice lot of richly-bred, well-marked pigs by these noted sires and out of thirty-five extra large, richly-bred sows. Inspection or correspondence invited.

Higgins' Hope Herd Registered Poland-China Hogs.

I am now offering a Choice Lot of Gilts and Sows bred to my Herd Boar, Eberley's Model 20854. If you are looking for the right kind, drop me a line and get my list before buying.

J. W. Higgins, Jr., Hope, Kans. VALLEY GROVE SHORT-HORNS

THE SCOTCH BRED BULLS Lord Mayor 112727 and Laird of Linwood 127149 HEAD OF THE HERD.

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

DON'T BE A— MIGHT HAVE BEEN,

But buy some Good Young Breeding Stock now—while prices are reasonable and opportunities great.

For 25 Years the Leading Western Breeder of Percheron and Coach Horses.

I have now the finest collection of young Home-Bred Stallions and Mares ever owned in the State. Correspondence solicited. Visitors welcome.

HENRY AVERY, WAKEFIELD, KANSAS.

Nelson & Doyle

Room 220, Stock Yards Exchange Building, KANSAS CITY, MO., Have for sale at all times, singly or in car lots... Registered Herefords and Short-horns, Cross-bred Hereford Short-horns and grades of other breeds. Bulls and females of all ages.

Stock on Sale at Stock Yards Sale Barn, Also at Farm Adjoining City. N. B.—We have secured the services of John Gosling, well and favorably known as a practical and expert judge of beef cattle, who will in the future assist us in this branch of our business.

BLACK LEG

PASTEUR VACCINE. SUCCESSFUL REMEDY.

Write for Proofs Covering Four Years' Use in U. S. A. on 650,000 Head.

PASTEUR VACCINE CO., 52 Fifth Ave., CHICAGO.

THE KANSAS CITY STOCK YARDS

Are the Finest Equipped, Most Modern in Construction and afford the Best Facilities for the handling of Live Stock of any in the World. The Kansas City Market, owing to its Central Location, its Immense Railroad System and its Financial Resources, offers greater advantages than any other. It is the Largest Stocker and Feeder Market in the World, while buyers for the great packing houses and export trade make Kansas City a market second to no other for every class of live stock.

Table with columns: Cattle and Calves, Hogs, Sheep. Rows: Official Receipts for 1898, Sold in Kansas City 1898.

C. F. MORSE, Vice Pres. and Gen. Mgr. E. E. RICHARDSON, Secy. and Treas. H. P. CHILD, Asst. Gen. Mgr. EUGENE RUST, Traffic Manager

THE SHAWNEE FIRE INSURANCE COMPANY, TOPEKA, KANSAS.

Insures Against Fire, Lightning, Windstorms, Cyclones and Tornadoes. The only company in Kansas with a paid-up capital of \$100,000. It writes more business in Kansas than any other company. It has paid losses amounting to \$493,266.63. Call on your home agent or write the company.

The Poultry Yard

Conducted by C. B. TUTTLE, Excelsior Farm, Topeka, Kans., to whom all inquiries should be addressed. We cordially invite our readers to consult us on any point pertaining to the poultry industry on which they may desire fuller information, especially as to the diseases and their symptoms which poultry is heir to, and thus assist in making this one of the most interesting and beneficial departments of the KANSAS FARMER. All replies through this column are free. In writing be as explicit as possible, and if in regard to diseases, give symptoms in full, treatment, if any, to date, manner of caring for the flock, etc. Full name and postoffice address must be given in each instance to secure recognition.

BRAHMAS. (Continued.)

The Dark Brahma is not so popular as the Light, the difficulty being in breeding them true to feather. Their delicately marked plumage is extremely pretty when bred to standard requirements, but if not so bred, it becomes most disagreeable and unsatisfactory to the breeder.

The head and neck of the Dark Brahma male are similar to those of the Light, the head being white and the hackle rather more striped. The back is nearly white, a little black appearing here and there. The black should predominate between the shoulders, but it is nearly hidden by the hackle flowing over it. The saddle feathers are, like the hackle, silvery white, striped with black, which should be distinct. As the feathers approach the tail, the stripes become broader till they merge into the tail coverts, which are a rich, glossy green-black, with a margin or lacing of white. The tail is pure black, with a green gloss. The wing coverts are black, forming a distinct bar across the middle of the wings, while the ends of the secondaries have a large black spot on the end, making the top edges of the wings appear almost black. The remainder of the secondaries are white on the lower half and black on the upper. The flights are all black, except a narrow fringe of white on the lower edge. The breast is black; the thighs and fluff either black, or black very slightly mottled with white. The shank feathering should correspond with the breast, being black if the latter is black, and slightly mottled with white if not. The shanks are deep yellow, inclining to orange.

The color of the females is a white ground, closely pencilled with a dark steel gray, producing a beautiful effect, frosted or silver gray in appearance. There should be no show of pure white in the plumage except in the margins of the hackles. Unless extreme care be taken in mating, the hens are likely to have a dingy color, and the pullets are apt to have necks almost white for some distance down. These light-necked birds generally breed to worse, but the evil may be remedied by choosing birds for breeding whose heads are distinctly marked.

The shape and character of the markings of the Dark Brahma pullets also vary. They should be medium sized, so that the pencilings can be clearly discerned at a short distance. A great point in regard to color and markings in the Dark Brahma pullets is that it should be uniform over the body, and the hackles should be silvery white, heavily striped with rich black, and the shank feathering pencilled same as body.

For practical purposes the Dark Brahma is not to be commended as highly as the Light.

The close breeding for points in feathers is likely to interfere with their productiveness, yet with proper attention and care they can be bred profitably as well as for beauty. The standard weight of Dark Brahma cocks is 11 pounds; hens, 8½ pounds; cockerels, 9 pounds; and pullets, 7 pounds.

Breeding for Quality.

Editor Kansas Farmer:—It would be an excellent improvement on the breeds if they could be bred with plenty of breast meat similar to that possessed by the turkey. But, unfortunately, we cannot secure all of the desirable qualities in a single breed. Breast meat is the result of exercise to a certain extent. It is muscle, and the birds possessing it are naturally high-flyers. The Brahma has the frame or build for laying on large quantities of meat but is deficient in the breast, due to having been bred to remain near the ground instead of flying. The Game, on the contrary, being an active, vigorous bird, is well developed on the breast and has small bones and large muscle, which make it an excellent table fowl. We do not allude to the standard exhibition Game, although they are not entirely deficient, but those Games that are bred exclusively for the pit, being trained and developed for strength. These characteristics are inherent in their progeny and render them an excellent breed of fowls. When crossed on the Brahma they combine quality and size, and though the cross-bred birds are not so high flyers as the pure breeds, they possess the good qualities of the Game with the weight of the Prahmas. In breeding for home use, these points

should not be overlooked. Quality should never be sacrificed under any circumstances.

Sitting.

When a sitting of eggs is received from a distance for hatching they should be carefully taken from the basket or box in which they were shipped, carefully unwrapped, and set aside for twenty-four hours. This is to give time for the contents of the eggs to get settled to their normal condition, as they are always more or less shaken up in shipping and handling.

With a hen that is being given her first clutch of eggs to hatch it will be best to wait until she has remained on the nest a day or two before putting the eggs under her. Then generally it is best to put them under her just at night, taking pains to disturb her as little as possible. A little care in handling her at the start will often avoid more or less vexation later on.

At this time every hen that shows a disposition to sit and is likely to prove a good mother should have eggs placed under her. All things considered the next six weeks or two months are the best season for hatching, and a little care should be taken to make the most of it. By this time eggs are usually cheap and with proper care in the management

THE BEST SPRING TONIC.

As winter passes away it leaves many people feeling weak, depressed and easily tired. This means that the blood needs attention and sensible people always take a tonic at this time of year. Purgatives are not the right medicine — they weaken instead of strengthening.

Dr. Williams' Pink Pills for Pale People are the best tonic medicine in the world and do not act on the bowels. They stimulate the appetite, enrich the blood, strengthen the nerves and make people feel bright, active and strong.

Do not accept a substitute. Look for the full name on the package.

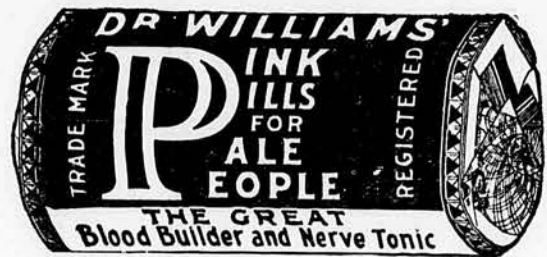
Many women are languid, peevish, sallow, no appetite, full of aches and pains, and generally out of sorts. This condition prevails because the blood has become impure. No one is better able to speak of this fact than Miss Hazel Snider, a charming young woman of Arlington, Ind. To-day she has rosy cheeks, sparkling eyes and a plump form, which prove that she is in good health. A year ago Miss Snider did not look so. She was very thin, her cheeks were pale, her eyes sunken and dull. She was troubled with nervousness and general debility.

"I had been sick some during my life," she said, "but not any more than the average girl, and was considered strong and healthy. I had prepared to teach school, but became so run down that I did not feel like teaching, and gave it up. I disliked to do this, but my mother and physician urged it. I began to grow pale, weak, lost several pounds of flesh, was stupid, and had no ambition. My appetite failed. My blood was in a bad condition, having become thin and watery. After several months' treatment from the family physician we saw he could do me no good. I was discouraged and did not know what to do.

"One day I read an item in a paper of the wonderful curative qualities of Dr. Williams' Pink Pills for Pale People. Shortly afterwards a neighbor came in and told me about her experience, and how they cured her. I finally tried the medicine, and when nearly through with the second box noticed a change for the better. After I had taken eight boxes I was cured, and have had no occasion to take any kind of medicine since. I feel that I owe much to Dr. Williams' Pink Pills for Pale People, probably my life, and I advise any one suffering with troubles similar to mine, to take these pills."

Miss HAZEL SNIDER.

Sold by all druggists or sent, postpaid, by the Dr. Williams Medicine Co., Schenectady, N.Y., on receipt of price, 50 cts. per box; 6 boxes, \$2.50.



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in an Incubator, \$7.50. Raise them in a Brooder, \$6.00. Stamp for Circular.

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The Sure Hatch is Business Incubators and Brooders with the Thermastatic Heat Governors. Over 500 in use. All sizes are what you need. Low in price and guaranteed.

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A Great Mistake

it would be to purchase an Incubator or Brooder without first getting a copy of our 148-page catalogue. It costs 6c. but is worth a dollar to you for the poultry information it contains, to say nothing of the pointers it gives you. Send for it at once. DES MOINES INCUBATOR CO., Box 83, Des Moines, Ia.

WHEN WRITING ANY OF OUR ADVERTISERS PLEASE MENTION KANSAS FARMER.

more can be made out of them hatching chickens than selling in market.

In many cases, when it is desirable to secure standard-bred fowls on the farm in place of the common kinds, a cheap way is to purchase one or more sittings of eggs of the breeds desired. While, with the exception of turkeys and ducks, there will hardly be a sufficient number hatched from one sitting to furnish the numbers desired for breeding, a good start may readily be made and the second year the change be made entire.

Care must be taken to watch the turkey hens now, in order that the eggs may be saved. They are so inclined to build their nests out that unless they are watched closely at this time they will be laying and the eggs be lost. Sometimes by setting a few boards up in a fence corner with a little brush over them, or even a few pieces of brush set against the fence so as to make a little hiding place with a little straw or leaves in it, they may be tempted to make their nests there. But in all cases, if the first eggs are to be secured they must be watched. Eldon, Mo. N. J. SHEPHERD.

The Value of Green Out Bone.

Nothing else is so valuable as a feed for egg production as green cut bone. Those who feel discouraged because their hens have not laid enough eggs should lose no time in buying a bone-cutter. The material is cheap, and now that the bone-cutters have been so much improved, they are very easily run and the labor is but slight. The green bone is very rich in phosphate of lime, which breeders appreciate.

Powls will leave any grain or feed for green cut bone; in fact, they seem to smell it when the feeder approaches and set up a singing and cackling and devour it with great avidity.

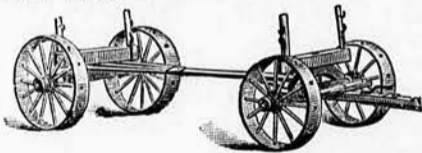
We prefer the ribs of beef, chopped in 2-inch pieces, and packed in the feeder nicely. It takes but a few minutes of hand labor to reduce them to the proper condition for feeding, so perfectly are the cutting knives adjusted. The green bone can be bought of any butcher for 1 cent a pound, and it is more valuable than a much greater quantity of grain.

There is nothing else in modern poultry culture that has obtained so firm a hold among fanciers and breeders as green cut bone. That it is not used as much as it should be we are convinced. A few hesitate to use it because of the cost of the machine, but, if one stops to consider that this expense can easily be made in the increased egg yield, we think this objection will be overruled.

What we require, first of all, from our hens is eggs; and there is nothing that will induce laying as early and as continuously as green cut bone fed about three times a week as a separate ration.—Country Gentleman.

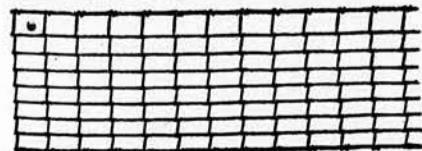
Farm Wagon for Only \$19.95.

In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, sold at the low price of \$19.95. The wagon is only 25 inches high, fitted with 24 and 30-inch wheels with 4 inch tire.



This wagon is made of best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

The service of the Nickel Plate Road to New York City and Boston is a demonstrated success. The demands of the traveling public are met by providing three peerless fast express trains in each direction daily. These trains are composed of modern first-class day coaches, elegant vestibuled sleeping cars between Chicago, New York and Boston, and unexcelled dining cars. Solid through trains between Chicago and New York have uniformed colored porters in charge of day coaches, whose services are placed at the disposal of passengers. If you want to travel comfortably, economically and safely, see that your ticket is routed via the Nickel Plate Road. (1)



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ANNUAL SALE OF SHORTHORNS

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Manhattan, Kans., Tuesday, April 4, 1899,

WE WILL SELL A CHOICE DRAFT OF 35 HEAD—23 EXTRA GOOD YOUNG Bulls, all reds and good ages, 12 fine two and three-year-old heifers. All of these cattle are bred by us and are of such families as Flat Creek Young Marys, Rose of Sharon and Josephines. The heifers will be bred to the Cruickshank bull, Red Knight 130753, now in service in our herd. The bulls are a set of beefy, short-legged, good-backed fellows; just right to grade up with. For information and catalogue, address

F. M. & J. B. GIFFORD, Milford, Kans.

....Col. S. A. SAWYER, Auctioneer....

FIFTY-ONE SHORTHORN CATTLE

—THIRD ANNUAL SALE—

AT STOCK YARDS SALE STABLE, SOUTH OMAHA,

WEDNESDAY, APRIL 12, 1899.

There will be 24 BULLS of which 4 are 2-year-olds, 6 strong bull calves and 14 yearlings, including DEWEY 130630, winner of first in his class at the Trans-Mississippi Exposition last fall. Of the cows and heifers there will be 27 HEAD, all old enough, bred or with calves at side by

MARGRAVE 125162.

CAMBRIDGE LASS, the third prize winner at the Trans-Mississippi, will be in the sale with calf at side, besides others from my show herd and many more equally as good. There will be no culis or worn-out stuff and nothing over 5 years old. The cattle will be at South Omaha Sale Stables for inspection one week before the sale.

All bids by mail or telegraph to the auctioneer, James W. Sparks, in our care will be honestly treated. Send for catalogue. TERMS—Six months at 8 per cent on approved note, or 4 per cent off for cash.

THOMAS ANDREWS & SON,

Col. J. W. Sparks, Auctioneer.

CAMBRIDGE, NEB.

SUNNY SLOPE ... SALE ...

One hundred head of registered Hereford cattle at Auction at the Kansas City Stock Yards Sale Pavilion, Kansas City, Mo., Tuesday, April 18, 1899. Fifty bulls, choice out of 100 head, among them my great herd bull, Kodax of Rockland (40731), with several of his get. Forty head of 2-year-old heifers bred to such sires as WILD TOM (51592), IMPORTED KEEPON (76015), ARCHIBALD V. (54433), KODAX OF ROCKLAND (40731), JAVA (64045), and IMPORTED SENTINEL (76063). Ten head of yearling heifers, five head of cows in calf or with calf at side. In the sale will be the get of Wild Tom, Climax, Kodax of Rockland, etc. These cattle were especially selected for this sale and are 100 head of the best young cattle out of 500 head now on the Sunny Slope Farm, and there is not one in the 100 head that is not good enough to go in any herd in the country. WRITE FOR CATALOGUE.

C. A. STANNARD, Emporia, Kans.

AUCTIONEERS: Col. F. M. Woods, Col. S. A. Sawyer, Col. J. W. Sparks, Col. R. E. Edmonson and Col. J. N. Burton.



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