

# KANSAS FARMER

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Established 1863. \$1 a Year

## KANSAS FARMER.

Established in 1863.

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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 communications to

KANSAS FARMER CO.,

116 West Sixth Ave., Topeka, Kans.

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The "Fourth Annual Year Book" of the Iowa State Board of Agriculture is a stout volume well filled with valuable discussions of subjects important to every tiller of the soil. It is to be hoped that the State has made ample provision for its distribution. Every Iowa farmer ought to have one.

Once more it becomes necessary to remind contributors that unless the real name and address of the writer are given the communication goes unread to the waste-basket. Please do not assume that the editor can guess these. He has not time to try. This

reminder is frequently published, but the contributions to the waste-basket continue in uninterrupted succession. If any communication fails to receive attention please reflect that omission to sign the real name or to give the postoffice of the writer is the probable cause.

On account of the prevalence of mange among cattle the Governor has issued a quarantine proclamation forbidding the movement of cattle except in accordance with the rules of the Live-Stock Sanitary Board in the following counties in Kansas, viz.: Cheyenne, Rawlins, Decatur, Sheridan, Thomas, Sherman, Gove, Logan, Wallace, Greeley, Wichita, Scott, Lane, Ness, Hodgeman, Finney, Kearny, Hamilton, Stanton, Grant, Haskell, Gray,

Ford, Morton, Stevens, Seward, Meade, and Clark, and a temporary quarantine on all the infected pastures in the remainder of the State.

### THE TOAD USEFUL.

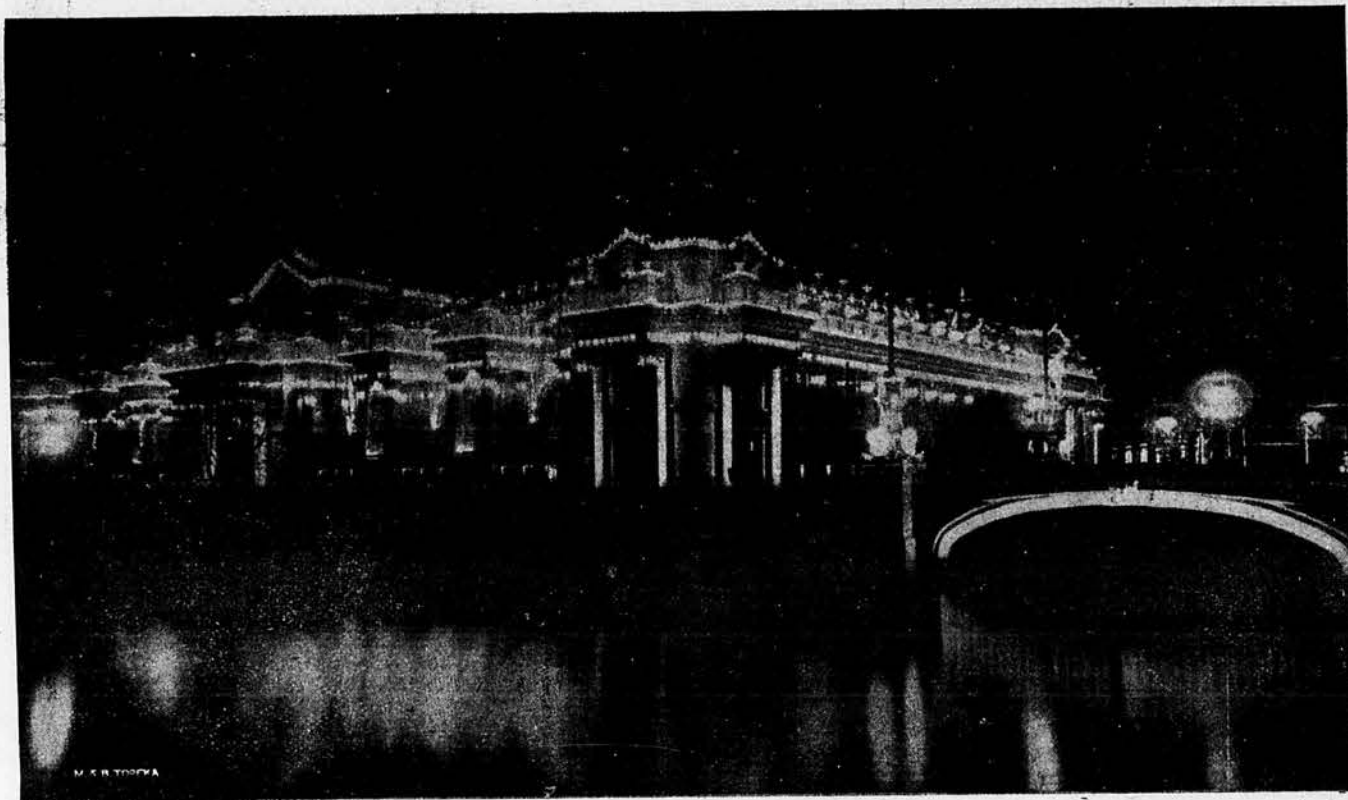
Do we ever slight our best friends, because, forsooth, they are humble? An investigator in the employ of the United States Department of Agriculture, Mr. A. H. Kirkland, comes forward with a bulletin in behalf of the toad, claiming great virtues for this demure creature. He even enjoys the music made by the male toad when nearing the pond, agreeing with another writer who describes this music as the "sweetest sound in nature."

But the toad is loved not for his beauty nor yet for his music, but for his appetite. The toad is a voracious

eater whose taste runs largely to the insect pests which so much annoy mankind. He likes worms, and snails, and sow-bugs. Thousand-legged worms must delight his toadship very much, for our investigator reports seventy-seven of these creatures as having been found in a toad's stomach. Now, if these worms actually have 1,000 legs apiece, think of the delight the epicurean toad must feel at the sensation produced by 77,000 legs in his stomach at one time. Further, the toad likes spiders, and grasshoppers, and crickets, and ants, and beetles—such as produce wireworms—and weevils—such as grow into the plum-curculio—and potato-bugs, and cutworms, and caterpillars.

If it be objected to the toad that his gait is not graceful, one may at least

(Continued on page 612.)



PALACE OF ELECTRICITY AND LAGOON AT NIGHT.

### THE WORLD'S FAIR AT NIGHT.

As darkness settles over the great Forest Park, we enter an Intramural car, and go westward through the mazes of the night. We are in the midst of a dense forest, through whose occasional openings we see a glow in the sky, and have glimpses of the fiery domes and spires and minarets of the greater palaces of the World's Fair, as their myriads of electric lights shine to the clouds or search out the dim reaches of the forest. Slowly and smoothly we ride mid the boles of the trees, with constantly changing views, as glowing domes give place to darkness, and this to fairy palaces or dashing cascades or rippling lagoons.

We look and marvel, forgetting time and humanity in our journey to wonderland. The hour of travel is all too short, and we are landed on the Plaza of St. Louis in the midst of the greatest creation the mind of man has ever conceived or his hands executed. On

either side tower the massive palaces, with each window and portal, column and architrave, spire and finial glowing in electric splendor. In front, the Grand Basin flashes and dimples with the passing gondola. Above and beyond are the gigantic cascades, whose flood of crystal water plunges down the lighted terraces with a glow of golden glory. On either side of the torrents are great marble fishes, from whose mouths fall jets of water into the cascade and on whose backs sport water babies in chubby grace. At the foot of each smaller cascade, great fountains hurl their tons of water in mid-air. Above the source of the central cascade stands Venus, newborn of the sea-foam, under the protecting curve of a great sea shell. At the head of the west cascade stands the Titanic "Spirit of the Atlantic; at the head of the east cascade floats the golden "Spirit of the Pacific," while below and between them an emerald lawn, dotted and rimmed with flowering plants,

flows down in an avalanche of green.

Above and behind all these, rises the Terrace of States, each arch with its colossal statue posing in the flood of light. At either end of the colonade stands the festal halls, while in the center towers the great dome of the Temple of Ceremonies.

We stand in a new world of magic and power and mystery. On every hand shines forth wonders greater than were ever dreamed of in the world of Prester John, and palaces more marvelous than were ever created by Aladdin.

It is the magic of the twentieth century. Other centuries there have been with their marvels beyond human ken, but this new one shines forth here in electric splendor, banishing the spirits of darkness and robbing former ages of their miracles.

As we stand and gaze and wonder, we are dumb with awe as we realize that we are alone with the Spirit of the Age.



## Miscellany

### GOING TO THE WORLD'S FAIR.

When one starts for a visit to the Louisiana Purchase Exposition he is naturally in haste to arrive as soon as possible, as he will be anxious to see this greatest of all the examples of man's handiwork. The railroad which carries him there must be of his own selection, though all of them are making special efforts to provide for the comfort of their patrons to and from St. Louis. By preference we choose an evening train from Kansas City which lands us in St. Louis in time for breakfast, and gives us ample opportunity to secure our hotel accommodations in the daytime and before the real business of the trip begins. When we arrive at St. Louis Union Station we can take any street-car line for the World's Fair grounds. Both the Laclede and Market Street cars pass the door of the Union Station, and both will land us at the State Building entrance at the southeast corner of the grounds. By walking two blocks north from the depot we can take the Olive Street line, which will land us at the main entrance, called the Lindell Boulevard entrance. Either of these car lines will land the visitor at the World's Fair in twenty minutes. The Wabash Railroad runs shuttle trains to and from the Union Station to the Wabash terminal on Lindell Boulevard. These trains run every half hour, afford more comfort to the passenger and make quicker time. The fare on the street-car lines is 5 cents. On the railroad train it is 10 cents.

There are a number of hotels adjacent to the grounds, within easy walking distance, and there are numerous private houses where lodging and sometimes meals may be had. Information in regard to all these things will be furnished free at the Information Bureau in the Union Depot. It is impossible to give directions that will suit every one, but our recommendation is that visitors secure their hotel accommodations first, and where they will be comfortable, because the work of sight-seeing is hard work.

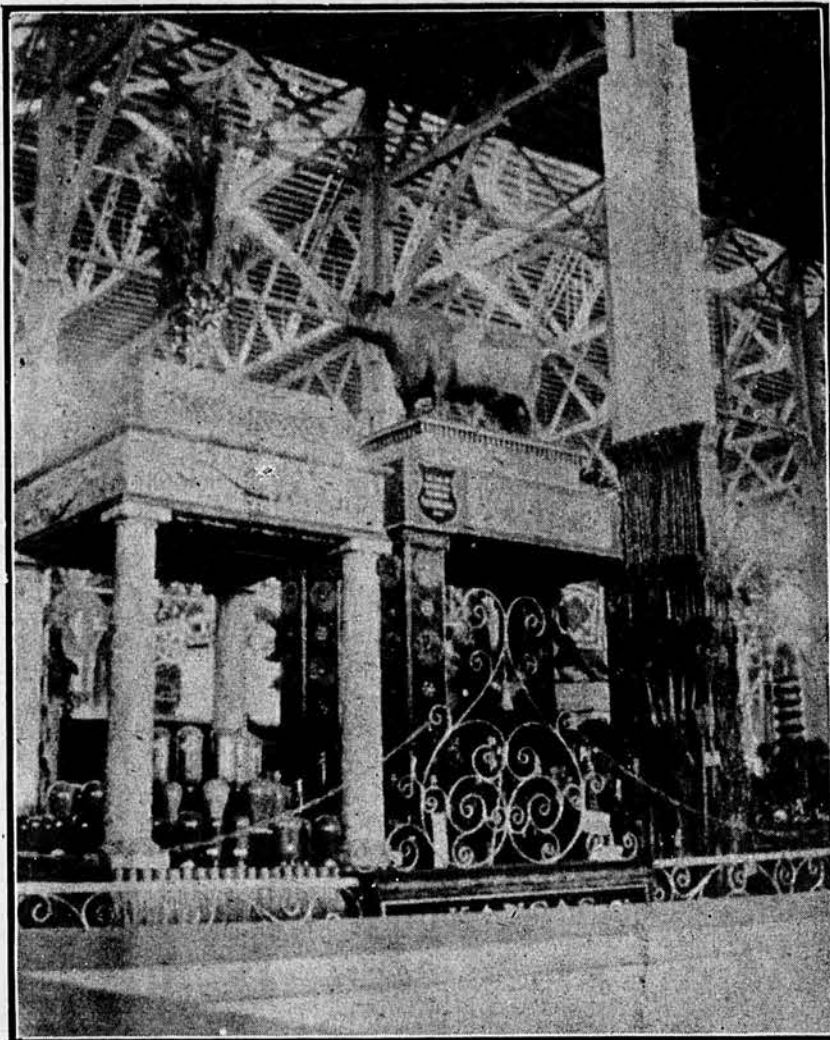
The Inside Inn is the only hotel within the grounds. It is an enormous structure, built of framework on the hillside near the State Building entrance. The dining-room will seat about 2,500 guests at one time, while the hotel will accommodate about the same number with sleeping apartments. Each corridor in the Inn is provided with an outside fire-escape at each end and each room in the building is provided with one at the window. Each corridor in the Inn has two fire-plugs, with hose attached, and pressure on all the time. The hotel rate here of course includes admission to the grounds and, because of its convenience and the saving of car fare, many prefer it to other places outside the grounds.

It is earnestly recommended that all visitors should provide for their physical comfort by taking along a pair of easy shoes and a suit of comfortable clothing for the work of sight-seeing, with, of course, as many dress suits and ball-gowns as are needed for the evening entertainments, bearing in mind that it is hard work to do the fair and one can not be too careful of his comfort. Visitors are also cautioned to let the hydrant water severely alone. Booths are stationed about the grounds where one can get filtered artesian water by dropping a penny in the slot and, while one dislikes to pay for drinking water, it is vastly cheaper than the typhoid fever. Do not try to see the entire fair in one day. As soon as you are located in your hotel make straight for the Intramural railroad and take a ride around the grounds. This will give you an idea of the location of the prominent buildings and will occupy about an hour in traveling over its seven miles of length. It will also give you an idea of where the stations are and their numbers will be found convenient in future trips when you

desire to go from one part of the grounds to another.

The caution to keep your hand on your pocketbook has a double meaning in the World's Fair city. Of course the World's Fair will draw an immense number of pickpockets and other like gentry to St. Louis and you need your hand on your pocketbook for protection. On the other hand, the

will depend largely upon the length of the pocketbook, not because of extortionate rates so much as because there are so many things that one feels obliged to see and for which one must pay. It does not pay to attempt the World's Fair without a realization of the fact that it is the event of a lifetime, and that money spent for physical comforts here will enable the vis-



THE CORN STEER IN THE KANSAS EXHIBIT, AGRICULTURAL PALACE.  
(From Photo Taken by the Kansas Farmer Man.)

conditions are different during a great exposition from those to which one is accustomed and one will need his hand on his pocketbook quite frequently to pay for the services and accommodations he receives. For instance, one needs a good many trips on the Intramural, which cost 10 cents each. A trip on the automobile about the grounds which costs from 25 cents to \$1 an hour, according to circum-

stances, and a trip in the steam-launches or gondolas on the Grand Basin which costs 50 cents an hour. And then one must eat, and his experiences at the World's Fair could not be rounded out without dining at least once at each of the foreign restaurants to be found in the Midway and the various foreign buildings. The comfort secured and the enjoyment obtained

### World's Fair Notes.

Over in the Anthropological Building is an Egyptian exhibit, where mummies 4,000 years old are on display in their original cases. Here also is a wooden stool that was made 1,400 years before Christ. One of the mummy cases has been cut away so as to



GARDEN IN JAPANESE GOVERNMENT EXHIBIT.  
(From Photo Taken by the Kansas Farmer Man.)

show the face of the mummy. Visitors who think much of old family connections and who desire to mingle with the first families will have their opportunity here.

Across the court from the Administration Building, in the Hall of Congresses, is displayed the Queen's diamond jubilee presents. There are about \$6,000,000 worth of these and

they are shown in glass cases, under the guard of some gigantic London policemen. A large number of them are silver or gold or precious wood cases containing addresses. Many of them are richly mounted with precious stones, and all are more or less elaborately engraved. One of the presents is an ivory throne mounted in silk velvet and carved to show lion heads and other figures which once had diamond eyes, only one of which, however, remains. Another one is a buffalo head of carved ebony with two elephant tusks inserted for horns and all beautifully carved. Another is an enormous fan measuring about three feet in diameter mounted on an ivory handle about five feet long and composed entirely of ostrich plumes. It is a wonderful exhibit.

"Old Friendship," the fire engine that George Washington helped to operate on the streets of Alexandria, Va., when he was a young man, is one of the sights that will appeal to the patriotic visitor.

In the Palace of Forestry, Fish and Game are many exhibits of great interest. One of these is a long building of black wood, the sides of which are enormous photographic transparencies, representing the lumber industry in all its phases. This is a Government exhibit and the visitor who is inside the building and looking through the transparencies can easily imagine himself in the heart of a dense pine forest, among the big trees of California, in a logging lamp in the snow, or on a raft floating down a river.

Near the center of the Forestry, Fish and Game Palace is a very beautiful and elaborate structure built in the form of an arched bridge with towers at each pier and composed of 3,000 different kinds of wood that are grown in Canada. This handsome structure is hung with mounted heads of deer, elk, moose, caribou, and other sorts of game animals to be found in Canada.

The Colorado exhibit in this same Palace is in the form of a mountain, scattered over which are mounted specimens of Rocky Mountain sheep, goats, blacktailed deer, elk, bear, mountain lion, and other game animals, apparently wandering at pleasure amid the pines and rocks of this fine exhibit. On the floor in front is an enormous easy chair made of elk horns, while at its foot lies a great rug made from the tanned hide of a grizzly bear. To the lover of outdoor life this building will afford much satisfaction.

The Fisheries Building contains the United States Government exhibit, the most attractive feature of which is the series of aquaria, containing live fish from both fresh and salt water, which line its walls. On the wall opposite the aquaria are placed large mirrors which, in the semi-darkness of the room, have the appearance of being aquaria also. This fact was the cause of much amusement when a party of very richly dressed people turned from the aquarian containing the sea-robins towards a mirror and asked what was contained in this one. Quick as light a Kansas boy who stood near responded "suckers." In the center of the Fisheries Building is an open court entirely occupied by a large tank in which there sport two wild seals and numerous turtles, etc. The writer enjoyed his visit to the Fisheries Building as much as to any building on the grounds, not only because of the seals and live fishes, but because of the fish-hatching in operation, the deep sea trawls and sounding machines, the fish wheels, and the various exhibits of methods of propagating, rearing, capturing and preserving fishes.

The Government Building is a most interesting one, as exhibits are here shown from all of the prominent departments of the Government. The Navy Department is illustrated by an exact model of a war-ship, through which visitors are allowed to pass. Smithsonian Institution has a large number of mounted animals, birds, reptiles, and fishes, together with reproductions of gigantic fossil animals, and all of it overshadowed by an enormous model of a whale which is suspended side by side with the real skeleton of



one. The Treasury Department shows a mint in operation, giving all the processes of rolling the metal into thin sheets, stamping out discs, milling and upsetting their edges, stamping them into the perfect coin, and tempering them in the annealing furnace. The War Department exhibit shows a pack train, a group of officers and soldiers in the different uniforms of the service, the light artillery and rapid fire guns, a museum of rifles of various patterns, that have been used by United States soldiers from the adoption of the first flint-lock to the Krag-Jorgeson, while outside the building is the heavy ordnance mounted on disappearing carriages behind bomb-proof magazines.

Over west of the gigantic Agricultural Palace is the Government Filipino exhibit, which is a curious mixture of Spanish and savage life. The exhibit is approached by the arched bridge representing that over the Pasig River. This bridge crosses Arrowhead Lake and lands the visitor beneath the walls of the ancient walled city. There are several tribes represented on these grounds, and the visitor who approaches from the north meets a warning sign at every turn that if he tries to photograph the Moros, who occupy that side, he will do so at his peril. Their curious buildings of bamboo poles and thatch are interesting in themselves, but less so than are the people, whose manner of living is here an open book to the visitor. During our visit the Igorrotes had a dog feast

ton Palace grounds. Here the ever-green trees have been clipped into the most fantastic shapes, and animals, birds, fishes, turtles, snakes, hollow-globes, and corkscrew spirals are seen done in living green.

In the Agricultural Palace is the cold storage building in which are made the butter exhibits. The Kansas exhibit takes the form of a dairymaid turning a hand-separator. Both the maid and the machine are composed of butter, though the latter looks like a DeLaval.

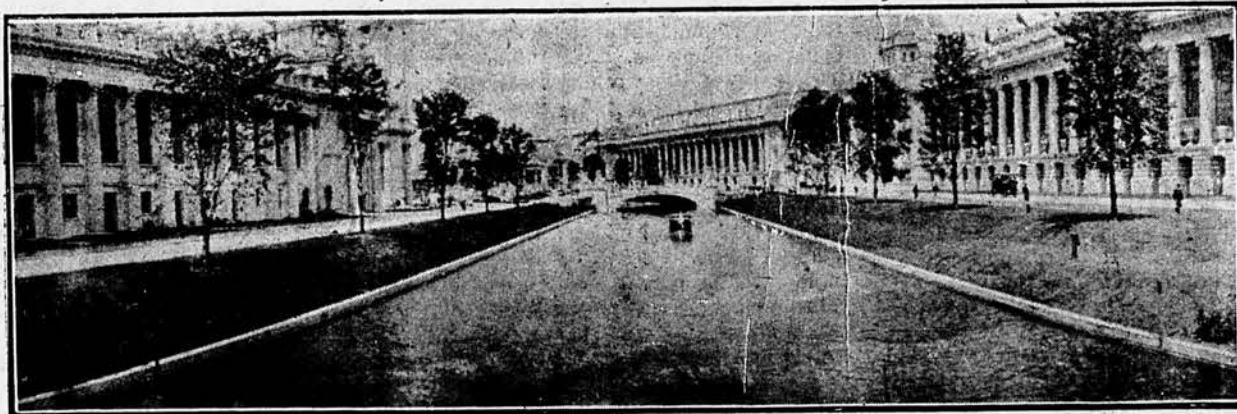
Topeka people, and others who have had their teeth shaken loose by riding on our old street cars—now happily relegated to junk piles—may find interest if not pleasure, in seeing Mr. Tinch's old asylum car occupying a place among the up-to-date automobiles and railroad engines, in the Palace of Transportation, where it looks as natural as life.

The grounds on which the World's Fair is built are composed of hills and dales, and hence a greater variety of landscape gardening has been possible than at any other World's Fair. Down in one of these "draws," as we would call them in Kansas, just south of the Fisheries Building, stands the biggest bird-cage in the world. We can not give its exact dimensions but should say it is at least 50 feet high and built entirely of steel and iron. It is divided into two parts, one side being occupied by land- and the other by water-birds. The great pelicans, so graceful in the

clock, the figures on the dial of which are made of growing plants, over which the hands move by the mechanism concealed beneath the ground and connected with the alarm bell standing in its glass case above the figure twelve. West of the Palace of Forestry, Fish and Game, is a floral map of the United States in which the different States are shown by different colored flowering plants and the border lines and rivers by foliage plants. East of the Palace of Agriculture is a considerable depression which is covered by an enormous plantation of ornamental flowers and shrubs, including a pond devoted to water lilies. The steep slope leading from this flower garden to the Palace of Agriculture is decorated by a floral flag of the United States and one of the Exposition Company, together with the dates 1803 and 1903 done in flowers in the beautiful green sod.

In the Government exhibit is shown what is perhaps the largest amount of radium belonging to one owner in the United States. It is contained in glass tubes, and one's imagination must bring him what satisfaction he gets from it. It does not show well in the daytime and the exhibit is not opened at night.

The World's Fair at St. Louis is very far from being completed. Many of the smaller buildings are not finished and a very large number of the exhibits are not in place. During our stay it was reported that sixty-five carloads of materials for exhibits in the



LAGOON BETWEEN EDUCATION AND MANUFACTURERS BUILDINGS. LOOKING TOWARD VARIED INDUSTRIES.  
(From Photo Taken by the Kansas Farmer Man.)

and dance. We were not invited to the feast.

Just south of Machinery Hall is the Jerusalem exhibit, for which Kansans are largely responsible. It occupies about thirteen acres of ground and is an attempt, on a small scale, to reproduce and bring together important places in this ancient city, that are of interest to all visitors. The Mosque of Omar and the Church of the Holy Sepulcher are almost the exact size of the originals, while the Tower of David, the Jew's wailing place, Via Dolorosa, the Garden of Gethsemane, the ancient city walls, the Jaffa Gate, and other features are reproduced in the architecture and the whole is occupied by natives from the Holy City who each have something to sell or a camel for hire. The admission to this exhibit is 25 cents.

North of the Philippine exhibit, and on the hill adjacent to the outdoor forestry exhibit, at the place marked "Anthropology" on the maps, is a large camp of American Indians, representing a number of different tribes and living as they have always lived. Their chief object in life seems to be to shoot bows and arrows for the nickels they expect to get.

South of the boiler-house and Machinery Hall is the Japanese Government exhibit, and it is a marvel of beauty. With their miniature lakes, tiny and distorted trees, little rock temples, and the most beautiful landscape gardening, it constitutes one of the jewels of the exposition. This is not to be confused with the side show on the Pike, with which it has no connection.

West of the Palace of Transportation are grouped many of the foreign buildings. Among them, Great Britain will be noted for its plain, though rich building, its meager interior exhibit, and its beautiful and lavish outdoor exhibit, which is a reproduction of the Kensington

water, are laughably ungainly on land. During our visit we had the pleasure of seeing a genuine crane dance, which is something not often witnessed except by hunters who are familiar with the crane in its native haunts. On the other side of the partition are a large number of the beautifully plumed California quail, and many other birds whose daily habits are in nowise interfered with by the enormous cage which restrains them.

Southwest from the Administration Building, near the German railroad exhibit, is the Government exhibit from Alaska, which is made conspicuous by the rows of enormous totem-poles and the huge canoes, each of which is formed from a single tree trunk.

Just across the Intramural Railway from the United States life-saving exhibit, stands the old familiar Ferris Wheel, but its name changed to Observation Wheel. It is now being put together and will soon be ready for the foot-weary visitor who desires to rest

Our sister State on the north has no building on the grounds. There is a building near the Kansas and Oklahoma Buildings which bears the name, "The Nebraska," but it is a restaurant and not a State building. The Texas State building is very large and built in the form of a star. It is a handsome one and a great credit to the State. The Oregon Building is in the form of an old stockade fort, such as was used for defense against the Indians in the early days. It stands near to Grant's Log Cabin.

Between the Palaces of Agriculture and Horticulture is located the Garden of the Desert. On this high ground are plants which thrive best under arid conditions, and will exhibit plants from the Western Mississippi valley and the Rocky Mountain region. At the other end of the Palace of Agriculture on the sloping hillside is the enormous floral

Manufacturers Building had been received in one day. In spite of all this, however, the visitor can get his money's worth many times over, as the exhibits now in place constitute a bigger show than he has ever seen before, and he has the advantage of seeing the processes of construction which are as interesting to many as would be the finished result. At this time of year, too, the crowds are not great and one can visit the fair and see all the sights without interference.

One of the wonderful things of the exposition is the exhibit of Italian marbles, shown in the Italian section of the Manufacturers Building. There are thousands of these and they show the rarest work of the greatest sculptors.

In the Kansas exhibit in the Agricultural Palace is a fountain of wheat, typical of a great stream of golden grain poured out by this State with each returning harvest. The columns which support the exhibits are made of glass tubes of large size filled with wheat and other grains so that they have the appearance of being made of grain.

If one stands anywhere on the Plaza of St. Louis and looks toward the Pike, the whole landscape in that direction is dominated by the Tyrolean Alps. This is one of the Pike side-shows but covers a large space, and is made in very correct imitation of rocky mountains which tower to a great height over the surrounding buildings. From the outside it is a very pleasing prospect.

The Fine Arts Building at St. Louis is really four buildings, placed behind the Terrace of States in the form of a quadrangle. The principal building is of brick and is permanent. It was not opened during our visit. The two wings are hung with paintings and engravings, both large and small, that

## Take no chances with your face. Demand Williams' Shaving Soap.

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The J. B. Williams Co., Glastonbury, Ct.

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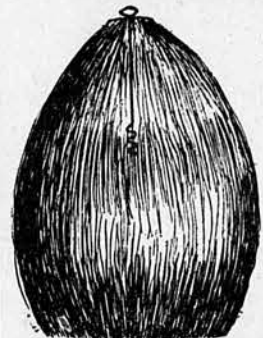
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**Be Independent Save All Your Grain**  
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Prevents the Top of the Stack Blowing Off. . . .



Screws in like a corkscrew. Cheap; economical; money and time saver. Saves its cost many times over every year. Does away with the old way of holding the tops of hay and grain stacks on by using rocks or other heavy weights.

Price per Dz. \$1.50  
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**C. B. POKE MFG. CO**  
Manufacturers of Cowboy and Acme Animal Pokes and the Dunaway Stack Anchor.  
1013 E. 18th St., KANSAS CITY, MO



are the work of foreign painters almost entirely.

Between the Texas Building and the Inside Inn is a rather deep "draw" along which are built the mining exhibits. Here will be seen a Mexican turquoise mine in operation, a gold mine, a coal mine, a building for lead metalurgy, and one for primitive copper metalurgy. The machinery will all be in motion and visitors will have an opportunity to go down in the shafts and inspect the interior of the mines.

Near the Tennessee Building, on a side hill, is an immense amphitheater with seating capacity for many thousands. This with the adjacent grounds is occupied by the Boers from South Africa with their saddle-horses and pack-mules. They give a daily exhibition of their methods of scouting and warfare.

The Plaza of St. Louis is used for exhibition drills by the military organizations visiting the fair. There will be something doing on this parade ground every afternoon either by the regulars, the militia or various drill corps. The Plaza is covered with a fine, hard gravel which makes it a good place for drill. The long rows of trees, with seats beneath, on either side of the Plaza affords the visitor shade and comfort while watching the maneuvers.

One section of the grounds, near the Olympian Way, is set apart for the wild animals of Missouri. Our party, however, were unable to notice any difference between those at this place and those farther down town.

It was a matter of sincere regret on the part of all visitors during the week that the foreign buildings were not ready for sight-seers. Very few were open at all and these had their exhibits but partially displayed. The large grounds occupied by France as well as those of Great Britain are marvels of horticultural skill and, later in the season, will unquestionably be among the great sights of the fair.

At the extreme west end of the grounds is the Stadium, arranged for athletic sports of all kinds. There were a number of baseball games in progress during our visit, but our party seemed to think they were too common for their attention. Admission to the Stadium was free but one had to pay if he took a seat.

One of the nice things about this exposition is the ruling which allows visitors to carry with them their hand cameras and snap at everything and everybody within reach. No cameras larger than a 4 by 5 are admitted free, and doubtless thousands of them will find plenty of work to do on the Pike.

One of the disagreeable features of the exposition lies in the fact that teams and automobiles are allowed on the drives throughout the grounds. While they are restricted as to the roads they can use, the visitor who is present for a few days only has not time to learn these roads, and even if he knew them would much prefer to use his eyes in sightseeing rather than in dodging an automobile operated by some pin-headed chauffeur with more money than brains.

From our point of view the best part of the show has not yet arrived. This is the live stock, which will not put in its appearance until fall. It is true that the dairy cattle that are now being tested are quartered at the barns, but visitors are rigidly excluded at milking time and the records being made by each individual are kept secret. With the coming of the other classes of live stock, however, the exposition will take on an added interest for the agricultural world.

As we returned from Kansas City, on the Santa Fe, the brakeman made his usual trip through the car and called the name of the first station east of Lawrence, when a little girl who sat in front of us jumped nervously and answered, What?

#### The World's Fair.

In making your arrangements for the World's Fair at St. Louis, this summer, if you consider convenience and saving of time, you will take the Wabash Railroad, as it runs by and stops at its station at the entrance of the fair grounds, thus saving several miles' run and return, and the inevitable jam at the big Union Station. By all means consider the advantages of the Wabash.

## Agriculture

### COMING EVENTS.

August 2, 1904—Kansas Good-Roads Association, Topeka, Kans.; Grant Billbe, president, Iola; I. D. Graham, secretary, Topeka.  
October 17-22, 1904—American Royal Live-Stock Show and Sales, Kansas City, Mo.  
November 26-December 3, 1904—International Live-Stock Exposition, Chicago, Ill.

### Thesis on Wheat.

CLAUD CUNNINGHAM, POST GRADUATE STUDENT KANSAS STATE AGRICULTURAL COLLEGE.

#### ORIGIN.

Wheat, as the question has been settled, was derived from one of the wild species of grass known as *Aegilops*. Several varieties of this species of grass are found in Babylonia, Persia, and all countries bordering on the Mediterranean Sea. It grows best on flat, hot, and dry plains. That wheat originated from this species is proven beyond a doubt by M. Tabre in a series of experiments which he carried on. He took a variety of the special *Aegilops tritoides*, planted and cultivated it for twelve years, each year using the best seed of the previous year's crop, and at the end of the experiment obtained a form of wheat closely resembling that of wheat as it existed at that time.

As far back as history records we hear more or less of wheat. It was one of the most staple food-products of the Egyptians in the time of Joseph. Wheat-seed has been found with Egyptian mummies which resembles wheat now native in Egypt.

Just where wheat first existed as wheat is not known, but best authorities believe it was first grown in Mesopotamia, and from this country they claim its cultivation was extended in very early times to the Canaries on the west and China on the east. Wheat was introduced into America in the sixteenth century by Spaniards under Cortez.

#### BOTANY OF WHEAT.

Wheat belongs to the family Gramineae, and is botanically known as *Gramineae triticum*. It is an annual grass, flowering in a terminal spike. The spikelets number two to five, placed flatwise, singly, and on opposite sides of a zigzag rachis. The empty glumes are ovate, three, many-awned. These and the flower glumes are more or less awned; grain free.

Of the three species of the cultivated wheat, monococcum, poliococcum, and sativum, the latter includes the varieties commonly grown. In this species, Hackel divided the varieties into three distinct classes or races:

(a) Speltz (*Triticum spelta*)—Spikes loose, four-sided, rachis articulate at maturity. This race can easily be distinguished from others by the fact that the grain does not fall out of the hull when thrashed but retains the hull. It is one of the oldest of the cultivated races, but the culture of it has gradually decreased until now it is only grown to a limited extent in a few countries in Southern Europe.

(b) Emmer (*Triticum disocum*)—Spike very dense, laterally compressed, rachis articulate at maturity. This species has a history similar to that of speltz and its cultivation is largely confined to a few countries in Southern Europe, although it is beginning to be cultivated to some extent in the United States.

(c) Wheat. Rachis not articulate at maturity. Grain easily falls out when thrashed. There are four more or less marked sub-races.

1. English wheat (*Triticum turgidum*)—Empty glumes, sharply keeled at base; grain broadly truncated above; leaves usually velvety; flour poor in gluten. To this race belong the Egyptian wheats.

2. Hard or flint wheat (*Triticum durum*)—Empty glumes, keeled only at base; grain narrow and tapering, very hard; awns long and bushy like barley, and in some varieties black.

3. Dwarf or Hedgehog wheat (*Triticum compactum*)—Empty glumes,

keeled only in upper half; spikes short and dense, only three or four; longer than broad; culms rigid. Grown in mountainous countries or regions. The awned kinds are called Hedgehog wheat.

4. Common wheat (*Triticum vulgare*)—Glumes as in preceding, but spikes longer and looser. There are many varieties grown in this country, some naked or awnless, other awned or bearded, some with glumes smooth, and others with glumes pubescent.

#### DISTRIBUTION AND ADAPTABILITY.

No other cereal grass can claim such a wide distribution as wheat. In all the varied soils and different climatic conditions, through the north and south temperate zones, wheat is grown successfully. As a rule it thrives best in the central portions of the temperate zones on the great plain regions of the world, such as Southern Russia and Siberia and the plain regions of the United States and Canada. These lands seem especially adapted for wheat, but they are only one of the many habitats in which wheat will succeed. The warm and mild climate of California seems very favorable to the growth of certain varieties of wheat. Quick-growing, early-maturing varieties can be grown in Alaska where summer lasts only about ninety days. In contrast to this, Egypt with her perpetual summer, her hot and dry climate, produces wheat in abundance. So does the mild, fair land of Italy and Southern France. India, with her hot and humid weather the year round, is able to export wheat to other countries. Australia raises her share in the world's vast output, and Chili, with her rainless tracts of land, points to her wheat production as one of her chief resources. In all these varied climates which range from the extremely dry and cold, to the extremely tropical, wheat has adapted itself. Such great differences in local environment have caused certain differences in ability of certain wheats to withstand certain climates. Soft white wheats thrive best in mild, wet countries, while the hard, flinty varieties are adapted to dry and cold regions. Durum or macaroni wheats do well in tropical regions and are drouth-resisting to a remarkable degree. The wheat grown in California would not succeed in the Dakotas or Central Russia and vice versa. Thus we see that different varieties of wheat which originated from the same source have adapted themselves to widely different climates and soils. This variation and adaptation can be carried on in the future, and with the help of man, varieties may be produced that can be made to grow in every part of the world that produces vegetation. This may have to be done in order to meet the demand for bread in years to come. The various governments are encouraging the importation and breeding of new varieties to meet demands for higher yields and greater hardiness to withstand severe or non-adapted climates, and the work that has been done along this line has resulted in an increase of millions of bushels in the crop of some countries. The introduction of hardy Russian varieties into the United States has increased the yields of wheat several bushels per acre where these varieties are grown.

#### PHYSICAL AND CHEMICAL COMPOSITION OF WHEAT.

Physically a grain of wheat is composed of a germ and an accompanying store of starch cells enclosed in several layers of cells or coats. The germ is situated at one end of the grain, while the stored starch grains occupy the remainder of the interior part and make up the greater bulk of the kernel. Usually the amount of starch determines the quality of the grain. If in some way or other the supply of starch is shut off the grain will be more or less shriveled. Beginning next to the starch cells and proceeding outward, six layers of cells or coats surround the starch content and germ. The first or inner coat is composed of gluten cells, and is especially rich in gluten. Above this is the bran coat which is composed of

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five layers of cells or minor coats; namely, inner coat of bran, coloring matter of bran, and two outer layers of cells. Next to the bran is the outer covering or epidermis of the grain. The germ of wheat contains gluten and starch and is particularly rich in oil and mineral matter.

In milling, about 72 per cent of the wheat kernel is recovered as straight-grade flour and about 2½ per cent as low-grade and red-dog. The bran, middlings, and offal amount to about 25 per cent of the weight of grain; these parts are less digestible and therefore have a lower food value than the portion of wheat ground into fine flour. The bran, shorts, germ, etc., excluded from fine flour do not contain the digestible nutrients, as is often claimed.

The chemical composition of wheat is rather a varying factor and is influenced by so many different conditions of environment that only approximate results can be stated. The moisture content is perhaps the most variable of the different constituents of wheat. Wheat grown in exceeding dry localities will contain 4 or 5 per cent less water than wheat grown in a humid climate. The chemical composition and physical condition of the soil are also causes of the varying composition of wheat, especially as regards the mineral constituents of the grain. Any abnormal condition or factor that enters into the environment of wheat, such as insect pests, diseases, etc., will alter to a considerable extent certain constituents of the grain, especially the carbohydrates.

Different varieties of wheat vary in composition and in regard to the quantities of the different constituents contained in the kernel. The white soft wheats have high starch content, at the expense of gluten and mineral elements. The hard red wheats and allied varieties are especially high in gluten, often testing 4 to 6 per cent above the soft wheats.

In the face of such tendencies to vary, the United States Department of Agriculture has tendered the following as the approximate composition of the typical American wheat:

Weight of 100 kernels, grams.....	3.85
Moisture, per cent.....	10.60
Albuminoids, per cent.....	12.25
Oil, per cent.....	1.75
Indigestible fiber, per cent.....	2.40
Ash, per cent.....	1.75
Digestible carbohydrates, per cent.....	71.25
Total.....	100.00
Dry gluten.....	10.25
Moist gluten.....	26.50

#### SEED WHEAT.

One of the most important features in wheat-raising is the seed. The popular idea that poor, rust-shriveled wheat will grow just as good a crop as full, large, healthy grains is very erroneous and misleading. The young wheat plant depends in its first few days of existence upon the plant-food stored in the grain. A large, healthy grain contains two or three times as much nutrients as a small, shriveled one; therefore the plump seed can give the young plant a more vigorous and abundant growth before it is left to its own resources. The plant getting the best start has the advantage, not only of other plants, but also of adverse conditions of climate and soil. Many farmers have a practice of keeping the wheat unfit for market as seed, while they sell the plump grain to the miller at a higher price, and yet they expect the inferior wheat to produce an abundant yield of superior wheat next season. The so-called "running out" of varieties of wheat is probably due to this very practice in many instances, though in some cases "running out" is due to other causes.

The heaviest and plumpest grains should always be selected for seed. This can easily be done by running wheat through a series of sieves which separate the large grains from the rest. The light grains can be separated by blowing them out with a strong blast in a fanning mill or by running the grain through a machine made for the purpose of throwing seed some distance. In this case the heavier grains go the greater distance as friction with the air tends to stop light grains quickest. This sorting machine and sieves cost but little and every farmer can afford to have them. By sending to the fac-

tory where such sieves are manufactured, the necessary sheets can be obtained and the sieves made of any desirable size. The matter of seed selection is of such vital importance that nothing would be of more benefit to the wheat-grower than the setting aside of a small plot of land for seed-growing. Seed to be used as a starter should be selected from the best portion of the field; rye and other foreign heads and weeds being eliminated. After thrashing this portion separately, grade with the fanning mill or centrifugal sorting machine and special sieves mentioned above, selecting the larger and heavier grain for seed for both the small seed plot and the general seed crop. Next year grade the wheat from the breeding plot in a similar manner, using the very best as seed for the seed plot and the remainder of the good seed for the general crop, which can not be given same care as seed plot. Under this system of seed-raising and selection, there is a constant selection of seed which is more and more rigid every year.

Another popular but incorrect idea among farmers, is that a change of seed from one locality to another, is beneficial. In other words they think that a variety of wheat degenerates when grown in one locality for a length of time, and a change to another place will revive it.

After three years' experiments in changing wheat from one locality to another in his State, Prof. H. L. Bolley, of North Dakota, expressed the following conclusions:

"Varieties of wheat do not degenerate because of continuous growth upon the same soil. Different samples of seed of the same variety, which were grown upon different soils under like climatic conditions, will produce a like crop when seeded under same-ness of conditions.

"The theory that proper wheat culture requires a frequent change of soil is fallacious. It is not demonstrated that any advantage is gained by the use of seed previously grown under different climatic conditions than those under which it is to be used.

"Failure often results from injudicious seed exchange. Smut and weeds are often introduced by change of seed.

"Seed exchange as practiced precludes any proper methods of crop improvement by careful culture and seed selection."

Only perfectly formed, plump, hard grains should be seeded, and each farmer should grow his own seed, attempting to bring it to the highest grade of perfection and purity of variety by proper methods of selection and culture, without seed exchange. This will insure pure varieties, freedom from rust and smut, less weeds and heavier yielding and better milling wheats. A series of experiments along this line was carried on by the North Dakota and Minnesota Experiment Stations, and in every case where a variety was introduced into a different locality the yield was lessened to a certain extent. Very often a variety of wheat introduced into a new locality or country does better than any of the native wheats. In this case it would pay to introduce the better variety. Hardy red varieties introduced from Russia do better in Kansas and other portions of the United States than native wheats because they are better adapted to such conditions. As a rule a plant will attempt to adapt itself to surrounding conditions and when grown for a series of years under same conditions it so alters itself as to meet any requirements its environment may offer. If farmers breed and select wheat which is adapted to the soil and climate by the methods mentioned above, they will have no difficulty with the wheat "running out," or becoming inferior, but should breed up a better quality of wheat, or at least a wheat better adapted to that particular locality, unless the wheat is not adapted to that climate, in which case, undesirable alterations may occur. For instance, hard wheats may become soft, etc., under certain climatic and soil conditions.

#### SELECTION OF VARIETIES.

One often runs across an advertise-

ment made by certain seed-growers of new varieties that make astonishing yields, from 40 to 60 per cent better than the ordinary. Such exaggerated claims almost always indicate a fraud and no attention whatever should be paid to them. In the face of the fact that a great deal is being done to improve wheat, no variety will produce on an average an increase of ten or twelve bushels per acre over the ordinary, nor can any variety be so much better than another in this respect as to justify a price of \$10 to \$15 a bushel, a price which many farmers have paid willingly in expectation of an enormous yield.

The factors to be taken into consideration in the selection of varieties are ably summed up in the following conclusions of M. A. Carlton:

"1. There are three great groups of wheats with which this country is particularly concerned: (a) the soft bread wheats; (b) the hard bread wheats; (c) the durum or macaroni wheats.

"2. Dividing the United States cross-wise into three divisions of approximately equal width, the three wheat groups may, in a rough way, be assigned according to their adaptability to these divisions, as follows: (a) The hard wheats to the Northern States; (b) the soft wheats to the Middle States; (c) the durums to the Southern States.

"In actual experience such distribution is, of course, not exactly attained, because the durums are but little grown in this country. When tried here, however, they do best in southern latitudes, as for instance in Texas, where they have been grown with success, and moreover the soft and hard bread wheats are grown interchangeably as to latitudes. However, the general distribution of the three groups is about as given above.

"3. The terms most generally applied to the three groups are hard wheats, soft wheats, and durum wheats. The last named are also hard wheats, but are very different in character from the first named. The soft wheats are called club, square head, white, etc.

"4. The hard wheats are especially hardy and drought resistant. They resist the orange leaf rust very well, are perfectly adapted to roller milling, and contain a large per cent of gluten, thus making the best bread.

"5. For the general market, therefore, special attention should be given to raising these hard wheats. No ordinary bread wheat does well in the South, but there should be greater efforts to push hard wheats into the middle latitudes, such as Kansas, Missouri, Ohio, Illinois, and Indiana. This has already been done to some extent and should be continued.

"6. In foreign market, Kansas hard-wheat flour has already gained a reputation distinctly its own and is classed by some as next to the best Hungarian grades in quality.

"7. The sooner millers make a more general use of hard wheats the better, for these are sure to be the varieties most in demand and those which will be grown most successfully in the greater portion of the wheat belt. It is little more than a decade since hard winter varieties were rarely grown in the region south of Iowa and Nebraska, but these are now the kinds generally grown in the States of the plains.

"8. Most of the work in adapting the hard wheats to the middle latitudes has been done by acclimating Northern varieties, thereby gradually changing to winter sorts, but it is a question whether it is not better to introduce hard winter varieties direct.

"9. The finest quality of bread wheat in the world is grown in southeast Russia. As this region is characterized by deep black earth (chemozen), an arid climate, long and severe winters, hot and dry summers, conditions very similar to those which prevail in our own wheat belt, these wheats should by all means be more extensively tested in the United States than they have been. The wheats in question are both winter and spring varieties. The plants can be easily distinguished at some distance when grown

(Continued on page 617.)

## JUMPING UP

Is a great deal harder than jumping down. And yet people who have been for years running down in health expect to jump back at once. It takes years generally to make a man a confirmed dyspeptic, and he cannot expect to be cured in a few days.

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## The Stock Interest

### THOROUGHbred STOCK SALES.

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

July 19, 1904—L. M. Monsees & Sons, Smithton, Mo., twenty-fifth semi-annual sale of Jacks, Jennets and horses.

August 2, 1904—Harry Sneed, Smithton, Mo., Durro-Jerseys.

October 13, 1904—C. O. Hoag, Mound City, Kans., Poland-Chinas.

October 28, 1904—Leon Calhoun, Potter, Kans., Poland-Chinas.

November 1, 1904—W. B. VanHorn & Son, Poland-Chinas, at Overbrook, Kans.

December 6 and 7, 1904—Chas. W. Armour, Kansas City, and Jas. A. Funkhauser, Plattsburg, Mo., Herefords at Kansas City.

February 1, 2, 3, 4, 1905—Percherons, Shorthorns, Poland-Chinas, Wichita, Kans.; J. C. Robison, To-wanda, Kans., Manager.

February 16 and 17, 1905—Chas. M. Johnston, Manager, Caldwell, Kans., Combination sale of registered stock.

February 22 and 23, 1905—Shorthorns and Poland-Chinas, N. F. Shaw, Manager, Plainville, Kans.

### Color in Shorthorns.—No. XI.

EDITOR KANSAS FARMER:—The winners of the first prize in class of senior heifer calves, at the great International Show at Chicago, in December, was Lad's Emma, color red and white. Her dam is an imported red cow (bred by W. S. Marr, of Scotland), whose ancestry are of course mixed colors. The sire of Lad's Emma is a red and white bull, got by the great champion prize-winner, the roan St. Valentine 121014, whose sire was a roan and dam a light roan.

Second, Hampton's Queen of Beauty (white). Her sire and dam are both roans. Two of her grandparents are roans. Four of her great grandparents are roans.

Third, Anoka Gloster (roan). Her sire is red and he was bred by Duthie of Scotland. Her dam is red roan; and her maternal grandam and paternal grandsire are roans.

Fourth, Lad's Clara (red). Her dam is an imported red cow (bred by Marr, of Scotland), whose sire and paternal grandsire are roans.

Her sire is also the sire of Lad's Emma, the first winner in this class, and he was got by the great St. Valentine (roan).

Fifth, Victoria of Linwood 8th (roan). Her maternal ancestry for three generations are red. Her sire and paternal grandsire are roans. Her sire's maternal grandsire is a roan.

Sixth, Silver Rosalind (dark roan). Her sire and dam are both roans, bred in Scotland.

Seventh, Mary Lavender (red and white). Her sire and dam are red. Her maternal grandsire and gradam are red, with an immediate ancestry of mixed colors. Her paternal grandsire is the great roan champion, St. Valentine 121014. Her paternal granddam is the roan cow, Monarch's Lovely by the great roan champion show-bull, Gay Monarch 92411 (bred by Marr, of Scotland), that won second prize in aged bull class at the great World's Fair at Chicago in 1893.

Eighth, Heart's Ease (red). Her red sire and roan dam and maternal roan grandsire were all bred by Marr, of Scotland. Her paternal roan grandsire was bred by A. Cruickshank.

Ninth, Caroline of Riverside (red). Her dam is an imported red cow whose paternal grandsire was the great champion, the world-renowned roan show-bull, imported Cup Bearer 91223, bred by Duthie in Scotland. His sire and paternal grandam were roans.

Tenth, Lady Dorothea 2d (white). Her sire is a roan. Her dam is a dark roan.

Eleventh, Meadow Queen (red). Her sire and dam are both roans, bred in Scotland.

Twelfth, Hampton's Queen (dark roan). Her seven maternal ancestors in the first three generations are all red but one, viz: her dam's paternal grandsire, a roan bull bred by A. Cruickshank. Her sire is a dark roan. Her paternal grandsire is a roan bred by Duthie, of Scotland; and the sire of the latter bull is a roan bred by Marr, of Scotland. Her sire's maternal grandam is a roan.

Thirteenth, Anoka Missie (roan). Her sire and paternal grandsire and grandam are all reds. Her imported dam is a roan, and the latter's sire and paternal grandsire are roans.

Of the thirteen winners in this

class, only four are red, and they are more or less closely related to those of the other standard colors of the breed. Two are white, two are red and white, and five are roans. None of them appear to have been bred by breeders who are breeding for reds exclusively, which is an encouraging feature, and for the good of the breed generally.

D. P. NORTON.

Morris County.

## The Veterinarian

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

**Thumps in Pigs.**—Please tell me what to do for my pigs. They have thumps. They are running on a small lot and are fed corn twice a day and have milk and water from a water separator, also green clover cut and fed to them once a day.

J. R. M.

Lawrence, Kans.

Answer.—"Thumps" is usually a result of overfeeding and indigestion. Cut down their feed to a little slop made with bran, shorts and the milk, and in this give some Government hog-cholera remedy. A little of the green clover would also be useful, but I think if you will cut down their feed to a very limited amount for a week or ten days it will overcome the difficulty.

**Lame Mare.**—I have a 12-year-old mare that is lame in the left fore leg. When she starts out she is very lame for fifty yards but soon warms out of it. When she stands for a little while she starts off again very lame. She is worse when she is worked. I also have a mule that scours badly when worked.

Lawrence, Kans.

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Answer.—You do not give me information enough about the lameness so that I can form an opinion. Lamenesses are often difficult to diagnose, even after a thorough examination, and it is practically impossible to do so from a letter. In some respects the lameness indicates a ring bone. You should have her examined by a qualified veterinarian.

For the mule that scours the best treatment is to take pains in feeding him. Give him easily digested, nutritious food, but be careful and not overfeed. Give him but very little water before starting to work, but give him a little water frequently while at work.

**Wire Cut.**—I have a 4-year-old mare that cut the front foot in a wire very badly two years ago. This cut healed up all right. Last fall the cut again became sore, she got very lame and finally an abscess broke in the bottom next to the frog. For the last two months I have been using a solution of red iodide of mercury. The lameness has disappeared but it still discharges a whitish substance. What can I do for her?

G.

Jarbola, Kans.

Answer.—I am not certain whether there is any connection between the old wire cut and the present condition of the foot. I would advise you to wash the abscess out well and inject a solution of blue vitriol, made by dissolving a tablespoonful in a quart of water. If this does not heal it you had better have a veterinarian examine it, as it may be a quitter. Be sure that no nail or other foreign substance has punctured the foot.

**Lumps on Cow's Leg.**—About ten days ago a lump appeared on the fore-leg of one of my best cows. It is on the inside of the leg between the knee and fetlock. Since then several lumps about the size of a hazelnut have formed. They are soft and are hot to the touch. The cow is in good condition.

SUBSCRIBER.

LaCrosse, Kans.

Answer.—I should judge that there was pus or matter in these little lumps. I do not know what else it can be. I would open them and wash

them out with a 5 per cent solution of carbolic acid. I think this will cure them.

**Distemper.**—I have a 4-year-old gelding that has been sick with distemper for three weeks. The lower jaw gathered and broke and is now a running sore. There is a swelling on the right side of the upper jaw and one on the left side of the neck back of the jaw. A thick yellow mucous runs from the nose, and his appetite is very poor. What precautions should be taken to prevent the spread of the disease?

Farnsworth, Kans.

C. N. J.

Answer.—Wash out the abscess below the jaw with a 5 per cent solution of carbolic acid once daily. If the other lump softens open and treat in the same manner. Give him, internally, a heaping teaspoonful of hyposulfite of soda, twice daily, in his feed if he will take it, and if not, dissolve it in water and give it by the mouth with a piston syringe. Keep the horse isolated some distance from others and water him out of a separate bucket. Be careful he is not exposed to storms. Give him some green grass, and a little bran and shorts wet up, if he will eat it. A little oil-meal would also be excellent.

**Lumps on Calves' Jaws.**—I have five yearling calves, out of a bunch of fourteen, that have lumps on their jaws. I have opened them but they seem to close up in a few days. What can I do for them?

SUBSCRIBER.

Havensville, Kans.

Answer.—The disease is what is commonly known as cattle distemper and is caused by some local infection that they get either with the water or food. Open the abscesses freely, wash out the pus and cauterize them on the inside by using a stick of nitrate of silver or a little pure carbolic acid on swab. Some put in a lump of blue vitriol. The external opening must be kept open until the abscess heals from the bottom.

**Flaxseed-meal.**—I had some flaxseed ground last winter and fed it to my horses with good results. Is it safe to feed it to mares that are with foal? Would it pay to feed it to horses on grass?

H. P. C.

Palco, Kans.

Answer.—Flaxseed-meal is very nutritious, easily digested and laxative. For a grain ration it should be fed in connection with some other grain and in small amounts. It is a splendid addition to a grain ration, particularly to growing animals. It will not hurt pregnant mares if fed in reasonable quantities. A handful is usually sufficient.

**Bog Spavin.**—I have a 2-year-old filly weighing 1,200, which has bog spavin on each hock joint. They came about eight months ago. I blistered them at first but it made them larger, but now they are smaller than before blistering. What can I do for her?

Narka, Kans.

SUBSCRIBER.

Answer.—Bog spavins are rather common in young, heavy draft colts. In a majority of cases they will outgrow them, but where they do not and they have been on some time, they are difficult to remove. I would advise bathing with hot water, giving lots of hand rubbing, dry thoroughly and paint them with tincture of iodine. Do this once daily until the skin begins to get sore, then withhold for a few days and repeat.

**Ailing Pigs.**—I have some 5-months-old pigs that seem to be doing well, yet I notice that occasionally they will pass some blood or bloody urine, about a tablespoonful. They eat well but they do not look as well as others that are not affected. I am feeding them milk but no corn.

Laird, Mo.

Answer.—I am unable to determine what the trouble is as this is new to me. It is possible that they have kidney-worms, or it may be that the blood comes from the bladder or urinary passages. I would suggest giving them a little oil-meal for its soothing effects on their urinary organs, and one or two I would treat by giving them from two of four teaspoonfuls of turpentine in a little raw linseed oil as a drench. It should be given once a day for two

## Horse Owners! Use

GOMBAULT'S

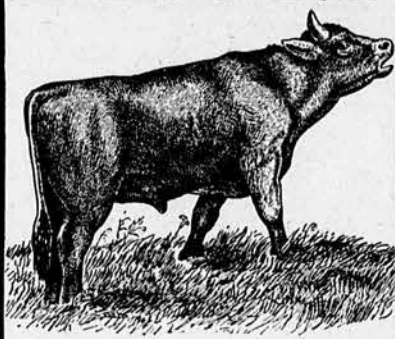


## Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

## KRESO DIP



## FOR ALL LIVE STOCK SHEEP, SWINE, CATTLE, HORSES, ETC.

PREVENTS AND CURES PARASITIC AND SKIN DISEASES

Kreso Dip is a powerful germicide and disinfectant, an unfailing tick-destroyer and lice-killer. It cures scab, mange and other parasitic diseases; kills dog-fleas and poultry-lice; prevents disease and keeps away flies. It is scientifically prepared in our own laboratories, never varies in strength, and is always reliable.

NON-CARBOLIC, NON-IRRITATING, NON-POISONOUS

Easily prepared—just mix it with water: 1 gallon Kreso Dip makes 100 gallons ready for use.

TRIAL LOT, \$1.25 PER GALLON CAN, at your druggist's, or direct from us (charges prepaid). Special quotations on quantities. Write for descriptive pamphlet—it's free.

## PARKE, DAVIS & CO.

HOME OFFICES AND LABORATORIES: DETROIT, MICH.  
BRANCHES: New York, Chicago, St. Louis, Boston, Baltimore, New Orleans, Kansas City, Indianapolis, Minneapolis, Memphis.

## Home Health Insurance

To insure the household against disease, use DIPOLENE, the disinfectant that does double duty—kills disease germs and purifies. For softening water, mopping floors, sinks, drains, toilets; it renders everything wholesome, sanitary, healthful. Dipolene is handy in a hundred ways in every-day household work. Saves time—labor. A woman's friend, a foe to filth.

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on the farm is a money-saver. A preventive and cure for diseases of sheep, cattle, hogs, etc. The famous one-minute sheep-dip every farmer and stockman should know about. None so effective, so economical. Booklet, "Dipping for Dollars" tells the whole story. Free on request.

Marshall Oil Co.

Box 14

Marshalltown, Ia.

## Improved Hog, Sheep and Cattle Dipping Tank

Made of Galv. Steel  
10 feet long, 20 inches wide at top, 12 inches at bottom, 4 feet deep.....\$9.00  
8 feet long, 20 inches wide at top, 12 inches at bottom, 3 feet deep.....7.00  
Bath tubs, delivered, each.....6.50  
Columbian Steel Tank Co., Station A, Kansas City, Mo.  
Manufacturers of all kinds of Steel Tanks.



or three days. I would be glad to hear from you if any should die. Make a very careful post mortem examination and report.

N. S. MAYO.

#### Gossip About Stock.

On June 2 lightning struck the big hay barn at Wichita Stock Yards and set fire to it. Before it was gotten under control the big feed and hay barn and about three acres of the yards were burned. The loss is estimated at about \$20,000.

H. W. McAfee, of Prospect Breeding Farm, Topeka, certainly has reason to feel pleased with the Topeka Semi-Centennial week. His gaited saddle stallion was awarded first prize, and, in the ladies' day parade, the float exhibited by the West Side Forestry Club, which won first prize, was drawn by his \$600 team of prize mules.

The Plainville Herd of Shorthorns belonging to N. F. Shaw is doing business at the old stand. Last week they sold herd-headers to Clayton Stansfield, Alton, Kans.; Henry Marcotte, Palco, Kans.; and Hon. E. A. Kramer, Plainville. These are all yearlings and speak well for the esteem in which the Plainville Herd is held by the neighboring breeders. The advertising card on page 622.

There never was a more favorable time to buy pure-bred cattle advantageously than the present time. In fact there are only a limited number of cattle that are in the market for sale, and singularly those offered for sale can be purchased at bargain figures. F. C. Kingsley, Dover, Shawnee County, Kansas, states that he has ten yearling Shorthorn bulls and a few heifers for ready sale.

Some prospective buyer of good Shorthorn cattle will have an opportunity to buy an entire herd of well-selected Shorthorns at a bargain. The herd is located at Belton, Mo., in charge of Mr. R. T. Spence. The herd is owned by G. T. Stockham, proprietor of the Criterion Hotel, New York, formerly manager of the Midland, Kansas City. This will be a great opportunity to get pure-bred Shorthorns at your own figures. For special prices write Mr. G. T. Stockham, Criterion Hotel, New York City.

Colonel Chas. F. Mills, who is in charge of the department of live stock at the World's Fair, says that "Kansas is making a most creditable exhibit at the Louisiana Purchase Exposition and her people are entitled to a full measure of congratulation on the extent and high character of the agricultural exhibit made by the Sunflower State." These words will undoubtedly be appreciated from such a source. What Kansas now has on exhibition is merely a foretaste of what she will do later when her live stock is shown at St. Louis.

Under date of May 23, 1904, Professor Farrington says: "We have used Zenoleum Disinfectant around our creamery for the past few years and have been well pleased with it. It is especially valuable for deodorizing sour drains and decomposing milk, which may have been spilled on the ground around the factory. The odor of this disinfectant is an agreeable one, and we find it advisable to constantly keep on hand a supply of your Zenoleum."—E. H. Farrington, Dairy Department, Wisconsin Agricultural College, Madison, Wisconsin.

L. K. Haseltine has changed his address from Dorchester, Mo., to Rural Route 7, Springfield, Mo., but he has not moved any of his Red Polled cattle or his Duroc-Jersey swine. He has a lot of choice young bulls for sale. He has been selling them quite rapidly in the last few weeks, and is pleased with his trade because his customers are pleased. We think he also has some of those good Duroc-Jersey hogs yet for sale. His Red Polled herd-bull is Tender 5233 and his herd-bull is Herbert C 21759. Write him and get prices.

The Whitehall Herd of Shorthorns, owned by E. S. Kelley, Yellow Springs, Ohio, were drawn upon for a consignment of forty-two head which were sold at Chicago last week. F. W. Harding, of Waukesha, Wis., paid \$1,205 for the yearling Mysie bull, Whitehall Marshall, and topped the sale. The Cruickshank Clipper cow, Camella, with heifer calf at foot, brought \$625 and topped the sale for the females. The summary is as follows: 34 females sold for...\$10,959; average...\$322.06 8 bulls sold for...2,400; average...300.00 42 animals sold for...13,359; average...318.00

We take especial pleasure in introducing Col. W. D. Ross, Ottoville, Mo., to our readers this week through his advertising card on page 623. Colonel Ross has been selling pure-bred live stock for a good many years and has been conspicuously successful in hog sales. He is a prominent breeder of both pure-bred cattle and swine and is thoroughly posted on pedigrees. If he has a hobby at all it is selling hogs and cattle, though he is a good salesman in any kind of a ring. We have watched Colonel Ross sell many times and consider him one of the good auctioneers.

John Bollin, Route 5, Leavenworth, will have some Poland-Chinas this summer that ought to bring him a pile of money. He has a litter of pigs sired by the \$1,480 Mascot, bred by Joe Young, of Richards, Mo. Another litter by Harmonizer, one by Perfection Now, ten or a dozen by Slick Perfection, and a whole farm full of youngsters by Black Perfection. We tried to induce him to make a show at the World's Fair, but with all these hogs on the place he thinks he hasn't time to bother with a little thing like that. If anybody has any better breeding than John Bollin in his Poland-China herd he can show the people.

Every breeder of Shorthorn cattle in this country knows Fred Gifford. His Elmwood herd has been a fixture at Milford, Kans., for more than thirty years, and is the oldest established herd in the State of Kansas. Last week we mentioned that he had bought Mysie Hero 2d from C. S. Nevius, of Chiles, Kans., and now he tells us that he has sold his great herd-bull, Red Gauntlet 8d to

Bunch & Pollman, of LaCygne, Kans., to head their herd. Mysie Hero is to be used especially on Red Knight heifers and we predict something great for the Elmwood herd from this combination.

In the Special Want Column to-day we advertise a stallion that is an unusual offering. He is a very rich, dark chestnut in color, almost faultless in conformation, and has a record as a breeder that is second to none. Business necessity compels his owner to sell in order to change his location. The horse is very highly bred and is one of the most magnificent animals we have ever seen. His dam is by Strathmore 2d by Norman 25th, third by Mambrino Chief 11th, and his sire is equally well bred. This horse will cost some money to get but he is a bargain at the price offered. Write to A. M. Graham, 1901 West Sixth Street, Topeka, Kans., for pedigree and other particulars.

Mr. E. P. Sherman, the remarkably successful Poland-China breeder, at Wilder, Kans., has a very choice variety of white field corn that was grown after the flood last year. The ears are very large, with a deep grain and medium-sized cob. They are well filled at both ends and are uniform in size. He has no name for it but has perfected it by selection of seed during the ten years in which he has lived upon his present farm. It is a dent corn, and, as it matured after the flood last year, it is evidently a good grower. So far as the writer knows, Mr. Sherman has no seed for sale but may be able to supply some in time for another season's crop.

We hope every one of our readers who owns a cow will see the advertisement of the Iowa Separator Company on page 615. With the advance of ideas has come an improvement in machinery and the Iowa Separator is offered as the most complete and up-to-date machine for general use on the farm. Notice the special claims it makes and see if these are not good points. This machine will be handled hereafter by Mr. Dickie, who has for some time past been the manufacturer of the famous Jensen Cream-Ripener at Topeka. The hand-separator has come to stay and it is to the interest of every user to secure the one which suits him best. Write a letter and ask about the Iowa.


Lieutenant Robert Mitchell, a graduate of the State Agricultural College, underwent a surgical operation last week which resulted in his death. After his graduation he enlisted for the Spanish-American War and during his service in Cuba he won promotion, and later on was appointed second lieutenant by President Roosevelt. His subsequent services brought him the rank of first lieutenant. It is said that his surgical operation was rendered necessary because of an old injury received on the foot-ball field while he was yet a student. He was shortly to have been married to a Miss Ralguel, of Philadelphia. At the time of his death Lieutenant Mitchell was a member of the U. S. Coast Artillery. This information will be received with deep sorrow by the old students and by the faculty of the college, who remember him as one of the brightest boys in that institution.

Here is a Snap.—John W. Roat & Co., owners of the Crescent Herd of O. I. C. swine at Central City, Neb., are better equipped for their trade than ever before. They have hogs of all sizes and ages and can fill any kind of an order. Their prices are reasonable and just now they are making a special proposition. Any one ordering pigs of 1904 farrow to be shipped in June will have the express charges paid on them to destination. This means that the prices of the swine remain the same but they are delivered free of charge to the buyer's home town instead of his having to pay express charges on them as heretofore. It really amounts to a reduction in the price of these good hogs of the amount of the express bill. Remember that the offer only holds good for June, and that it will be necessary to write them at once in order to take advantage of it.

W. F. Garrett, owner of the Solomon Valley Herd of Duroc-Jersey swine at Portis, Kans., is the man who made such a wonderful record in his first annual sale last winter. We hope he will have another as good. He has the finest stock that he has ever owned. Sixteen of his brood sows have averaged more than \$100 in cost and they have been productive property. For the present he will not sell any sows or gilts, but still has a few good boars, of the kind that make money, for sale. Notice the change in his advertisement and write him now while they are cheap. Any Duroc-Jersey that is of good quality and well-bred is cheap these days when the demand is so strong for more than can be raised in the State. Mr. Garrett is prepared to furnish the best and he is very reasonable in his prices.

Wm. Wales, the veteran Shorthorn breeder, of Osborn, Kans., is also an up-to-date breeder of Poland-China swine. He has just purchased a fancy young boar from F. A. Dawley, of Waldo, Kans., that was sired by his great herd-boar, Woodbury, and out of a Perfect I Know dam. A young man like F. A. Dawley, who received his training in the State Agricultural College, is of inestimable value to any community. Mr. Dawley has been breeding Poland-Chinas but a short time, and in that time he has gotten together one of the very best herds, both in breeding and individuality, that now exists in the State of Kansas, and he has done this in the wheat belt where formerly farmers seemed to be afraid of a hog. Mr. Dawley has just bought a new Chief Perfection sow from Illinois to add to his already fine herd.

Col. James W. Sparks, who sells good live stock all over the country and who has made good sales in eighteen different States and Territories from Minnesota to Mississippi, has just returned from Starkville, Miss., where he sold a nice bunch of seventy-five pure-bred Shorthorns from the Texas breeding ranch of B. B. and H. T. Groom. These cattle made an average of \$105. Considering the fact that the sale was made on June 1, it is quite a feather in Colonel Sparks' cap to be able to report so high an average on Texas Shorthorns in Mississippi. The sale was held on the grounds of the



**KILLS PAIN  
QUICKER THAN  
ANYTHING  
IN THE WORLD**

**SLOAN'S LINIMENT**

**FOR MAN OR BEAST**

**Penetrating-Kills Germs**

**ALL DEALERS**

agricultural college and included a bunch of twenty-five Red Polls belonging to A. W. Calbert, a local breeder. The latter averaged \$120. Colonel Sparks is looking well and is very fit for his constantly increasing business. He has been selling registered stock for twelve years past and no man in the country has gained a firmer hold on the breeders than he has.

T. P. Babst & Son, Dover, Kans., who are among the oldest Shorthorn breeders in the State and who have always maintained the best blood of the breed in their herd, report the sale of four herd-headers this week. A. M. Ashcraft & Son, Route 3, Atchison, Kans., are to be congratulated on securing the splendid young bull, Harmony's Knight, for their Mount Pleasant Herd. He was sired by Knight's Valentine and out of Harmony 8th by Laird of Linwood, and is just the kind of pure Scotch breeding that Mr. Ashcraft needs in his good herd of Scotch Shorthorns. Mr. David G. Page, of North Topeka, secured Lord Mayor 2d by Lord Mayor out of Forest Daisy, than whom there is no better bred bull, and his individuality is up to his breeding. Mr. H. Davis, of Emporia, bought Maid's Knight by Knight's Valentine out of a Lord Mayor cow, and James McDowell, of Eskridge, bought John Sims by Lord Mayor out of a Thistletop cow. These are all extra fine bulls of Scotch breeding and are herd-headers. Mr. P. Keck, Auburn, bought Doctor Bradley by Knight's Valentine, out of a Lord Mayor cow, for use in his herd. Mr. Babst still has a Scottish Bloom and a Young Mary with five Scotch tops that are herd-headers, and wait for some one who has a herd good enough for them to go into. He has about a dozen fine young bulls for sale, and when buyers see them it does not take long to make a trade.

Herewith we present the portrait of Col. W. D. Ross, the successful live-stock auctioneer who has made such a record as a



salesman of pure-bred swine. Colonel Ross lives at Ottoville, Mo., where he breeds pure-bred cattle and swine in partnership with his brother. Although very successful in selling any kind of stuff, Colonel Ross' preference is for pure-bred swine and cattle, with the pedigrees of which he is thoroughly familiar. Being a breeder himself he is thoroughly posted on values and his years of experience have given him a record which assures him a second call when once he has made a sale. It is always to the interest of the breeder who makes a sale to secure the assistance of a competent auctioneer. This is especially true in the swine ring where the bids may be smaller but where they are just as important, relatively, as in the cattle and horse ring. With his long and successful experience as a hog salesman, Colonel Ross brings a prestige of good work well done to recommend him. We have seen Colonel Ross in the sale ring on many occasions and take pleasure in commending him to Kansas breeders who need the services of a good auctioneer.

National Prohibition Convention, Indianapolis, Ind., June 28-30.

The Chicago Great Western Railway will on June 26 and 27 sell round-trip tickets at one fare plus \$2.25 to Indianapolis, Ind. For further information apply to any Great Western Agent, or J. P. Elmer, G. P. A., Chicago, Ill.



**MORE**

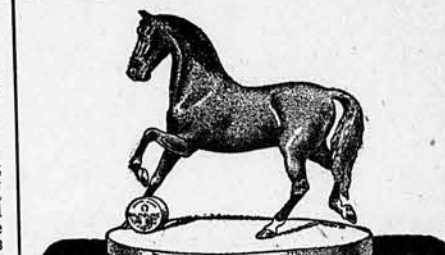
than feed is required to develop the perfect hog. Highest results presume perfect health from birth to slaughter. Get at once to the root of the matter. Insure perfect health to your herd by creating absolutely sanitary conditions. The way lies through the use of

**Zenoleum**

This standard remedy of the stockman destroys the disease germ, prevents cholera, purges the stomach and relieves all intestinal worms, kills lice, cures mange and gives a clean, healthy skin, a healthy vigorous system. Don't wait until cholera strikes—you may lose your all. **ZENOLEUM** insures the hog's health.

"The Great Coal Tar Carbolic Disinfectant Dip" Sample gallon of Zenoleum by express, prepaid, \$1.50; five gallons, freight prepaid, \$6.25. Two Zenoleum hand books, "Veterinary Adviser" and "Piggie's Troubles" are full of value for stockmen. Ask for them.

**ZENNER DISINFECTANT CO.**  
61 Bates St., Detroit, Mich.

**BALMOLINE**

excels all other remedies for Collar Galls, Sore Shoulders, Scratches, Wire Cuts, Cracked Heels, Sifts, Chafes, Rope Burns, Sore Teats, Caked Udder, Old Standing Sores of all kinds, etc. Keeps away the flies preventing Maggots, Screw Worms, and Proud Flesh. Equally good for man or beast. Endorsed by horsemen everywhere. It brings the new hair every time. Sold by all druggists. Price 25c and 50c. Trial size 4c by mail. For circulars etc. write De Huy Balmoline Mfg. Co. Box 14, Abilene, Kans.

#### PATENTS.

J. A. ROSEN, PATENT ATTORNEY  
418 Kansas Avenue, Topeka, Kans.



## The Young Folks

CONDUCTED BY RUTH COWGILL.

### TO KANSAS.

Not for thy outward charms of form and face,  
Careful to leave no feature unexpressed,  
As if for beauty's sake we loved thee best,  
We bring thee praise! Nor for thy pride of race,  
Nor for thy wealth that waxeth great apace,  
Nor will we vaunt, with low and swinish zest,  
Thy milky whiteness of thy mother-heart,  
Like unweaned babies that know no higher grace.

Shall we be lured by these things? Are not we  
A something more than mouth and eyes and ears,  
To eat and look and listen life away,  
More than these skin-deep beauties must thou be,  
To win and keep our homage through the years;  
Yes, fair in more transcendent wise than they,  
And fair thou art, as we would have thee be,  
Fair even in this more transcendent wise;  
The light of high communings on thee lies;  
Thy touch the bond abide not, but are free.

Thy look is gracious, holy, none but thee,  
Smiled on how'er she be by happy skies,  
Hath power to still the hunger of our eyes,  
Unsated by the mountains and the sea,  
For thou art Freedom's daughter, and thy birth  
Was through the pain of Righteousness's wars,  
Thy cradle song, the battle's war and din,  
Therefore thy beauty hath the greater worth  
Of noble thoughts; so art thou fair within,  
And claimest thine the pathway of the stars.

—Arthur Travis Canfield.

### Over the Border—A Story of the Kansas Pioneers.

#### XI.

(Copyright 1904, by Ruth Cowgill.)

#### CHAPTER XV.—BORDER RUFFIAN VENGEANCE.

Sarah walked quickly to the house, her head held high, the exaltation of her anger still upon her. But emotions of many different sorts had been aroused in her mind during this interview, and the reaction soon came, showing itself in a depression that she found hard to conquer.

She went about the simple work of preparing the evening meal in a kind of maze, wearily. Twice she caught her father looking at her anxiously, and once he asked her if she were not well. She aroused herself at this and forced herself to take her usual part in the cheerful mealtime talk. Henry was full of delighted excitement at the prospect of their removal to Lawrence, and felt aggrieved at Sarah's lack of enthusiasm.

"Thee is like thy mother, child," said Nathan. "Thee takes root deeply wherever thee is planted, and it hurts thee to be transplanted."

Sarah smiled a little at the figure, though a sudden mist dimmed her eyes for a second. The memory of her beautiful, tranquil-faced mother was very dear and very real to her.

The late meal over, she put baby Belle to bed with her childish "Now I lay me down to sleep." Nathan soon retired also, for he wearied easily since his fearful experience of a fortnight ago. He had slept, since that time, in the room downstairs, because of the difficulty of climbing the ladder into the loft, and Sarah soon heard his deep and regular breathing telling her he was asleep. Henry soon left, also, yawning sleepily, as he pulled himself wearily up the ladder. Sarah thought she would soon follow, but she was wakeful, and decided to do some sewing which needed to be done for Belle. She sat by the candle, working and thinking over the events of the day, at this, her first opportunity. She had begun to acquire a habit of introspection, and now she looked curiously into her own heart. She went over again the interview with Burk. Did she love him? She half feared she did. She knew that now that she had definitely shut him out of her life, there was a great void and lonesomeness. But how was one to know—how did any one ever

know? How did Howard Burk know? Perhaps he was mistaken, too. He had said he was going home—to his beautiful, sunny home where he had asked her to go. She wondered if the flowers did bloom all the time, and the birds sing. It must be a beautiful place—and with all his gay friends, too. There were probably other pretty girls besides his sisters—perhaps—yes, very likely, she said to herself briskly, very likely Howard would fall in love with some of those beautiful girls, who did not hate slavery, and doubtless— She was startled from her reverie by the sound of the dog's furious barking, and glancing up she saw a face at the window. It looked wild and fierce like a madman's. She screamed, and ran into the other room, where her father still slept. She was amazed to find the room full of smoke, while a little blaze was crackling away at one corner, rapidly growing larger. She ran to her father, and shook him and called loudly: "Father, father, the house is on fire!" She succeeded at length in arousing him from the stupor of the smoke, and he sprang from bed. "Border ruffians," he murmured, and Sarah turned sick and faint with terror.

"Call Henry!" commanded her father, picking up the baby and rushing into the kitchen. But Sarah had already flown frantically up the ladder, and was rousing her sleeping brother with difficulty. "Henry! Henry! awake! The Missourians have come!" Together they dropped through the opening in the floor, where the ladder entered, and stood trembling on the floor below, in the dark, for Nathan had blown out the candle. The children did not know what to do, nor where to go.

"Quick!" said Nathan, opening the door. But they were too late. A dozen evil faces scowled at them, and the mouth of a gun stared into their eyes. They heard the noise of an approaching multitude, and a few rods away they could see them coming. They stood for a moment paralyzed, huddled together in the door, fearful to return or advance. They could hear the fire crackling merrily as it crept nearer. A drunken ruffian came reeling and leering toward Sarah, who gazed at him with fascinated eyes, unable even to scream. Suddenly a powerful form hurled itself into view, the leering ruffian was felled with an unexpected blow, the threatening gun in their faces was knocked aside, and immediately a way was clear before them. "Go—to the creek," murmured a voice. Henry raised a pistol and fired into the darkness. Sarah caught the hand holding the smoking weapon and dragged him unwillingly away close at her father's heels. They sped along in the shadow of the house, for the fire was yet busy with the parlor and had not reached the south part. Nathan assured himself that Sarah and Henry were with him, then led the way with Belle in his arms. At a clump of thick, bushy trees, which threw a black shadow, Henry stopped suddenly and jerked himself loose from Sarah's hand, "I'm going back!" he said, hoarsely. Sarah caught him with both hands—

"Henry!" she said peremptorily, "I will not let thee go!"

"I'll not leave Dolman there to be killed," he said, twisting himself from her arms and running as he spoke. "I have a gun—I can take care of him."

Sarah sank upon the ground with a moan and hid her face in the long, dank grass. She could hear the cries of the ruffians, and even the fierce crackling of the flames. There were shouts of rage, and snarls like wild animals and oaths and suddenly the report of a gun. She raised her face and looked in the direction whence the sounds came. She could see the reflected light thrown far over the prairie. She crept nearer, and the whole scene lay clear before her. She could vaguely descry, in the confusion, tossing forms where the crowd was congested at the doorway. Suddenly another shot rang out, then a dozen more, as a form broke away from the others and ran in the opposite direction down toward the Lawrence road. She recognized it as Dolman, even at this dis-

ance. Two men ran following him, and she could hear their curses above the din of the yelling men and the crackling flames. There was a shot and Dolman dropped out of sight and disappeared. His two pursuers returned triumphantly proclaiming that "That —! —!! —!!! nigger-thief wouldn't trouble them no more!" "The kid's dead, too!" they remarked, with coarse laughter.

Sarah sank down in a swoon and mercifully knew no more for some minutes. She was roused by the voice of her father, calling frantically and without any caution, "Sarah! Henry!" over and over again. She arose, weakly, and ran to him, calling softly, "Here, father, here." He clasped her in his arms in a great relief. "But where is the boy—where is Henry?" he asked.

Sarah looked into his white face, old and worn, and drawn with fear and anxiety. Suddenly she felt herself strong. Upon her fell the responsibility for the comfort and safety of the rest.

"Henry is with Friend Dolman, father," she said, calmly.

"Among the ruffians?" he asked, and started toward the burning house.

"Nay, father, I saw our good friend running toward the road—he is not there, father," she insisted. "Come, we must find some safer hiding-place. See, the stable is beginning to burn, and that will make this place light as day. We must hasten." He stood gazing irresolutely toward the house, and she put her hand on his arm and drew him away.

They ran down toward the creek, whither Nathan had gone before he discovered they were not with him, and the tall, reedy grass and the bushes soon hid them. They followed the creek's winding course, until it crossed the road where they were safe enough to forsake the protecting shadows and take to the road. Yet they still hastened fearfully, with many a backward glance, and sudden halt to listen for pursuing footsteps. Nathan kept repeating, "Thee is sure he is safe, Sarah? Thee knows he is with Friend Dolman?" And even as she answered, "Yes, yes, he is with him," the coarse laughter of the ruffians echoed in her breaking heart, and she kept repeating to herself over and over, "The kid's dead, too. Yes, the kid's dead, too."

They reached Lawrence as the early morning began to faintly flush the eastern horizon. They went to the home of their good friend, Mrs. Robinson, who took them into her boundless hospitality, and listened to their tale with flashing eyes of indignation.

She took the wide-eyed baby and put her to bed with soothing words, where she soon fell asleep. Nathan was wearied beyond words to tell, yet could not rest, but insisted upon finding Dolman and his son. Sarah watched him as he stepped restlessly about the room. She knew she must tell him, yet she could not. Mrs. Robinson saw that something had not yet been told, and that Sarah was greatly troubled. She rose from her chair, where she had been sitting watching them pitifully, and going into an adjoining room, beckoned Sarah to follow.

"Tell me, Sarah," she commanded, "Where is your brother?"

Sarah answered quite calmly, "He is dead." Then dropped down prone upon the floor and sobbed uncontrollably. Her friend went to her quickly to lift and comfort her, and was startled to see Nathan standing in the door.

"My son is dead!" said his deep voice. "My son is dead!" He seemed dazed, stunned by the dreadful intelligence. He turned and walked blindly out of the room. They heard the door open and close, and his weak footsteps hastening away.

"I must go with him," cried Sarah. "He will walk unseeing into danger." She sprang up, checking her sobs as bravely as she could, and ran to the door, but abruptly stopped, for there coming toward her with hands outstretched, was Dolman.

"I thought thee was dead!" she gasped.

"No thanks to the Missourians that I'm not," he answered. "Where's the boy?"

"Ah, he is dead!" she cried, bursting into sobs again and hiding her face in her hands. "He is dead."

The man turned ghastly white under his coat of tan. "Dead!" he echoed. "When? How?"

"He went back to save thee, and they killed him."

"No, but I saw him get away," answered the man, still wondering.

"I heard them say he was dead," Sarah insisted.

"Then I'll not rest till I'll find him," said Dolman. His deep voice trembled, but his eyes glowed. "I'll find his little dead body, and I'll make somebody pay for this cowardly deed." With the words, he was gone in the footsteps of her father.

"Sarah," said Mrs. Robinson, "do you not think it possible that you are mistaken?"

Sarah looked up in sudden hope, more at the tone than the words.

"Mistaken? Oh, no," she said. "I heard them say 'The kid's dead, too'. He had a pistol. I know not where he got it—it is strange he had a pistol!" And she looked up wonderingly into her friend's eyes. It was the first time she had been calm enough to remember.

"I wonder how he came by a pistol," she repeated. "And he broke away from me, and went back to save Friend Dolman." She was talking almost forgetful of her sympathetic hearer. It was like recalling a dream of the night.

"Tell me about it, dear—the whole story," said Mrs. Robinson.

Sarah talked and found it a relief. She was worn to exhaustion with the night's experience, but unable to sleep—unable to fully realize the sorrow that had befallen her.

"My child, you must sleep," said Mrs. Robinson, when she sat, at the end of her story, in a brown study, leaning forward with wide-open eyes.

"Sleep! when my brother is dead!" she asked, almost indignantly.

"But, child, you have others to think of. You father will return heart-broken and then you can not comfort him. Sleep and rest, for his sake, dear."

Sarah yielded at last, and stretched her slender length upon a couch, where sleep soon overtook her.

(To be continued.)

### Indian Wit, Wisdom, and Eloquence.

In the Chillico Farmer, S. M. McCowan writes of Indian Wit, Wisdom, and Eloquence, from which we repeat some of the best stories:

The Indian is master of the art of eloquence. He possesses in wonderful degree the power to express strong emotions in simple and striking language. He does not hide his meaning in barren verbiage, nor attempt to touch by words of unending syllables. His similes are natural and poetical. He speaks from his heart direct. The words he uses are the simplest he can find. His comparisons are of the soil, the woods, the air and water. He has a vivid imagination and hears whisperings among the grasses and gathers secrets from the lips of leaves. Everything talks to him. He is chummy with forest folks. The South Wind whispers to him of love and ease; the North Wind of trouble and war. The Earth is Mother, the grass is her hair, the wind her breath, the rain her tears. The waters laugh and spirits prowl in the blackness of night.

They are not quick at repartee. It is improper to give answer immediately; it smacks of haste and lack of courteous consideration. They take time to think it over, to deliberate. In consequence they have less to repent from quick retort or hasty action.

Because they do not reply quickly is no sign of dullness. Once a minister had preached a long sermon on the fall of Adam, the coming of Christ to repair the mischief, His miracles and sufferings, etc. When he had finished an Indian orator rose up to thank him. He said: "What you have told us is good. It is a bad idea to eat apples. They should be made into cider. Then the cider should be allowed to stand awhile. It is better so. We thank you for coming so far to tell us these



things that you have heard from your mother."

It is reported that Quanah Parker, chief of the Comanches, was once in Texas on a very hot day. He had just taken a drink of ice water when a white man remarked: "White man pretty smart, ain't he?" "Yes," answered Quanah, "Smarter than God." "Oh, no; not smarter than God. Why do you think so?" "God he make ice in winter time; white man he makum summer time all same."

And he had the white man there.

Once an Indian had been found frozen to death and an inquest of his people was convened to determine the cause. The verdict was: "Death from the freezing of a great quantity of rum inside of him, which, we are of opinion, he drank mistaking it for rum."

A famous warrior was the Mingo chief, Logan. So great was he that his name is still perpetuated in the tribe. Magnanimous in war, great in peace, he commanded the love of his people and the respect of his white neighbors. In 1774 his family was foully murdered by certain white scoundrels, which brought on many bitter quarrels and bloody fights. After a time the whites under Lord Dunmore arranged a treaty, which, through the influence of another mighty chief, Cornstalk, was signed by most of the tribe. Logan, however, stayed in his cabin and would not join the council. Lord Dunmore, anxious to have his name on the list, sent a special messenger to confer with him. Taking the messenger out into the wood they both sat upon a log and Logan delivered this memorable speech:

"I appeal to any white to say if ever he entered Logan's cabin hungry and he gave him not meat; if ever he came cold and naked and he clothed him not.

"During the course of the last long, bloody war Logan remained idle in his cabin, an advocate of peace. Such was my love for the whites that my people pointed as they passed, and said: 'Logan is the friend of the white man.'

"I had even thought to have lived with you, but for the injuries of one man. Colonel Cresap last spring, in cold blood and unprovoked, murdered all the relatives of Logan, sparing not even my women and children.

"To-day there runs not a drop of my blood in any living creature. This called on me for revenge. I have sought it. I have killed many. I have fully glutted my vengeance. For my country and my people I rejoice at the coming beams of peace. But do not harbor a thought that mine is the joy of fear. Logan never felt fear. He will not turn on his heel to save his life. Who is there to mourn for Logan?—Not one."

This truly great man was, some years later, murdered while on his return from Detroit, where he went to attend a council of various tribes.

Here is a bit of reasoning by Petchonanalas, meaning the fulfiller, or one who succeeds in all he undertakes. The Delawares were invited by both the English and Americans to assist in the Revolutionary wars. At a council called to decide the momentous question of loyalty, he spoke as follows:

"Friends and kinsmen, listen to what I say to you. You see a great and powerful nation divided. You see the father [English] fighting against the son [Americans], and the son against the father. The father has called on his Indian children to assist him in punishing his children, the Americans, who have been refractory. I took time to consider what I should do; whether or not I should receive the hatchet of my father to assist him. At first I looked upon it as a family quarrel in which I was not interested. At length it appeared to me that the father was in the right, and his children deserved to be punished a little. That this must be the case I concluded from the many cruel acts his children had committed from time to time against his Indian children; encroaching on their lands, stealing their property, shooting or murdering without cause, men, women and children—even murdering them



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who had at all times been friendly to them, and were placed for protection under the roof of their father's house, their father himself standing sentry at the door at the time.

"Friends and relatives, often has the father been obliged to settle and make amends for the wrongs and mischief done us by his refractory children—yet they do no better. No! They remain the same, and will continue to do so as long as we have land or property left."

## For the Little Ones

### THE SECRET OF IT.

"Where does the clerk of the weather store  
The days that are sunny and fair?"  
"In your soul is a room with a shining door,  
And all of those days art there."

"Where does the clerk of the weather keep  
The days that are dreary and blue?"  
"In a second room in your soul they sleep,  
And you have the keys of the two."

"And why are my days so often, I pray,  
Filled full of clouds and of gloom?"  
"Because you forget at the break of day,  
And open the dreary room."

—St. Nicholas.

### Goldenrod.

MARY T. GAVIGAN.

Once upon a time there lived a beautiful maiden, just past her sixteenth birthday.

But alas, her own dear mother had died long since, and left her to the care of an old and ugly fairy.

When little Goldenrod was but a child, the old fairy loved her dearly. But soon a great tumult arose and there was a war among all the fairies. The old Garolda was dethroned, and a young and beautiful fairy was made queen in her stead.

This new queen, Florindina, became very fond of the little Goldenrod, and asked old Garolda if she might not come and live with her at the castle. But Garolda protested fiercely and would not let her go.

One day it occurred to the old fairy that the child was the means of her losing her throne; and she made up her mind to punish her severely.

Little Goldenrod, who was of an affectionate nature, had learned to love her fairy stepmother dearly, but as Garolda grew less sympathetic little Goldenrod would go each day and tell her troubles to the tiny buttercups and daisies.

One day old Garolda came to Goldenrod with a tub of peas and said, severely:

"Look you here, and see what I have. Every one of these peas must be counted and sorted before night."

Goldenrod looked up in astonishment, but when she saw the angry light in her eyes, she went to work with a will. Soon the day began to wane, and not one-third of the peas were sorted, and she had lost count so many times her little mind was all in a whirl. She became discouraged and laid her head on the soft grass and cried:

"Oh, help me, somebody, do."

No sooner had she spoken than a soft voice answered her:

"I will, my dear, close your eyes and rest, and when you wake your work will be finished."

Goldenrod looked up and saw before her the beautiful Florindina. Just at sundown she awoke refreshed and happy, and saw her peas sorted and on the gauzy wing of a butterfly the number for which she had worked so hard.

Soon the old fairy came and was so astonished at the finished task that she said:

"You have done fairly well, but before you return home you must empty the stream flowing at your feet with this spoon."

Goldenrod was then paralyzed with fear, at the thought of being alone in the woods at night. And the task was hopeless, as the spoon was peppered with holes.

She sat down on an old stump and cried again for help.

Once more Florindina came to her assistance and told her to look toward the north, and climb to the nearest mound. As she did so she heard in the distance a fearful roar of thunder, and following a fearful flash of lightning, and by its aid she saw the stooped figure of Garolda fall and then all was dark and still again.

Florindina took Goldenrod to the castle with her and she grew to be a beautiful and helpful woman.

### The Long-Tailed Titmouse.

Once upon a time, there lived a titmouse, who had a very long tail, of which he was very, very proud. His nest was in a bramble bush, where Mrs. Titmouse sat the whole day long upon a nestful of little eggs, keeping one eye upon him, as he perched upon a twig near by admiring his beautiful tail. He never would have stirred had not Mrs. Titmouse called out now and then, sharp and shrill, as a titmouse will, "How do you expect me to hatch out a nestful of tomtits with tails like your own, if you do not bring me a bug or a grub to eat?" Then the titmouse would hop, and the titmouse would jump, and away he would go in search of the food.

One day while he was pulling a fat bug from his hole, a big old cat stole up behind him, and with one grab of her horrid teeth pulled out every feather of his beautiful tail.

The titmouse hopped, and the titmouse jumped, amazed to see how little and mean he was without his beautiful tail. Then he cried out, sharp and shrill, as a titmouse will, "Cat Ca-a-t, give me back my long ta-a-a-il again!"

The old cat, finding nothing to tempt her taste in the feathers, said: "I will give you your tail again, but first you must get me a saucer of milk."

So the titmouse hopped, and the titmouse jumped, and away went the titmouse, until he came to a cow, when he cried out, sharp and shrill, as a titmouse will:

"Cow, Co-o-o-w, give me some milk! I'll give the milk to the cat, And the cat will give me My great long ta-a-a-all again!" The cow turned her great, big sol-

emn eyes upon him and said: "I will give you the milk, but first you must get me some hay."

So the titmouse hopped, and the titmouse jumped, and away went the titmouse, until he came to the barn, where he called out, sharp and shrill, as a titmouse will:

"Barn, Ba-a-a-rn, give me some hay! I'll give the hay to the cow, The cow will give me some milk, I'll give the milk to the cat, And the cat will give me My great, long ta-a-a-all again."

"I will give you the hay," said the barn, "but first you must get a key to open my doors."

Then the titmouse hopped and the titmouse jumped, and away went the titmouse, until he came to the blacksmith's, where he called out, sharp and shrill, as a titmouse will:

"Blacksmith, Bla-a-acksmith! give me a key!"

I'll give the key to the barn, The barn will give me the hay, I'll give the hay to the cow, The cow will give me the milk, I'll give the milk to the cat, And the cat will give me My great, long ta-a-a-all again."

"I will give you a key," said the blacksmith, "but first you must go to the sea and get me some coal."

So the titmouse hopped, and the titmouse jumped, and away went the titmouse, until he came to the big rolling sea where he called out, sharp and shrill, as a titmouse will:

"Sea—Sea—Sea! Give me some coal!"

I'll give the coal to the blacksmith, The blacksmith will give me a key, I'll give the key to the barn, The barn will give me some hay, I'll give the hay to the cow, The cow will give me some milk, I'll give the milk to the cat, And the cat will give me My great long ta-a-a-all again."

As the next wave rolled in, it brought a big lump of shining black coal, which the sturdy little titmouse rolled and pushed over hill and dale until he reached the forge, where

He gave the coal to the blacksmith, The blacksmith gave him the key, He gave the key to the barn, The barn gave him the hay, He gave the hay to the cow, The cow gave him the milk, He gave the milk to the cat And the cat gave him his great, long ta-a-a-all again.

There was a lively swing to this story. When grandmother nodded her head we all nodded without knowing it, and all clapped hands as the titmouse took back his great, long ta-a-a-all again.—Sarah F. Meader, in Holiday Magazine.

### Reduced Rates to Atlantic City via Chicago Great Western Railway.

On June 1 to 4 inclusive the Chicago Great Western Railway will sell round-trip tickets to Atlantic City at one fare plus \$2 account of annual meeting American Medical Association. Return limit leaving Atlantic City June 13. Stop-over allowed at Philadelphia, Baltimore, and Washington on return trip. For full information apply to any Great Western Agent or J. P. Elmer, G. P. A., Chicago, Ill.



## The Home Circle

CONDUCTED BY RUTH COWGILL.

### THE HEROES OF THE FIRING LINE.

"In those days there were giants in the land" men who were of power and renown."

Not Roberts, he of Candahar,  
Not Cronjes with his scar-seamed men,  
Not any man of noisy war,  
Nor noisome man with praiseful pen—  
No, no, the hero of the strife  
Is he who deals not death but life—  
I count this man the coming man,  
The rounding glory of God's plan.

The heroes of the firing line?  
They housed with God upon the height,  
Companioned with the peak, the pine;  
They read His open Book by night;  
They drank His star-distilled perfume  
Walled round by room and room and room;  
By day they faced the trackless west  
And chased the yellow sun to rest.

Such sad, mad marches to the sea!  
Such silent sacrifice, such trust!  
Three thousand miles of misery,  
Three thousand miles of heroes' dust!  
But then such stout thews of the few  
Who knew the Promised Land, who knew  
The cleansing fire and then laid hold  
To hammer out God's house of gold!

Hear, hear their thousand cannon roar  
Against the knock-kneed mountain  
gnome,  
Where never man set foot before,  
Where monsters only have made home!  
Hear, hear the treasure house is free,  
A stream of gold flows to the sea,  
And where a foolish king would rear  
A castle, lo, a college here!

Their cities zone the sundown seas,  
Their white tents top the mountain  
crest.  
The coward? He trenched not with these.  
The weakling? He is laid to rest.  
Each man's a man, such dauntless man  
As God wrought not since time began.  
His sons are as the sons of Saul  
With David's daring, soul of Paul.

Each man a hero, lion each!  
Behold what length of limb, what  
length  
Of life, of love, what daring reach;  
To deep-hived honeycomb! What  
strength!  
Clean outdoor Adams, virile, clean  
As nature in her vernal green;  
He hears, hears as a prophet hears  
The morning music of the spheres.  
—Joaquin Miller.

### Empire Building in New Mexico.

REV. J. H. HEALD, IN THE HOME MISSIONARY.

New Mexico is a vast and wonderful land. Its great, gaunt outlines of ragged mountain chains, dry river beds and desert valleys suggest that here we have the skeleton of an extinct empire. If we search amid these ruins of nature, we shall not be long in finding also the ruins of man. Scattered over this vast domain in cliff wall, on mesa top, or in valley, are ruins of hundreds of ancient pueblos and thousands of isolated dwellings. What these pueblos were, we know from the nineteen examples that have escaped the onslaughts of the treacherous Navajo and the murderous Apache and continue to this day, retaining largely their ancient customs and laws. We thus know that the Pueblo Indians were the most intelligent, industrious, and civilized inhabitants of what is now the United States previous to the coming of the white race. If they did not constitute a prehistoric empire, it is because each pueblo was an independent republic.

Here, also, the Spaniard tried his hand at founding an empire. Before the days of Plymouth Rock, New Mexico was a Spanish colony. But it proved a bad country for the usual Spanish method of swapping a little blood for a great deal of treasure. In this case the usual method was reversed and the Spaniard swapped much blood for little treasure. A Pueblo uprising in 1680 wiped out in a single day over four hundred Spaniards, including more than twenty priests. But the Spaniard at least succeeded, before he spilled his blood, in mixing it with that of the natives, and as a result we have to-day in New Mexico more than a hundred thousand of the mixed Spanish and Indian race, whom we call Mexicans. They were vigorous men, those old Spanish empire builders, and they left their mark not only upon the people, but also upon the institutions of the country. They left a religion which was a blend of pagan superstition and Catholic cult,

and which has proved persistent, if not pure. They created a system of law and government, which, if not just, was strong, and efficacious for securing the prosperity of the few at the expense of the many. Under this system society was actually divided into two classes, the masters and the peons. The latter, embracing about three-fourths of the entire population, were nominally free, but practically slaves. They received a small wage, never sufficient to live on, and were kept in debt to their masters and thus doomed to perpetual servitude. The machinery of the law was in the hands of the ruling class and there was no redress for the poor peon. He seldom resisted and when he did was crushed. Such was the Spanish experiment in empire building in New Mexico. From the point of view of civilization, it can not be considered altogether a success. With the cession of New Mexico to the United States in 1848 began a new era in empire building whereby this great territory shall be constructed into a sovereign State of the Great Republic. We at once gave New Mexico liberty. A still better gift would have been good government and education to fit the people to make good use of liberty. Had our Government at that time realized and met the needs of its newly acquired citizens, there could now be no question of the fitness of New Mexico for Statehood.

In the State that is to be, the Mexican must play an important part for weal or for woe. Shall he be an element of danger, the prey of unscrupulous politicians and fanatical religious leaders, or shall he be a reliable citizen and an intelligent Christian? This is the question that is now being decided. Varied forces are helping to solve that question. The Christian churches of our land have given New Mexico over sixty mission schools, with one hundred and forty teachers, and eight or ten ordained missionaries, with five or six times that number of native preachers. Some people now say, "We have been sending preachers and teachers to New Mexico for years. Haven't you got the work done yet? Why don't you get on faster?" For one reason, because for every teacher and preacher sent to New Mexico, the American people has also furnished a score of gamblers, saloon-keepers, and bad men. We have given New Mexico not only our best, but also our worst. With chagrin one learns that the word American often represents to the Mexican people not pure and upright character, but the reverse. An American friend of mine said to a Mexican neighbor, "Why do you give a sort of start whenever I speak to you?" The Mexican replied, "The first Americans that came here were very bad, dangerous men, and I can't get over feeling startled at the sound of an American voice, although I have perfect confidence in you." I am glad to be able to put beside this indictment the testimony of scores of Mexicans concerning a missionary of our beloved Home Missionary Society who poured out his life in brief but lavish service for this people. "He was a good man," "He was a good neighbor." "He never once deceived us." That man's preaching may not have made many converts, but his life left an impression that will never be obliterated. I am glad also to be able to bear testimony to a few American business men, whose life and business methods have been a noble example, and who, without knowing it, are the best of missionaries to the Mexican people.

Spite of all these drawbacks, there is improvement. The Mexican people are a rising people. To estimate rightly their progress, it is necessary to consider whence they have come. Fifty-five years ago the vast majority were practically slaves. I never realized this so fully until a few months ago, when I was visiting in the home of a Mexican friend. I spoke somewhat disparagingly of present conditions, when my friend said, "I am an old man. I remember the days of the Spanish law. Most of the people were peons. They received \$1.50 or \$2 per month—and this in produce at the master's price. The poor peon had no rights. It was 'Juan' here and 'Pablo'

there and the peon could only answer abjectly, 'Si, Senor,' to the master's every command. When a lad, I was one day tending a flock of goats near a field where some peons were hoeing corn. A lad of twelve years accidentally cut down a stalk of corn. Just then the master came by and saw it. In a rage he snatched the cavador (heavy nigger-hoe) from the boy's hand, knocked out its heavy oak handle and with it beat the boy into insensibility. The men looked on distressed but helpless. People in the village a short distance away saw, but none dared interfere. When the master went his way, the parents came out and carried the lad home, where he lingered a helpless imbecile until his death two years later. Was there any redress? On the contrary, the master compelled the boy's father to take the place of the disabled lad and work out his time."

My friend told this and other tales of the past with the realistic power that came from actual participation in the events. As he described the peon's position, he became transformed. The old man was a peon again. The cringing air, the downcast mien, the deprecating tone, expressed more eloquently than words the meaning of the peon's lot. As he stood thus before me, the embodiment of centuries of peonage, how different was he from the independent, intelligent Christian man, whom I count it a pleasure and an honor to call my friend! I realized then as never before whence and how far the Mexican people have come. True, not many have come so far as my old friend. What wonder if not all have found their way to independence, industry and thrift? In my old friend and a few like him I behold the first fruits of the harvest. This man, when a lad, was for a time a chore boy to a missionary, from whom he received the gift of a Bible. The troublous days of the Civil War came on and the missionary was obliged to leave the country, never to return. Even so the Bible stayed. The lad learned to read it and to love it. It led him out of the darkness of superstition, lifted him above his vicious surroundings and made him the noble, intelligent Christian man he is to-day. His life bridges the chasm between the old order and the new. Already

"The older order changeth, yielding place to new."

Upon the site of ancient empire, we build the new State. It is well, then, that in preparation for this event a few forgotten missionaries have been delving in the debris of dead religions and ruined civilizations to lay firm and sure that foundation, other than which can no man lay for the Christian State.

### Woman's Freedom.

"Through all these years of progress no greater emancipation has come into any department of human development than that which has come into the life of the average American woman. She is no longer merely the household drudge, the silent slave, the unpaid servant working for her 'board and clothes'; we are beginning to give to her her rightful place, or it would perhaps be more in accordance with exact truth (though not so flattering to man's vanity) were we to admit that she is beginning to take that place, not as a gift, but by that natural moral and intellectual right which marks her in most things as man's equal and in many things as man's superior. In casting up the causes of the world's advancement, he is a poor historian who does not give to woman her full share of credit and deserving praise.

"Unlike some races to whom liberty has come, woman is making a wise use of her emancipation; she is educating herself along those lines of thought which of necessity must result in the making of a broader womanhood, a sweeter wifehood, and a nobler motherhood. She is slowly discarding the 'sewing-circle' of the past (that old relic of provincial dissipation, which has been rightly defined as a meeting-place for the sewing of cloth and the tearing of characters) and in substituting in its place the helpful association of the woman's club of to-day. What a magnificent exchange!

# YEAST FOAM

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You never tire of bread made with Yeast Foam. It tastes fresh and good at every meal. It's wholesome and nourishing—the true

## Staff of Life

health and good digestion. Yeast Foam is made of the finest malt, hops, corn and other healthful ingredients. It never grows stale, and may be kept on hand all the time.

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NORTHWESTERN  
YEAST CO.,  
CHICAGO.

For in the latter the activity of the brain is mightier than the agility of the tongue.

"Then let the noble work of the woman's club go on; for I firmly believe that in proportion to woman's intellectual advance, so will the Nation progress along those lines which always make a country great—along the lines of liberty, equity, and morality. Let woman add to the natural refinement which God has bestowed upon her the further refining influence of all that is beautiful, ennobling, and uplifting in art, in music, and in literature. Let her study and master the intricacies of political economy; let her read and understand the question of National finance; let her bring all of that wonderful intuition with which she has been endowed to bear upon our vexed problem of capital and labor. This higher education is not only a privilege for woman to accept, but it is a duty which she owes humanity; an indebtedness, due the succeeding generation, not for the purpose necessarily of qualifying herself for the privilege of the franchise, but for the better fitting of herself for that higher and nobler duty, the making and educating of men who will wisely use that franchise. Man, in his conceit, may 'lay the flattering unction to his soul' that his mighty brain is the light of the intellectual world; but let him ever remember that woman is the dynamo which furnishes the power for that illumination.

"The Catholic Church says, 'Give to us the custody of the child until he is seven years of age, and after that place him amid whatsoever influences you may choose, his religious allegiance is secure.' So it is that during the plastic years of childhood the sweet formative influence of the mother is most surely felt; and so I say, broader the mother, better the child; better the child, nobler the man; nobler the man, securer the State. Hence, after all, if we are looking for the real true hope of the future years, let us seek no further than the hearthstone of a happy home; there she sits, singing her sweet, soft lullaby of love to the babe upon her breast, whose drowsy lids are slowly closing to childhood's happy sleep."—Geo. D. Alden, in National Club Women's Review.

### How to Rule a Husband.—Hints Culled from Different Sources.

When the writer was about to marry, the wife of a well-known judge gave her this advice:

"My dear, a woman needs the wisdom of Solomon, the patience of Job, and the meekness of a dove to get along with the best man that ever lived. I have my third husband, all good men, but all cranky at times!



When they are cranky, keep still; when they fret, hold your tongue, and always remember that it takes two to make a quarrel."

In writing the dear old lady after some years of experience at the headquarters of an army where I was surrounded by some thirty thousand men I took occasion to say:

"The more I see of men the better I like them; and as to quarreling, you are quite right. I should like to add that your admirable advice might perhaps be supplemented by adding: 'Exercise tact, and spell it large.' Tact will win nine times out of ten where open hostility and aggressiveness fails."

The response was:

"You are right; we are improving with each generation."—National Magazine.

Do not always expect your husband to admire everything you say, or everything you do. You are human, like he is, and he can not always approve of all your words and acts. Of course, he will do so during courtship, but he can not forever. He will soon discover your weaknesses, just as you will soon find out what his are.—Delineator.

The secret of happiness in the home is love. Pure, true, unselfish love and a great abundance of it. Enough to outweigh all pride and jealousy.

Sometimes in the home there will arise misunderstandings. Sometimes one is tired, and a hasty word is spoken. Sometimes we have a "blue day," when everything goes wrong. But to offset all these there are three small words—

"I love you" drives the frowns away;  
I love you dries the tears;  
I love you are the words to say  
To brighten all the years.  
I love you brings the sunny smile;  
I love you cheers the heart;  
I love you makes life worth the while  
And bids all gloom depart.

—Ex.

## Club Department

### OFFICERS OF STATE FEDERATION OF WOMEN'S CLUBS.

President.....Mrs. Cora G. Lewis, Kinsley  
Vice-Pres.....Mrs. Kate E. Applington, Council Grove  
Corresponding Secy.....Mrs. Justice H. Brown, Olathe  
Recording Secretary.....Mrs. F. B. Hine, Kinsley  
Treasurer.....Mrs. J. T. Willard, Manhattan  
Auditor.....Mrs. D. W. Wilder, Hiawatha  
State Secretary for General Federation.....  
.....Mrs. C. C. Goddard, Leavenworth.

### Our Club Roll.

Mutual Improvement Club, Carbondale, Osage County (1895).  
Give and Get Good Club, Berryton, Shawnee County (1902).  
Woman's Literary Club, Osborne, Osborne County (1902).  
Ladies' Reading Club, Darlington Township, Harvey County (1902).  
Woman's Club, Logan, Phillips County (1902).  
Domestic Science Club, Osage, Osage County (1888).  
Ladies' Crescent Club, Tully, Rawlins County (1902).  
Ladies' Social Society, No. 1, Minneapolis, Ottawa County (1888).  
Ladies' Social Society, No. 2, Minneapolis, Ottawa County (1889).  
Ladies' Social Society, No. 3, Minneapolis, Ottawa County (1891).  
Ladies' Social Society, No. 4, Minneapolis, Ottawa County (1897).  
Chalfont Club, Highland Park, Shawnee County (1902).  
Cultus Club, Phillipsburg, Phillips County (1902).  
Literary Club, Ford, Ford County (1903).  
Sabbath Club, Mission Center, Shawnee County, R. R. No. 2 (1899).  
Star Valley Woman's Club, Iola, Allen County (1902).  
West Side Forestry Club, Topeka, Shawnee County, R. R. No. 8, (1903).  
Fortnight Club, Grant Township, Reno County (1903).  
Progressive Society, Rosalia, Butler County (1903).  
Pleasant Hour Club, Wakarusa Township, Douglas County.  
The Lady Farmers' Institute, Marysville, Marshall County (1902).  
The Woman's Progressive Club, Anthony, Harper County.  
[All communications for the Club Department should be directed to Miss Ruth Cowgill, Editor Club Department.]

Of all Semi-Centennial week, the brightest, sunniest weather and the most perfect and beautiful celebration was on Woman's Day. The affair was under the management of the Topeka Federation of Clubs, and I think the club women made themselves a reputation, or at any rate, added to the reputation they already had. In the afternoon was the Flower Parade, in which many of the clubs were represented beautifully. The clubs had been at work for weeks making paper flowers, and they felt that it had all been worth while, when they saw the result. There were carriages, automobiles, floats, and bicycles, covered profusely with flowers of various colors; there was one in purple and violet wistaria,

one all in fluffy green chrysanthemums, one or two in pure white, several in yellow, and so forth. The Governor's wife rode, very appropriately, in a chariot of sunflowers; the president of the city federation in an exquisite, snow-white carriage. Some of the floats were unique. The West Side Forestry Club, a suburban club with which the readers of this column are somewhat familiar, had a very original representation. They have been endeavoring to have a waste tract of land in their vicinity made into a park; and their float was a very forcible reminder of this, being no less than a miniature park, on wheels. There were the evergreen trees, the grassy lawn and the broad and shady walks and drives, all artistically laid out, a graphic illustration of their aim and object. The Just for Fun Club of children rode behind two scraggly-looking, straw-hatted little burros. The children wore broad-brimmed hats and seemed to be even then carrying out the avowed object of their organization, Just for Fun. There were others that were interesting, and many that were wonderfully artistic, but I lack space to tell of them.

In the evening a fine program was carried out. It was entirely a woman's program. There was an eloquent paper on the "Kansas Pioneer Woman," by Mrs. Brown, of Salina, which was followed by "The Kansas Woman of To-day," by Mrs. H. O. Garvey, who is known to this department through her bright and up-to-date paper which was printed some months ago. Then our two guests, Mrs. Stoutenborough, of Nebraska, and Mrs. Mabel Loomis Todd, of Massachusetts, both prominent and brilliant club women of their respective States, made charming talks. Mrs. Stoutenborough paid Kansas a delicate compliment by quoting that most wonderful poem of Professor Carruth, of the Kansas University, "Each in His Own Name." Because it is so beautiful, and because it is not so well known in its native State as it should be, I quote it here:

### EACH IN HIS OWN NAME.

A fire mist and a planet,  
A crystal and a cell;  
A jellyfish and a saurian,  
And caves where the caverns dwell;  
Then a sense of law and beauty,  
And a face turned from the clod—  
Some call it Evolution,  
And others call it God.

A haze on the far horizon,  
The infinite tender sky;  
The ripe, rich tints of the cornfields,  
And the wild geese sailing high;  
And all over upland and lowland  
The charm of the goldenrod—  
Some of us call it Autumn,  
And others call it God.

Like the tide on a crescent sea beach,  
When the moon is new and thin,  
Into our hearts high yearnings  
Come welling and surging in—  
Come from the mystic ocean  
Whose rim no foot has trod—  
Some of us call it Longing,  
And others call it God.

A picket frozen on duty,  
A mother starved for her brood,  
Socrates drinking the hemlock,  
And Jesus on the rood;  
The million who, humble and nameless,  
The straight, hard pathway trod—  
Some call it Consecration,  
And others call it God!

"The club is comforting. There is the pleasure—how great no one knows till she has tried it—of intimate association with other women; the happiness of warm friendships; the joy of sympathy in sorrow or trouble; the help of good counsel from those who also have suffered. \* \* \*

"It is a refreshment, a change of the mental atmosphere quite as beneficial as a change of air in the natural world. In fact, the good usually gained by travel and change of scene, is to the mind, and through that to the body."—Olive Thorne Miller.

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 can not 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,  
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Sold by Druggists, 75c.  
Hall's Family Pills are the best.



## FARM WORK

As necessary as the work in the field is the care of the buildings. If they are not properly roofed their usefulness is impaired. Your farm buildings should be roofed with

### Rex Flintkote Roofing

It is made of the best wool fibre, is waterproof, fire-resisting, and costs less than shingles. It is used instead of tin, tar, and galvanized iron on account of its superior qualities. Any one can lay it. Our book is filled with roofing information, and you should have it together with free samples if you own or use a farm building. Send for our agent's name in your locality.

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Good to me!  
There's Money  
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I am going on one of the  
Santa Fe excursions and get  
some of it. The cream will  
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We send FREE and postpaid a 200 page treatise on Piles, Fistula and Diseases of the Rectum; also 100 page illus. treatise on Diseases of Women. Of the thousands cured by our mild method, none paid a cent till cured—we furnish their names on application.  
**DRS. THORNTON & MINOR, 1007 Oak St., Kansas City, Mo.**



## THE TOAD USEFUL.

(Continued from page 601.)

admire his gastronomic powers, for he can eat, in twenty-four hours, a quantity of food equal to four times the capacity of his stomach. When he takes a fancy to tent-caterpillars he can consume 37 at a sitting; 55 army-worms makes a comfortable meal; 65 gypsy-moth caterpillars are not too many for him; and as before stated 77 thousand-legged worms are a delight to him.

On the basis of a toad examined, our investigator concludes that ninety days' rations for a toad would consist of 2,160 cutworms, 1,800 myriapods, 2,160 sow-bugs, 3,240 ants, 360 weevils, and 360 ground-beetles.

Moral—Never kill a toad; treat him kindly; provide a little stagnant water in which his tadpoles may transform to toads; make some artificial shelters for him in the garden; protect him against the small boy and other enemies; and profit by his friendly co-operation against man's most troublesome foes.

## A CYCLOPEDIA OF AGRICULTURE.

There has long been a demand for a ready-reference book on farming—a cyclopedia to which one might turn for not only such information as the well-informed farmer possesses but also for whatever knowledge is possessed by specialists in the many divisions of agricultural investigation. Such a book is now in course of publication by the Orange Judd Company, of New York. This company announces a new, practical, concise, and complete presentation of the whole subject of agriculture in its broadest sense, including field crops, garden vegetables, fruits, nuts, and other economic plants, and also all farm animals, dairy farming, and poultry. Other farm subjects, such as manures, fertilizers, principles of feeding, soils, drainage, irrigation, spraying, veterinary medicines, etc., are thoroughly discussed.

The information contained in this volume is based on the best experimental evidence, practical and scientific, of the past twenty years in America, with whatever help European work affords. It embodies the fruits of the actual experience of thousands of the most successful farmers in all parts of America. But this Cyclopedia also presents, for the first time, the entire discoveries, proven conclusions, and new methods that have been demonstrated to be of essential value by all the work of National, State, or provincial experiment stations, agricultural colleges, and departments of agriculture in the United States and Canada. Every bit of this vast mass of new and useful information is authoritative, practical, easily found.

No part of the field has been slighted; no effort has been spared to include all desirable details. The book is brand new in matter and in style of treatment. No other attempt has been made in recent years to consider the whole subject of American agriculture in detail in a single volume. All superfluous material has been omitted, and not a padded sentence appears from cover to cover.

The discussion of each crop includes an account of culture methods; suitable soils and fertilizers, methods of harvesting, storing, and marketing, economy of production, uses, feeding value; also descriptions and accounts of all dangerous fungous diseases and insect pests which attack farm, orchard and garden crops, with their remedies. This book thus contains pointed information on what each crop is, when to plant it, what fertilizers to use, how to cultivate, harvest, store, and market it, what it is good for, what place it should occupy in farm economy, and what to do to prevent injury from diseases and insects.

All the most important breeds of farm animals and poultry are described and illustrated. Their comparative value for different purposes and the principles of breeding are discussed. Recommendations are made concerning care, shelter, feeding, fattening, and marketing. Results of all the experiments made in the United States and Canada with various coarse

and concentrated feeds for horses, mules, dairy cows, cattle, sheep, swine, chickens, ducks, geese, turkeys, etc., are concisely summarized. Rations are suggested for use in different parts of the country and the general principles of feeding are laid down.

The causes, course, and symptoms of the diseases of horses, cattle, sheep, swine, and poultry are thoroughly described in such a manner that the farmer can readily recognize them and apply such remedies as are likely to be most efficient in his hands. The latest and most approved means of curing and preventing these diseases are clearly stated.

The arrangement is most convenient. In each division of agriculture the articles are grouped alphabetically. The table of contents is comprehensive, but the index is the most complete ever made of agriculture, with cross-references under both scientific and common names, in all between 6,000 and 7,000 topics.

## THE NEW CHIEF OF LIVE STOCK.

The daily press announces the appointment of Col. Charles F. Mills, of Springfield, Ill., as chief of the department of live stock of the World's Fair to succeed Hon. F. D. Coburn, who lately resigned on account of impaired health. Since Mr. Coburn was obliged to give up the work which he so ably handled, there is no other man whom the KANSAS FARMER would rather see appointed to succeed him than Colonel Mills. The Colonel was secretary of



COL. CHARLES F. MILLS.

the live-stock department under Mr. Coburn and is thoroughly familiar with the details of the work and with Mr. Coburn's plans for carrying them forward. He has been identified with the live-stock interests during his entire active life. He is a man of great executive ability and has a personal popularity that is exceeded by few. While Mr. Coburn was successful in inaugurating the greatest live-stock exposition that the world has ever seen, and while his work thoroughly demonstrated the judgment and business acumen of the World's Fair Commission in appointing him, the KANSAS FARMER desires to congratulate them a second time on their continued discretion in appointing Colonel Mills to continue the work to its final completion. No better selection could have been made.

## SPRAY THE ROSE-SLUGS WITH HELEBORE.

The slug is making the rose-bushes look as if scorched by fire. The writer did not like to give up his wife's roses to so small a foe and, therefore, consulted the books to learn how to successfully fight the enemy. Two remedies are given by Weed, viz., Helebores 1 ounce to 3 gallons of water used as a spray, and arsenate of lead 1 ounce to 1 gallon of water used as a spray. A small spraying apparatus, costing 65 cents, 4 ounces of helebores, costing 10 cents, were purchased last Saturday. One quart of water and about one-eighth ounce of helebores were used Saturday evening, on about twenty-five rose-bushes, some large and some small. A good many of the little green worms curled up and died when the spray touched them. On Monday, very few of the enemy could be found and

the damage seemed to have ceased. The treatment will be repeated in full confidence that the roses will be saved and the enemy vanquished. Present indications make it probable that less than one cent's worth of helebores will save twenty-five rose-bushes.

This same sprayer proves to be good for blowing a fine fog of kerosene over the roosts and into all crevices in the chicken-house, all of which is exceedingly discouraging to the lice.

## OUR AGRICULTURAL COLLEGE.

Kansas has always been proud of her State Agricultural College, but never proud enough. It has accomplished wonders in the way of development and growth though few of the people of the State understand how much this really means. It has been many years since this institution had money enough with which to exist except by the most rigid economy, and now, in spite of the liberal appropriations made by the Legislature, its growth has been so rapid that for the past six or seven years it has been really poverty stricken. It now stands as the largest institution of its kind

Average six year, 1896-1902.			1902		
State Agricultural College	Enrollment	Faculty	Income	Annual Cost per Student	Property
Kansas	1025	50	\$109,695	\$107	\$1,083,047
Iowa	950	63	141,375	149	1,496,923
Indiana	891	67	148,647	166	1,096,000
Michigan	557	46	156,402	281	1,814,910
South Dakota	448	24	63,403	142	1,029,500
North Dakota	378	25	61,545	163	1,444,225
Colorado	370	28	73,697	199	533,119

in the world. The accompanying table was prepared from official Government reports and covers the six years ending in 1902. As the Government reports for 1903 have not yet been received it was impossible to include the figures for that year in this table. Of the seven colleges mentioned it will be noted that the Kansas institution has the largest enrollment and the largest library. It will also be noted that Kansas has the smallest number in the faculty in proportion to enrollment, the smallest income, the smallest amount of property owned and very much the smallest annual cost per student. The column headed "property," includes the endowment fund of each institution as well as all other kinds of property owned by it. We take pleasure in publishing the accompanying table and express our thanks to President E. R. Nichols for its compilation.

## GRASSES AT THE AGRICULTURAL EXPERIMENT STATION.

A short time spent at the Agricultural Experiment Station last week gave the writer an opportunity to inspect the grass plats, whereon are conducted the experiments in growing the pasture and hay-making plants. The large tract of ground devoted to this purpose has been divided into plots, each one of which is sowed to some promising variety of grass or clover, or both together. The ground available for this experiment is not the best. It is on the southwest slope of a low hill where the soil is thin and poor and where the danger from washing in the heavy rains is considerable. This series of plats is now at its best and serves to demonstrate several things, one of which is that the visitor who has inspected the plat will know, hereafter, when he hears Professor TenEyck lecture on grasses or when he reads anything from his pen, that the information that he has received is both accurate and reliable. Professor TenEyck gains his knowledge at first hand and his utterances are valuable because he knows what he is talking about. We were interested in the showing which is made by the Bromus inermis. Sown as a single crop or in combination with other grasses or the clovers, it has demonstrated its value, and apparently its superiority to the English blue-grass. It furnishes feed earlier in the spring and adapts itself to wider conditions than does the English blue-grass and its seed crop is equally valuable. As it forms a dense sod the tendency is for it to become root-bound when planted alone. When sowed with alfalfa or red clover it produces an ideal hay crop and is vastly superior to timothy for this purpose. Of course the final

results of the experiment can not be given at this time but they will be published in a bulletin to be issued by the experiment station at a later date. We hope each farmer in the State will write to the director of the experiment station and ask that his name be placed upon the mailing list for these bulletins, which are free and which are of immense value to those who read and profit by them.

## WARM WORDS FOR HIS SUCCESSOR.

The first act of F. D. Coburn after being named as chief of the department of live stock of the Universal Exposition at St. Louis was to appoint Col. Charles F. Mills as the department's secretary. Upon withdrawing from active work at St. Louis Mr. Coburn was invited by the management to nominate his successor, and Colonel Mills has been given the position. In speaking of this appointment, Mr. Coburn, who still continues as honorary and consulting chief of the department, says:

"The exposition management is ex-

tremely fortunate in having available to its hand at such a juncture the services of Colonel Mills. No other man lives who has his extended experience and intimate acquaintance with such work as is before him; no other could be more enthusiastic or industrious in it, and no other begins to know so well the details of what has thus far been done or the whys and wherefores of its doing. He has been in contact with and a faithful participant in all the labor that has been in progress during each waking hour since the department was organized, eighteen months ago, and is in entire harmony with every conclusion reached or plan made.

"Colonel Mills will push forward with the plans already matured for holding the greatest live-stock show ever conceived and in every respect upon the highest possible plane. The making of this a reality now depends upon the hearty and merited support he must have from the exposition managers, the stockmen, and the always generous press—such support as has been invariably accorded his predecessor."

## KANSAS BREEDERS.

A number of representative Kansas breeders of improved stock have already announced that they are preparing exhibits for the World's Fair and also will show at the leading Kansas fairs that do not conflict with the dates of their exhibit at St. Louis.

The Kansas World's Fair Commission has deputized H. A. Heath, of Topeka to look after the interests of Kansas breeders who contemplate making a show, and he desires to announce that all breeders who desire to make a show at the World's Fair, St. Louis, should notify him at once so that he can supply them with the necessary data and information pertaining to the greatest live-stock show ever contemplated.

James Hutchinson, of Wakarusa, replies to inquiries for methods of exterminating artichokes from the land by saying that the old tuber decays by July and the new then begins to form. At this time the plant can be readily pulled out during a wet time, and that ends it. Mr. Hutchinson has lived on the Wakarusa for twenty-five years and in that time has exterminated many acres of artichokes.

## Cheap Round-Trip Rates for Vacation Trips.

From Kansas City via Chicago Great Western Railway \$15 to St. Paul or Minneapolis, \$19 to Duluth, Superior, Ashland, or Bayfield. Equally low rates to summer resorts in Minnesota and Michigan. Tickets on sale every day to September 30. Good to return until October 31. For further information apply to any Great Western Agent or J. P. Elmer, G. F. A., Chicago, Ill.



## WEEKLY WEATHER CROP BULLETIN.

Weekly weather crop bulletin for the Kansas Weather Service, for the week ending June 4, 1904, prepared by T. B. Jennings, Station Director:

## GENERAL CONDITIONS.

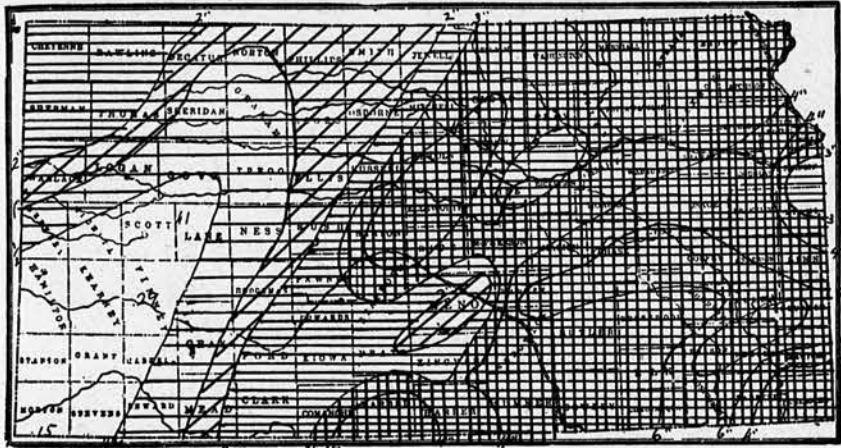
The cool weather continued through the week, with much cloudiness and frequent rains except in the extreme southwestern counties. The rainfall has been heavy over the eastern two-thirds of the State and was very heavy over the eastern half of the State. It ranged from six to over eight inches in the Cottonwood, Verdigris, Neosho, Marais des Cygnes, and Marmaton Valleys. Hail storms occurred in several counties.

## RESULTS.

## EASTERN DIVISION.

Wheat is in good condition except on bottoms where submerged, or where it has grown too rank, though Anderson County complains of some rust. It is heading in the northern counties, is well headed in the Kaw River counties, and is in bloom in Anderson, Coffey, and Greenwood Counties. Corn-planting has been stopped by the wet weather. The

Rainfall for Week Ending June 4, 1904.



SCALE IN INCHES.

Less than  $\frac{1}{2}$ .  $\frac{1}{2}$  to 1. 1 to 2. 2 to 3. Over 3. T, trace.

corn that has come up is not in good condition, and is getting weedy; too much water and weather too cool. Oats are doing well, though in Morris the crop is weedy, and in Wilson the late sown shows rust. Grass has made a fine growth and pastures are very good. The first crop of alfalfa is ready to cut. Timothy is heading in the central counties and clover is doing well. Potatoes are generally doing well though in Woodson they are beginning to wilt; in southern part of Johnson they are in bloom but poor stand. The sweet potato plants are rotting in Pottawatomie County. Apples are doing well, though in Pottawatomie they are falling and in Atchison some varieties are dropping. Peaches are growing rapidly in Shawnee. Cherries are ripe in Riley and Woodson and ripening in Leavenworth. Strawberries are ripe or ripening and are being marketed, a good crop. Grapes are beginning to bloom in the northern counties. Farmwork has been stopped by the wet weather.

Anderson County.—No field work this week; lowlands flooded; corn-fields in bad condition; wheat in bloom, some rank and lodged; timothy heading out.

Atchison.—Too wet to get into the fields; much corn yet to plant; some early planting so weedy it may have to be plowed up; wheat showing injury from continued wet weather; all fruit falling, some varieties of apples considerable.

Bourbon.—Continued wet weather has stopped all farmwork; there will be some injury to corn, oats, and potatoes.

Brown.—Farmwork greatly retarded; too wet for all crops; corn getting weedy; wheat heading; potatoes look quite well; fruit dropping some.

Chautauque.—Too wet for farmwork; corn growing rapidly but getting weedy; first crop of alfalfa very badly damaged; wheat ready to harvest; strawberries too watery for use; garden truck and potatoes plentiful but too watery.

Cherokee.—All farmwork at standstill; most of the corn plowed twice; wheat and oats look very well; cherries being injured by extremely wet weather.

Coffey.—Farmwork at standstill; considerable corn yet to plant; early planted corn getting weedy; much wheat and corn destroyed by floods.

Crawford.—Too wet for farmwork the latter part of the week.

Doniphan.—Corn-planting not yet completed; much will have to be replanted; present prospects for corn very poor; ground too wet to work; prospects for light crops of wheat and oats; wheat heading out; grass and pastures good; grapes beginning to bloom.

Douglas.—No farmwork done this week; wheat still looks well; grass good; corn in bad condition; much fruit falling.

Franklin.—Great damage by wet weather and floods; corn that was listed must be planted over; grass growing rapidly.

Geary.—Corn very backward; cultivation not yet begun; wheat making rank growth; good prospects for all kinds of fruit; strawberries ripening rapidly.

Greenwood.—No farmwork being done; wheat in bloom and looking well; alfalfa-haying progresses as weather permits.

Jackson.—Corn-planting retarded by wet weather; much corn washed out and there will be a large amount to replant; other crops doing very well.

Jefferson.—Ground too wet for field work; much corn yet to plant; bottom lands flooded.

Johnson.—Corn not more than half planted; some corn up with a poor stand and weedy; potatoes in bloom by a poor stand; wheat heading but greatly damaged on flat land; some ground intended for corn will not be planted.

Labette.—Condition of crops very promising considering wet weather, except in bottom land, where great damage has been done by floods.

Leavenworth.—All farmwork at a standstill; corn not all planted; wheat in good condition; oats doing fairly well; pastures good; all kinds of grass promising; some alfalfa ready to cut; a fair crop of apples promised; peaches not so good; cherries and strawberries ripening.

Linn.—Too wet for farmwork; considerable corn yet to plant, and what has been planted is in bad condition; wheat looks well except where damaged by floods.

Marshall.—Too wet for farmwork; corn came up well but is getting weedy; alfalfa a good crop and ready to cut; home-grown strawberries on market; fruit prospects generally good.

Montgomery.—A wet, cloudy week; crops not flooded are in fair condition but need sunshine.

Morris.—Oats very weedy; wheat and rye headed; alfalfa fine and ready to cut; corn needs cultivation but the ground is too wet; pastures good.

Osage.—Too wet for farmwork; corn needs sunshine; wheat and grass in good condition.

Pottawatomie.—Alfalfa-haying begun; strawberries on market; apples dropping badly; sweet potato plants rotting in the field.

Riley.—Corn a poor stand, has been injured by wet weather; alfalfa ready to cut; wheat headed out well; good crops of strawberries and cherries being marketed.

Shawnee.—Corn-planting not quite finished; some replanting necessary; cultivation delayed by rains; wheat, oats, and pastures doing well; apples and peaches growing rapidly.

Wilson.—Early oats good, late show rust; upland wheat above the average, lowland damaged by wet weather; corn needs dry weather and cultivation; alfalfa-haying delayed by rains.

Woodson.—No field work done this week; alfalfa ready to cut; clover doing well; some potatoes beginning to wilt; early cherries ripe.

Wyandotte.—Another wet week; wheat in bloom; some fields straw-fallen from effects of the fly; corn growing very slowly.

## MIDDLE DIVISION.

Wheat in general is in good condition; it is heading in the northern counties and is filling well in the southern; some injury has occurred in bottoms by overflows, and some has been damaged by hail. Corn is quite backward, owing to the cool, wet weather. Oats are in fair condition, though weedy in some counties. Barley is heading in Barber. Alfalfa is ready to cut and would yield a fine crop of hay if it could be secured; it is being cut in some counties. Grass is in fine condition and has grown well. Early potatoes are being marketed in the central counties and are beginning to bloom in the northern. Apples and peaches give fine promise of abundant crops in Sedgwick County. Cherries and strawberries are ripe and being marketed in the central and southern counties. Kafir-corn and cane are coming up in Pawnee, but were badly washed out in Barton. Farmwork stopped by wet weather.

Barber.—Corn backward but looking well; some alfalfa being cut but it is too wet to stack; barley and wheat heading; grass and garden truck growing well.

Barton.—Too wet for field work; wheat in bloom; some slightly damaged by hail; corn being cultivated; considerable cane and Kafir-corn washed out; pastures fine.

Butler.—A wet week, and much alfalfa spoiled; corn looks well but is very weedy; bottom lands flooded.

Clay.—Too much rain; considerable corn to replant; cultivation delayed; alfalfa that has been cut damaged by rains; dry, warm weather needed.

Cloud.—Corn washed out in many places; oats weedy; wheat in fairly good condition.

Cowley.—Farmwork at standstill; corn getting weedy; wheat suffering from wet weather; soft wheat turning; much alfalfa spoiled by wet weather.

Dickinson.—A good growing week but too wet for cultivation; wheat in bloom; oats heading; alfalfa ready to cut; corn all planted and some cultivated.

Edwards.—Heavy rains and hail this week; wheat considerably damaged by hail.

Ellis.—Wheat heading.

Ellsworth.—Some wheat and corn damaged by rain and wind storm on the 2d.

Harper.—Cherries ripe; early potatoes and green peas being marketed; May wheat ripening rapidly; wheat very fine; corn a bad color and weedy but a good stand; oats promise an average crop.

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for roofs, inside of poultry houses and all wood and iron under ground, is prepared coal tar paint. Write to the

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potatoes being set out; much planting of forage crops not yet done.

Morton.—A week of growing weather; plowing and planting in progress; more rain needed soon.

Ness.—Hail did some damage to corn and gardens; much forage not yet planted; grass good; cattle improving; potatoes and gardens; helped by showers; all small grains very poor; early barley heading but needs rain badly; corn improving.

Norton.—Crops have grown rapidly this week; potatoes look well and are beginning to bloom; Kafir-corn coming up.

Sheridan.—Fall wheat somewhat improved but most of it too weedy to make a crop; spring grain doing finely; corn a good stand but backward.

Sherman.—Grass growing finely; cattle beginning to fatten; winter wheat improving; weeds growing rapidly; barley promises well; fine prospects for rough feed; corn ready to cultivate; alfalfa doing nicely.

Thomas.—Sufficient rains for good growth of vegetation; some barley and rye ready to head out.

Wallace.—Wheat, oats, barley, and rye doing fairly well; grass good; alfalfa harvest begun—a very good crop; cattle doing well; ground in good condition.

## BLOCKS OF TWO.

The regular subscription price of the KANSAS FARMER is one dollar a year. That it is worth the money is attested by the fact that thousands have for many years been paying the price and found it profitable. But the publishers have determined to make it possible to secure the paper at half price. While the subscription price will remain at one dollar a year, every old subscriber is authorized to send his own renewal for one year and one new subscription for one year with one dollar to pay for both. In like manner two new subscribers will be entered, both for one year, for one dollar. Address, Kansas Farmer Company, Topeka, Kans.

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## In the Dairy

### Essentials in Dairying.

I started with twenty cows, the barn was planked and the milking done on a platform six inches higher than the runway; it was always dry and clean, and swept each day. The cows' heads are held in stanchions, in front of which is the feed trough for grain. This barn was only used for milking, the cows being turned out into lots for feeding alfalfa, which was accessible in racks, and using sheds and other shelter in bad weather, so that our milking barn was always sweet and clean in the morning as well as at night.

The first year we used the Cooley process of raising cream, by submerging the milk in cold water. This we found a most excellent way of producing a fine quality of cream; but, business increasing, this became impracticable, by reason of the time required for the cream to raise; so a separator was purchased, and the cans, covers and tank abandoned. The separator simplified the work, and the number of cows milked increased rapidly up to sixty. We also found the separator removed many impurities from the milk, which the most careful straining and care in milking could not prevent. The cream, being quickly cooled, and packed in ice, kept sweet for days. I had cream go to Los Angeles and back to Dodge City and still be of fine quality.

There are many requisites that go to make good cream and to make successful dairying. From my experience I will say that cleanliness leads the list—a clean place for the cows to be milked, clean feed lots and sheds, good ventilation in the milking stable, clean strainers and cloths, pails and separators. This is a starter, and you can now consider yourself on the road to clean, pure milk and cream.

Next to cleanliness, patience and kindness are foremost essentials to successful dairying. Kindness will win the most stubborn cow, as a rule, and, if not, the sooner she goes to the butcher the better. It requires patience to train young and valuable heifers. It takes patience to handle nervous cows and those inclined to kick on the slightest provocation. It requires patience to go through the fly season and milk cows, and not lose your temper or use strong language; but if you stand the test you are master of the business.

Having gotten your dairy herd well under way, either a large or small one, the first proposition to claim your attention is what I would term "the sorting-out process"—the weeding out of cows that for one cause or another prove undesirable, unprofitable; cows that kick, milk hard, are abortive, or test low butter-fat. Cows of this character should, as opportunity offers, be disposed of. Set your standard high for flow of milk, and test for richness, and continue and work toward that end, and you will find greater pleasure as well as profit in your herd. We all realize that it is a source of profit and essential to the continual betterment of the herd to raise at least the heifer calves from the best milkers, and thus in part make use of the skim-milk.

I have heard of more failures in raising calves or trying to raise calves on separator skim-milk than successes. This should not be, and is wholly unnecessary. The milk should be judiciously fed. The duty of feeding the calves should be given to one person who has a liking for the work. No calf should have the skim-milk until 3 weeks old, and then gradually diminish the quantity of whole milk until a month old, when the calf can be fed on skim-milk alone. It should always be fed warm and never in too large quantities. At a month old the calf should be eating a light ration of bran and wheat shorts and clean hay or alfalfa; fresh water should always be available also. I have followed this plan for the last few years, and never have any losses from scouring.

It is important that the farmer should have his own separator. It

saves many miles of travel in a week to the skimming-station, and enables him to have always warm, sweet milk for his calves.

To increase the profits of a dairy, then, raise your best calves of both sexes and make veal of the inferior ones.

The remainder of my skim-milk is fed to hogs, and, until you have tried it, you will hardly realize how valuable your skim-milk is for that purpose, and, in connection with a light grain ration and alfalfa pasture, seems to be the ideal condition for his hogship—the condition under which he gives the most remunerative returns.

One more word about the calves: Raise them well; do not wean too soon; give generous rations of grain and alfalfa as they grow older; cut out that distasteful expression to me, "skim-milk calf," as the appearance of the calf will belie the popular idea of the term; have fine, rollicky, sleek animals at weaning-time, equal to those that run with the cows. It can be done. The calves and the pigs that you raise from the skim-milk will alone, if conducted rightly, pay very fair interest on the investment.

It is success that encourages, and as the returns from the dairy come in, the character of the buildings improve, a general air of prosperity predominates, and the farm home becomes attractive. The thoughtful passerby says, "The home of a worker and prosperous farmer;" while the careless observer, the kind who always says, "I told you so," remarks that, "He was always lucky," when the fact is, success has been largely due to the exercise of good judgment, perseverance and hard work.

There is one drawback, one worry, for the man who milks cows, which causes him more anxiety than all others, particularly if he has quite a large herd and depends upon help outside his family for milkers, and that is the labor question. It is hard to secure good, faithful milkers, who are patient, kind, and thoroughly interested in their work. They can be found, however, and, when discovered, or if brought up with you in the business, pay them good wages; if possible, help them out when late to finish their work some nights; be with and encourage them all you can; let them know you appreciate their work and faithfulness. If there is a show or circus in town, give them half a day off; don't expect them to work in the field until sundown, then do the milking, finishing long after dark. My men are out at sunrise, and when the sun is set in the evening, their work is all done for the day, and I have always been well satisfied with the work accomplished. A friendly interest in and proper encouragement of good, faithful workers have enabled me to keep good hands for years, and when a person can employ and retain competent milkers, the last obstacle to successful dairying has been overcome.—J. H. Churchill, President of the Kansas State Board of Agriculture.

### Dairy Barn Rules.

The dairy demonstration, to be held in connection with the Universal Exposition at St. Louis, is attracting unusual attention, and the dairymen of this and foreign countries are especially interested in all that pertains thereto.

The rules relating to the feeding, milking, and caring for the seventy cows taking part in the test and recently promulgated by Colonel Charles F. Mills, the secretary of the live-stock department of the World's Fair, contain many suggestions that could be adopted with advantage to every farmer having few or many cows in the dairy.

The dairy barn rules of the Universal Exposition are as follows:

Barns.—The barns will be open to visitors from 9 o'clock a. m. to 6 o'clock p. m. The barns will be well cleaned each morning not later than 9 o'clock, and will be in readiness for morning inspection at 10.30 o'clock a. m. All manure must be promptly removed from the barns as voided between the hours of 9 o'clock a. m. and 6 o'clock p. m.

Cows.—The cows will be properly

# 15 YEARS

OF

## SEPARATOR EXPERIENCE.

La Veta, Colo., April 18, 1904.

To whom it may concern:

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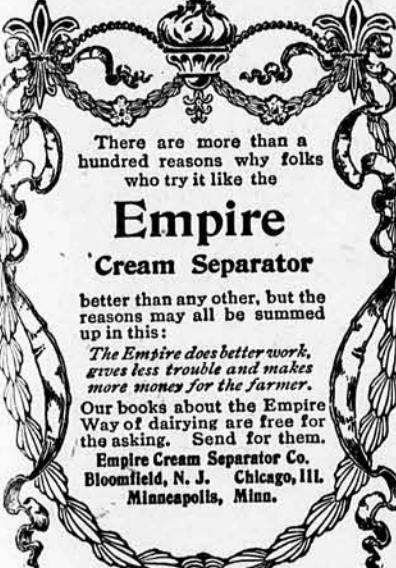




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Kills flies and all insects; protects horses as well as cows. Perfectly harmless to man and beast. Rapidly applied with Child's Electric Sprayer. 30 to 50 cows sprayed in a few minutes. A true antiseptic; keeps stables, chicken houses, pig pens in a perfectly sanitary condition.  
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got with least labor in least time and with least bother washing up, is what the cow owner wants. The machine that meets the requirements is the

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groomed not later than 10 o'clock a. m. and be kept scrupulously clean between the hours of 9 o'clock a. m., and 6 o'clock p. m. The cows are not to be disturbed for the inspection of visitors or otherwise at any time.

**Milking.**—The three daily periods for commencing to milk are 4 o'clock a. m., 12 o'clock m., and 7 o'clock p. m. The two daily periods for commencing to milk are 6 o'clock a. m., and 6 o'clock p. m. The milking will be done under the supervision of the representative of the committee of the agricultural experiment stations.

The milk will be weighed and sampled by the representative of the committee of the agricultural experiment stations and by him made a matter of record.

**Feeding.**—The three daily periods for commencing to feed are 4 o'clock a. m., 12 o'clock m., and 7 o'clock p. m. All feed will be weighed by the representative of the committee of the agricultural experiment stations and by him made a matter of record. Said representative will see that the feed weighed for each cow daily is fed to the respective animals as specified by the barn superintendent.

**Attendants.**—Only the attendants are to be admitted within the railing enclosing the cows without passes. The milkers will be neatly attired in clean white suits and the other attendants will have clean suits of blue denim; the white suits should be freshly ironed for the noon milking. The milkers will care only for the cows placed in the especial charge of each by the barn superintendent, to whom they will look for all orders.

**Visitors.**—Visitors desiring information will make application to the barn superintendents and not interfere by question or otherwise with the attendants in the discharge of their duties. All applications of visitors for admission within the railing enclosing the cows must be made to the respective barn superintendents. No loud talking or noise in the least to disturb the cows will be permitted.

#### Home Butchering.

It is very important for farmers to do their butchering themselves. Although for a small family a big beef will be rather too much, larger families and those who put up ice can butcher a beef at almost any time. Smaller families can go together by fours and take a quarter each. Set a price as to what dressed beef is worth and butcher an animal for each family at different times during the summer. The difference in weight should be paid in cash when the last animal is butchered.

For keeping beef sweet and nice, lay it directly on top of your ice, the sawdust being cleaned away very clean. Cover with a thick cloth about the size of your beef, or somewhat larger, place it close so as not to leave air space, cover with sawdust about eight or ten inches; it will keep thus for about six weeks, being best to my taste when three or four weeks old. Do not open every day; take enough each time to last three or four days.

In curing and smoking beef, different ways are adopted. I have had good success with the following. Cut the beef in small pieces, about five pounds, pack them in a well-soaked barrel, rub salt enough on each piece to cover it, let it lie two weeks in a cool place, then cook brine strong enough to float a fresh egg, repack in this, have enough brine to cover all the meat, let it lie in this for about four weeks, then hang it in the smoke house and use smoke, not liquids. It is claimed that maple chips are better for smoke; I have used corncobs. Smoke slowly about six days. Do not make your smokehouse too hot. Make the third and fourth days the days of strongest smoking. If your smokehouse is dry, let your beef remain with a little ventilation until dry. By this process I have good success. I will hope to learn something from others.

—Subscriber, in St. Paul Farmer.

Men are never so happy, and seldom so innocent spending their munny, as they are in making it.—Billings.



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The cost for shipping cream testing 40 per cent. is only half as much as the cost of shipping cream that tests 20 per cent.

Thin cream retains more of the milk than rich cream, and as the milk becomes sour first the thin cream is the hardest to keep sweet.

By skimming a rich thick cream, you retain all your skim milk at home, and you will find it valuable feed for young stock.

Many separators on the market cannot produce thick cream and are therefore unprofitable to buy.

The U. S. Separator makes thick cream and gets all the butter fat out of the milk,

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Is washed in five minutes. THE BOWL HAS ONLY ONE SMALL PIECE INSIDE—IT COMES OUT. Come take a bowl apart. It's simple—easy—works perfectly. Drop in and get catalog A.

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**THE IOWA DAIRY SEPARATOR.**

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**W. G. DICKIE, Topeka, Kans.**

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## Horticulture

### Seeding Down the Orchard.

EDITOR KANSAS FARMER:—I would like to hear through the columns of your valuable paper if seeding an orchard down to English blue-grass would be all right, or would it be injurious to the trees? What time is the best to sow it? A. S. Morris County.

The results of experiments in orchard cultivation which have been made at the college have been recorded in the Kansas Experiment Station Bulletin, No. 106, January, 1902. According to these results we find that the seeding of orchards to clover or other grasses is not the best treatment in Kansas as all the moisture possible should be saved for the trees. For some years in the work at the station the ground was plowed and harrowed each spring and the surface kept fine and loose, but it was frequently noticed that, even when plowing at a moderate depth, some of the roots were cut. Later work has been to prevent the injury to the roots and at the same time secure all the benefits of cultivation. For this purpose only surface cultivation has been used, the ground being kept well worked to a depth of three or four inches with a disk. Disking very early in the spring is a good way to put orchards which have not been cultivated for several years into a fine condition. If the orchards have been manured this method serves to work it into the soil.

In experimenting with cover crops, it was found that these did not hinder the development of late varieties of apples but served, rather, to check whatever tendency thorough cultivated orchards had to make too great growth in the fall. Other advantages of cover crops are that they protect the soil from washing and blowing, and to some extent prevent the drifting of snow. Cow-peas sown in late August and oats in early September make heavy growths and are considered the best cover crops. Rye and wheat do not make such heavy growth and are hard to kill by cultivation in the spring. ALBERT DICKENS.

### The New Strawberry Culture.

The new strawberry culture keeps to the matted row, and by setting healthy plants and moving to fresh ground every second or third year, keeping free from weevils, beetles, blight and the rest. The ground is thoroughly prepared and the plants are set early in the spring, fifteen inches in the row, the rows five or six feet apart. Between the rows is given to vegetables that will be off before the berry vines want the ground; thus, two rows of green peas with a row of early potatoes or sweet corn and with rows of radishes between, giving the middle space to that which may remain longest. With peas, beans, potatoes and the like the tops are turned under after the crop is gathered; with corn the stalks are cut and carried away as soon as the corn is picked and the roots are left "to make a path for the pickers the next season." In early winter, when the ground is frozen, a mulch is put on with a machine spreader, either of short, well-rotted manure, cut straw, or planer shavings, as a blanket for the bed through winter to prevent thawing, and, with the winter rains to work down and cover the soil so the berries will be clean when picked. After picking, some plow up the bed and put in late potatoes, and other winter vegetables, having started the bed that is to bear next season's berries in another place. Others, if there is neither insect nor blight present in the bed, let it stand another year, covering in winter as before. Large crops of large, good-carrying berries, all say, are surer with this method, that is, if the ground is well fed with phosphoric acid and potash, and enough nitrogen to get good crops of the vegetable plantings, and, if the

soil is as fine as cultivation can make it. And, again, in using the variety of strawberry that is "happy" in the locality, only to be found out by trying several sorts.—American Gardening.

### Ohmer's Strawberry Culture.

The method of strawberry culture shown in the illustration has been successful and profitable.



Tight iron-bound barrels are used with all but four of the hoops removed. Holes are bored through the staves at proper distances as shown, plants are set in these holes and the barrels filled with soil to the top. The average yield of berries is over one-half bushel per barrel. The greatest advantages claimed for this method are that no mulch or cultivation is necessary, that the berries are always clean and free from sand, and are far more readily picked than when grown in the usual way. A tile is placed in the center of the barrel as it is filled with soil. This permits an even distribution of water from top to bottom, an abundance of which should be supplied at all times.

Shading crops to promote early ripening or to improve quality is a practice considerably advocated of late. Some have reported excellent results in shading strawberries and the crop is one which might seem well adapted to the practice; since the plants can be shaded quite easily, the returns are large from small areas, and the prices are much influenced by earliness and quality.

However, two years' testing by the New York Agricultural Experiment Station, in two localities, speaks strongly against the practice. Except on two varieties, which are known as good forcing berries, there was very little increase in yield, the time of ripening was not appreciably influenced, and the quality, except as to size, was unfavorably affected. The practice may possibly be of advantage where large berries are demanded and paid for by the market; but the expense more than counterbalances any advantage of the shading in general field culture.

### Protecting Trees from Mice.

Experiments by Prof. H. L. Hutt, of the Ontario Agricultural College, with several kinds of tarred and felt papers showed that none was injurious to the trees and all equally effective in preventing injury from mice during winter. The paper was cut in strips about one foot long, enough to go around the trees and to stand about one foot high. A piece of string was used to hold the paper in place and earth was banked around the bottom of the paper to keep the mice from getting underneath it.

The secret of the inexhaustible fertility of the Nile Valley, which has long been credited to the annual deposit of silt from the overflowing of the river, has been discovered by Mr. Fairchild, agricultural explorer of the United States Government, to the nitrifying powers of the plant berseem. Berseem is a species of trifolium, which has the power not only to consume saline and alkaline properties in the land, but also enrich it with nitrates. Something of a composite of alfalfa and clover, it is in every way more delicate in flavor and succulence than either.

Bricks are capable of absorbing about a pint of water each. Owing to this circumstance, the captain of a ship that carries a cargo of bricks has to be careful that a leakage does not go undetected, the water being sucked up nearly as fast as it gets in.

I know lots of individuals who might make good wages raising potatoes at 50 cents a bushel, but they ain't satisfied unless they can have a forlorn hope of sum kind to phool around.—Billings.

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## Farming in Colorado, Utah, and New Mexico.

The farmer who contemplates hanging his location should look well into the subject of irrigation. Before making a trip of investigation there is no better way to secure advance information than by writing to those most interested in the settlement of unoccupied lands. Several publications, giving valuable information in regard to the agricultural, horticultural and live stock interests of this great Western section have been prepared by the Denver & Rio Grande and the Rio Grande Western, which should be in the hands of all who desire to become acquainted with the merits of the various localities. Write

**S. K. HOOPER, G. P. & T. A.,**

**Denver, Colorado.**



## Thesis on Wheat.

(Continued from page 605.)

with different varieties in small plots, as they are dark green; slender with long, narrow leaves, have small, narrow, compressed heads, small, very hard red grains, and often, in spring varieties) have a velvet surface. The Turkey, Ames, various sorts called Odessa, Meekins, Mennonites, Krimsh, De Theisse, Girka, Budapest, etc., are examples of such varieties. The high-grade Chubut wheat of Southern Argentina is also of much the same quality.

"10. The average per cent of dry gluten contained in ordinary bread wheat is about ten, but many of these hard Russian wheats contain over 14 per cent.

"11. Hard wheats do not usually give remarkable yields, but their average for a series of years will often exceed that of soft wheat, and the grain almost invariably weighs more per bushel."

Thus we see that it is impossible to name one variety as the best wheat. Certain varieties are adapted to particular conditions of climate and soil. However, it will be safe to say that where winters are severe and long, climate dry and summers hot, some of the hard red Russian varieties should be selected, as Turkey, Kharkoo, Ulta, Torgova, and Ghirke. The Turkey Red has become quite popular in Kansas, Nebraska, the Dakotas, Minnesota, and Canada, taking the place of all other varieties. It was introduced into Kansas from Crimea by Russian immigrants, where its hardiness and good yielding qualities attracted the attention of many wheat-growers and it soon became known over the whole country.

At the Kansas station, Professors Shelton and Georgeson tested over two hundred and seventy varieties and from these selected the six best for Kansas conditions which are ranked as follows: Andrews No. 4, Turkey, Valley, Tasmania, Ramsay, and Currell. No doubt every wheat-growing section in the world has a similar list of best varieties that are grown in that region and from such a list each farmer has to select the variety which will do the best on his particular farm. If he lives in California it will be a white variety; if he lives in Kansas, Minnesota, or Dakotas, it will be a hardy, red, hard wheat, or if he lives in the tropical region it will be a durum wheat.

Wheats that give promise of being of great value to the western and drier portion of the great plain region of the United States, including the Dakotas, Nebraska, Western Kansas, Oklahoma, and Texas, are the macaroni types. These wheats are especially adapted to regions of extreme heat and drouth. In addition they require a soil rich in humus, potash, phosphorus, and lime. Such wheats usually grow tall and stand up well. The leaves are broad and smooth but have a peculiar whitish green color, and possess an extremely harsh cuticle. The heads are very compact, occasionally rather short and thick, and are always bearded and are the longest heads known to wheat. Macaroni wheat is not hardy when sown as a winter wheat in Kansas, but in the States further south it succeeds well when sown in the fall, and efforts are being made to gradually change it to a fall variety, and if this succeeds macaroni varieties will likely take the place of other wheats in the territory mentioned above. Its extreme drouth-resisting and heavy yielding qualities make it especially adapted to that region, and as it makes as fine a quality of flour as other wheats it ought to grow in favor at once. The only objection to it at present is the inability of millers to handle it. This was true of the hard wheats a few years ago, but millers soon found means of handling it and very likely macaroni wheat will be provided for in the same way in a few years.

Some of the varieties of macaroni wheat best adapted for growth in the United States are Kubunka, Gharnovka, Arnantka, Velvet Don, and Black Don.

## SOIL FERTILITY AND ITS MAINTENANCE.

All soils contain a certain amount of plant-food available or otherwise. Every year it parts with a certain amount as each crop is removed, and if an equal amount is not restored every year, there will come a time (it may be many years hence, but it will come) when soil will reach a point of exhaustion. In many of the great wheat countries, wheat is raised year after year on the same land, nothing more than roots and short stubble being returned to the soil. Often the stubble is burned, especially where wheat is headed. This practice of burning stubble results in a waste of nitrogen and of humus that might be formed from the straw's decay. No soil, no matter how rich or deep, even if it does raise maximum crops for twenty, thirty, or forty years, can keep up its yield indefinitely.

In order to have a proper conception of the nature and amount of the demands made upon the soil in growing a wheat crop, the writer quotes the results of the French chemist, De Vilmorin: "In order to yield a crop of 44½ bushels of wheat to the acre, the soil must supply to the crop, during its growth, in round numbers, 202 pounds of nitrogen, 81 pounds phosphoric acid, 55 pounds of lime, 26 pounds of magnesia, and 225 pounds potash. This aggregates 619 pounds of plant-food, or fourteen pounds per each bushel of wheat grown. Unless these elements taken out of the soil in the production of wheat are in some way returned, the soil fertility is certainly diminished to that extent."

In addition to this amount of actual plant food taken from the soil, there is a decrease in the amount of humus due to greater oxidation caused by cultivation and the action of plant roots in extracting the necessary elements as plant-food. A soil deficient in humus is difficult to keep in good tilth, as it packs, runs together, bakes, dries out fast, etc. The problem which confronts farmers is how to return this plant-food and humus to the soil. This question must be met sooner or later and upon the answer depends the future welfare of the wheat-growers.

In nature soil never becomes exhausted, but as a rule is built up. Thus a farmer can take a hint from nature; she returns all her products to the soil again, leaving it in better condition and more fertile than before. This can not be followed absolutely by the farmer, as a part of the produce has to be removed from the land and sold, but a good share of the crop can be left on the land. Instead of burning the stubble it can be plowed under with other trash. Thus instead of an entire loss the soil regains a little humus and a little plant-food. The straw which is usually burned can easily be utilized in the form of manure, if fed to cattle or live stock in corrals or barns, or even used as bedding, when it absorbs much manure that might otherwise be wasted. In using barnyard manure on wheat ground one should avoid putting an excess on a limited amount of ground. Wheat readily responds to an excess of nitrogen, causing it to grow rank and luxuriant with an excess of straw which is susceptible to rust and other diseases. Manure should be spread thinly over as much territory as possible. Frequent light applications are better than heavy ones at longer intervals.

Every available bit of organic matter on the farm should be applied to the cultivated land where it will be of use instead of rotting in some unused part of the farm. The grain is lost to the soil without a return, and this is the problem to solve.

Summer fallowing is often practiced to an advantage to the succeeding crop, but the practice does not increase the total plant-food in the soil. It merely gives the soil a chance to make available a large amount of plant-food that is already there. The value of summer fallowing in the long run is rather doubtful. The leaching and the hot burning sun to which the soil is exposed undoubtedly tends to oxidize humus and wash out soluble plant-food. A crop that would require cultivation and that would leave a goodly amount

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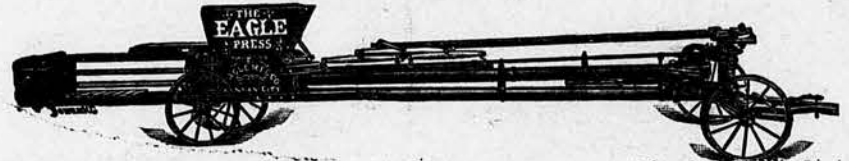
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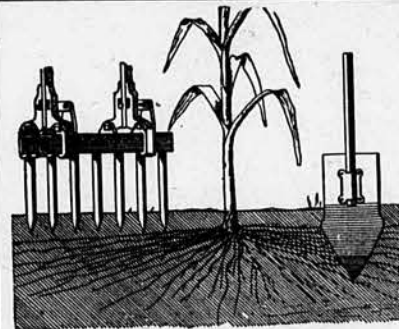
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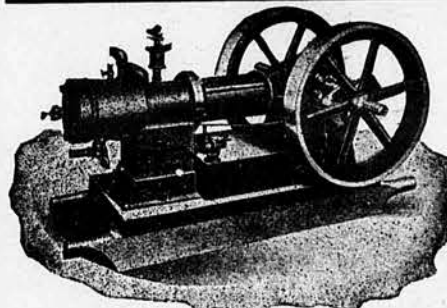


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of organic matter in the soil would be more likely to pay in a series of years, though summer fallowing is undoubtedly a benefit to the next succeeding crop.

The above methods would help greatly in maintaining soil fertility, but far more important than any of these, or probably all of them combined, is using in rotation some leguminous plant which draws free nitrogen from the air and deposits it in the soil through the medium of the plant and its decay, thereby increasing the humus in the soil. Leguminous crops suited for such purposes are red clover, alfalfa, cow-peas, and soy-beans. Red clover has been used in this capacity for a long time, but alfalfa and soy-beans are comparatively new acquisitions in the farming industry of the United States. Eastern farmers practice a rotation of red clover with wheat and other crops extensively and with the desired results. With them this practice is necessary, while the land in the great wheat region of the United States and Canada is still rich in all food elements and does not require a rotation as yet, but it is only a matter of time when rotation will be necessary. Red clover does not succeed in the dry wheat regions of the United States and Canada but in its place there is a more valuable substitute that grows admirably in adverse circumstances. This plant is alfalfa, which seems at present to be the salvation of the future wheat-growing industry. Alfalfa roots penetrate deeply into the soil and bring up plant-food from depths inaccessible to other forage crops. Besides adding nitrogen to the soil from the free nitrogen of the air, alfalfa yields a splendid forage crop for cattle, a crop which can nearly all be returned to the soil in the form of manure. If the manure is properly handled there will be little difference in the amount of plant-food taken off in the form of hay and that returned in the form of manure, and as a great per cent of nitrogen in the crops come from the air, the soil will be enriched in nitrogen when the stand is plowed up.

Thus with the red clover and alfalfa to rotate with, and proper handling of the manure, straw, stubble, etc., wheat land ought to last indefinitely. The apparent loss in fertility will be that due to the removal of the grain; but this will be partly offset by the rebuilding capacity of alfalfa and other leguminous crops. As a catch crop, cow-peas or soy-beans can be used to advantage. They are good nitrogen-gatherers and can be planted immediately after wheat harvest and the crop can be plowed under or removed as hay in time to plant wheat in the fall. These crops require cultivating and in results combine the benefits of tillage, summer fallowing and a rotation of crops. While the nitrogen question has been settled by leguminous crops the problem of supplying phosphorus and potash is still unanswered. At present the only way to increase these elements is by returning the manure to the land and by means of artificial fertilizers; but the use of commercial fertilizers in wheat-growing is as a rule hardly practicable at present.

#### CULTURE.

**Soil and Its Preparation.**—It is hard to say in just what kind of soil wheat will thrive best. It succeeds well on such a varied number of soils, all over the world, under entirely different conditions, that it makes it impossible to make comparisons as to which soil would grow the best crops under similar conditions. Soils vary so much even in the same locality that each farmer has to study each field he cultivates as regards its ability to grow wheat. In this phase of agriculture a great deal depends upon the local conditions of soil and climate and these conditions in any particular locality can only be determined by long residence therein, and careful and close observation of crops and soils under different conditions and treatment. The farmer has to ask the soil different questions through the medium of experiments. In this way he can find out what fields on his farm are best adapted to raising wheat; what conditions of soil are required under differ-

ent circumstances, whether it is best to plow deep or shallow, early or late, etc. All these little minor points have to be determined for each particular field, nevertheless there are a few general principles that apply to wheat wherever grown.

In preparing soil for seeding as a rule early and deep plowing is best. This is especially true in arid regions when conservation of moisture is a very important matter. Where one crop of wheat succeeds another plowing should commence as soon as the crop is removed. This enables the soil to retain all moisture that falls and gives stubble and trash plowed under a chance to decay, and become available plant-food in time to be of service to the succeeding crop. Another object of early plowing is to give the ground time to compact, as a firm seed-bed is absolutely necessary for best results in getting a good stand and strong growth. Where wheat follows corn or some other late crop, disking should take the place of plowing. In this way the surface can be put in excellent tilth, leaving the sub-surface firm and compact, and in proper condition for quick germination of wheat. The loosened surface serves as a mulch, prevents escape of moisture by evaporation, and increases the supply in the vicinity of the seed, by shutting off of capillary currents at that place. The ground should be free from unrotted trash, etc., as this dries out the soil and keeps it too loose and open. Where land has been plowed as early as July for fall planting, the surface should be kept in form by preserving a soil mulch by disking two or three times. This keeps weeds down, conserves soil moisture, and leaves the surface in good condition to receive the seed. Plowing for spring wheat seeding should be done the previous fall. As a result of a seven-year's trial at the North Dakota Experiment Station, fall preparation for spring wheat gave an increase in yield of one bushel per acre over spring preparation. In experiments carried on at the Kansas Station, the increase was even greater with early plowing for winter wheat as compared to late plowing. In two trials the wheat on the early plowed plots ripened first and yielded respectively two and one-half and four bushels more per acre than the crop from the late plowed plots. The experiment stations which have made similar trials report an increased yield of three to ten bushels per acre.

Briefly stated, early plowing followed by harrowing prevents growth of weeds, conserves the moisture of the soil, keeps the soil in good tilth, and results in the formation of a seed-bed best suited for the prompt germination and growth of the seed; the cost in the preparation of the ground is lessened, the yield of grain is increased, and the practice is financially profitable.

(To be continued.)

#### Farmhouse Heating.

**EDITOR KANSAS FARMER:**—For ten years or more I have been a constant reader of your paper, and in all of that time I can not remember having seen an article devoted to farmhouse heating. I have lived on a farm all of my life, and my experience is that no one thing about the house occupies so much of our time or gives us so much trouble during five months of the year as the heating of our house.

Yet, until recently, we never thought of trying any improvement along that line. We stuck to our stoves, using several of them, and even then we all slept in bedrooms so cold that ice would freeze hard and thick in our pitcher.

You may think this an unseasonable hour to write of heating, but after our recent severe winter, during which I have heated my house thoroughly with a warm air furnace, I am moved to give the results of my observations, hoping it may benefit others.

To begin with, my furnace takes the place of three stoves, hence does away with carrying coal and ashes for three fires, and as I usually spilled a portion of both the coal and the ashes, my wife is now better natured. Besides,

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212 Union Stock Yards, Chicago, Ill.



the furnace stays in the basement the year round and the stoves did not.

Furthermore, we now heat easily every room and hall in the house; no more sleeping in icy bedrooms, and when company comes we are proud to show them into a comfortable room to sleep. I notice, too, that the air never seems close and "stuffy" nor tainted with gas, but always smells clean and fresh. All this we accomplish with less fuel and much less trouble than when we used stoves.

I believe the prevailing impression is that furnaces are expensive; are luxuries. I don't think so. Mine cost me \$160. It heats eight rooms. In three years it will save me more than that in cost of fuel and wear and tear on carpets, to say nothing of time, trouble, and discomfort. Besides, the women of the house deserve it.

I spend a considerable amount of money every year for labor-saving machinery for the farm, and my wife is entitled to as much for the house. It is said that a furnace, if well cared for, will last fifteen or twenty years. In fact, a neighbor of mine has one he has used eight years and it has never cost him a cent for repairs. So I consider my furnace not only a great comfort but a paying investment. Would like to hear from others along this line.

B. P. A.  
Sycamore, Ill.

This is a timely letter upon a most important subject. Few farmers seem to realize that the first cost of the stoves necessary to heat a large farmhouse is not much less than would be that of a good furnace, while the benefits derived from their use are very much less. The stoves cost much more for fuel, are vastly more troublesome, supply much less heat and are in every way wasteful and expensive when compared with a furnace.

We shall be glad to hear from other farmers upon this subject.

#### State Fairs and Live-Stock Shows for 1904.

- Missouri State Fair, Sedalia, August 15-August 19.
- Iowa State Fair, Des Moines, August 22-August 29.
- Minnesota State Fair, Hamline, August 29-September 3.
- Nebraska State Fair, Lincoln, August 29-September 2.
- Ohio State Fair, Columbus, August 29-September 2.
- Wisconsin State Fair, Milwaukee, September 5-September 9.
- Kentucky State Fair, Lexington, September 5-September 10.
- Pennsylvania State Fair, Bethlehem, September 6-September 9.
- New York State Fair, Syracuse, September 5-September 10.
- Indiana State Fair, Indianapolis, September 12-September 16.
- South Dakota State Fair, Yankton, September 12-September 16.
- Central Canada Exhibition, Ottawa, September 16-September 23.
- West Michigan State Fair, Grand Rapids, September 19-September 23.
- Interstate Fair, Trenton, N. J., September 26-September 30.
- Colorado State Fair, Pueblo, September 29-September 30.
- Washington State Fair, North Yakima, September 26-October 1.
- Illinois State Fair, Springfield, September 29-October 7.
- Louisville Horse Show, October 3-October 8.
- Kansas City Horse Show, October 17-October 22.
- American Royal Live Stock Show, Kansas City, October 17-October 22.
- San Antonio, Texas, International Fair, October 22-November 2.
- Chicago Horse Show, October 24-October 29.
- St. Louis World's Fair—Horses, August 22-September 3.
- Cattle, September 12-September 24.
- Sheep and swine, October 3-October 15.
- Poultry, dogs and cats, October 24-November 5.
- National Horse Show, New York, November 14-November 19.
- International Live-Stock Exposition, Chicago, November 23-December 3.

The managers of the various fair associations, who are interested in the speed ring, have arranged a circuit of fairs for this fall which will constitute a continuous series beginning on August 9 and ending on October 7. The list as arranged is as follows:

- Eldorado, August 9 to 12.
- Fredonia, August 22 to 27.
- Smith Center, August 23 to 27.
- Chanute, August 29 to September 3.
- Winfield, August 30 to September 2.
- Seneca, August 31 to September 2.
- Leavenworth, September 5 to 10.
- Burlingame, September 5 to 10.
- Ottawa, September 5 to 10.
- Clay Center, September 6 to 9.
- Mankato, September 6 to 9.
- St. John, September 6 to 9.
- Topeka, September 12 to 17.
- Eureka, September 12 to 17.
- Great Bend, September 13 to 16.
- Burlington, September 13 to 16.
- Marysville, September 13 to 16.
- Hutchinson, September 19 to 24.
- Eldorado, September 20 to 24.
- Council Grove, September 21 to 23.
- Wichita, September 26 to October 1.
- Newton, October 3 to 7.

#### WHEN FATHER IS IT.

When it rains all day or the weather is rough,  
And dull in the house we sit,  
There is fun to be had playing blind man's bluff  
When father is "It."  
We tie the big handkerchief over his eyes.  
He moves very quick for a man of his size,  
And knows where we are by our laughter and cries,  
When father is "It."  
The little girls creep up and tickle his ear,  
When father is "It."  
He doesn't quite catch them, but comes pretty near,  
When father is "It."  
They pull at his coat tails—he gives a great start,  
Then spins around twice and is off like a dart.  
We dive 'neath his fingers with loud-beating heart,  
When father is "It."  
He whoops and he prances, he capers and bounds  
When father is "It."  
We're a set of wild heathens, to judge by the sounds,  
When father is "It."  
Tom laughs till he has to lie down on the floor,  
And Archie and Joe—you should just hear them roar,  
For we feel that we simply can't stand any more  
When father is "It."  
—Ethelwyn Wetherald.

## The Markets

#### Kansas City Live-Stock and Grain Markets.

Kansas City, Mo., June 6, 1904.  
Light receipts of cattle at this market to-day, 4,200 being the receipts, including 417 head in the Texas division. Dressed beef steers were not in as large proportion as last Monday, but the quality was good. Beef steers were 10c higher than last week's close and butcher stuff was steady to strong. The top prices paid for fat steers here to-day were \$6.10 in two instances and the bulk of the day's sales ranged around \$5.65, and the market was not very active. A few more stockers and feeders were on the market to-day than usual for Monday and the demand was better than usual, with prices steady to strong. Fat cows and heifers were only steady with last week. The market in the Texas division was active and prices were strong with Saturday's close.

Last week's cattle receipts were smaller than the previous week, the receipts for last week were 22,100 head. A good portion of the week's receipts were fat steers and an advance of 15¢ to 25¢ in prices was noticeable, the choice, topky kinds advancing the quarter and medium butcher stuff only about 15¢. Very few sales under \$5 were made last week and the bulk of the sales were around \$5.50. The top for the week was reached Friday when a string of fancy black cattle sold for \$6.05, and on the same day a bunch of well-fed Kansas cattle sold for \$6. Stock cows and heifers are lower than the previous week and veal calves remain unchanged. Shipments of stockers and feeders to the country last week was very light at 130 cars, the market was dull and draggy. Heavy feeders that required little work to put them in marketable condition were 10c higher in sympathy with fat steers. Fat shee is 10¢ to 15¢ higher. There has been a good run in the Texas division the past week.

Hog receipts were very light to-day, there being only 5,000 at the yards and only 3,000 of the total receipts were on the market, the remainder going direct to a packer from Sioux City. The quality of the supply was about like the general supply of last week. The buyers tried to open the market on a 5¢ decline, but owing to the good demand and small receipts only succeeded in shading the Saturday prices and the market ruled active and closed fully steady. Pigs and lights were nominally steady and some of the light mixed "grass" stuff was very slow sale. The top for the day was \$4.67½ and the bulk of all the sales were between \$4.45 and \$4.55. Hog prices have doubtless reached their lowest point for the year and indications are that prices are on the upward trend for the next three months.

Hog receipts at this market was very light last week, there being only 42,700 head in for the week, the quality was fairly good and the choice, heavy kinds were the most sought for by the packers. The presence of shippers on the market this week doubtless aided the salesmen in getting better prices for their offerings, owing to the fact that when the shipping demand was satisfied the market weakened. The market was better and higher last week than the previous and hog prices are looking up. Saturday's top was \$4.70, and was also the top for the week, and the top Wednesday was \$4.67½; the bulk for the week was between \$4.47½ and \$4.55. The week's market was active and an early clearance was made each day of the week.

The week's sheep receipts were fairly liberal, last week aggregating 17,600, the most of which were Texas grass sheep, and with the grass season sheep receipts are expected to increase. The heavy receipts of this grass stuff has caused a decline in sheep receipts since last week of about 10c. Natives that have been on the market were of fairly good quality and were not much changed. The offerings of lambs has been light and the market unchanged. Feeder sheep have been scarce and in fair demand. Choice lambs sell around \$6 and medium around \$5.65, choice yearlings and wethers sell for about \$5.35 as an average price, and fat ewes sell around \$5 as the bulk.

Sheep receipts were also exceedingly small for Monday, there being only 1,000 on the market. The quality was fair and prices mostly ruled steady with last week and in some cases were doubtless a little higher. Clipped lambs sold at \$6.15, which is better than the close last week.

Horse trade during the past week was light. The run for the auction on Monday was light, being less than 225 head. It included some fair drivers and chunks

## 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. No order accepted for less than \$1.00.

#### CATTLE.

FOR SALE CHEAP—Our fine deep red herd bull, Prince Imperial 171709, 3 years old past, must be sold by July 1. Farm adjoins station. Call on Mitchell Bros., Perry, Kans.

HEREFORD BULLS—Grandson of Imported Soudan, a ton weight, \$100. Also young bulls. Prices low. J. T. Smith, Independence, Kans.

FOR SALE—2 choice Hereford bulls, 22 months old, something good. Call on or address A. Johnson, Route 2, Clearwater, Sedgewick Co., Kansas.

D. P. NORTON, Dunlap, Kans., offers registered Shorthorn bull and heifer calves, crop of 1903, at \$50, get of Imp. British Lion 138692.

FOR SALE—Registered Hereford bulls, 1 and 2 years old, short legged, heavy fellows, reasonable prices. H. B. Clark, Geneseo, Kans.

FOR SALE—50 head of fifteen-sixteenths Shorthorn heifers and cows, at \$30 per head; all bred to thoroughbred Shorthorn bull. On A. T. & S. F. R. R. J. C. Surdick, Bazaar, Chase Co., Kans.

FOR SALE—A good pure-bred Shorthorn bull; 2 years old; bred by J. H. Bayers. S. F. Hanson, Route 1, Iola, Kans.

FOR SALE—3 Galloway bulls from 3 to 18 months old. Prices right. J. A. Mantey, Mound City, Kans.

FOR SALE—3 red 2-year-old Scotch bulls. J. J. Thorne, Kinsley, Kans.

HANDY HERD REGISTER—The improved Handy Herd Book for swine breeders is a record book that every breeder should have. It is perfect, simple, practical and convenient and contains 101 pages or about one cent a litter for keeping the record. The regular price of this handy herd book is \$1, but we furnish it in connection with the Kansas Farmer one year for only \$1.50.

ASK YOURSELF this question—If you need a Shorthorn bull, hadn't you just as well buy one of me, as to pay some one else more money? I have 1 roan and 2 reds—good ones—from 15 to 23 months old. J. H. Bayer, Yates Center, Kans.

FOR SALE—6 good Shorthorn bulls, 3 of them straight Cruickshanks; come and see me. H. W. McAfee, Topeka, Kans.

GALLOWAY CATTLE—Choice young stock of both sexes for sale. W. Guy McCandless, Cottonwood Falls, Kans.

FOR SALE—Guernsey bulls from best registered stock. J. W. Perkins, 423 Altman Building, Kansas City, Mo.

but high quality was lacking on all kinds. Prices ranged lower from the start, the decline ranging from \$5 to \$15, or even more in some cases. Local speculators bought heavy supplies and at the close of the auction, held fully 125 head. Trade during the rest of the week was light on account of the weather. When clear days did show up, the demand for drivers was pretty good, but the heavy supply was not more than half of it disposed of. Trade to-day was light but even with the lighter supply, quality was evident, especially on drivers. Prices ranged weak to some little lower than last week with no sensational prices being paid. One nice combination saddler and driver sold at \$182.50. The mule trade has been generally quiet for some weeks. Occasionally a buyer will drop in from other points and buy several loads before stopping, but this demand is periodic and light. The demand is entirely for big mules, ranging above 15½ hands, and prices are steady with any time of the winter. To-day was a quiet day, the only business reported being some order trade for heavy mules.

Receipts of grain at Kansas City to-day were 150 cars, of which 91 were wheat, 39 corn, and 20 oats. Wheat was in fair demand and the market was steady. No. 2 hard 88¢ to 90¢; No. 3 hard 85¢ to 87¢. No. 4 hard 81¢ to 84¢; No. 2 red 1.01 to 1.04½. No. 3 red 97¢ to 1.01, and No. 4 red 88¢ to 93¢. Corn was a little lower but in fair demand. No. 2 mixed 48¢, No. 3 mixed 47½ to 48¢, No. 4 mixed 46 to 47¢; No. 2 white 48½ to 49¢, No. 3 white 47½ to 48¢, and No. 4 white 44½ to 46¢. Oats were slow sale and lower. No. 2 mixed 38½ to 39½¢; No. 3 mixed 37 to 37½¢; No. 4 mixed 36 to 36½¢; No. 2 white 42 to 43¢, No. 3 white 40 to 41½¢, and No. 4 white 38 to 39¢. Rye is quiet and lower, No. 2, 64 to 65¢, and No. 3 62 to 63¢. Bran and corn-chops are weaker. Corn-chops sell at 90 cents per hundredweight.

H. HOWARD PETERS.

#### South St. Joseph Live-Stock Market.

South St. Joseph, Mo., May 6, 1904.

The trend of prices for all grades of cattle continues to ascend, and the bulk of the offerings to-day, Monday, sold above the \$5.25 figure, with choice, finished natives going at \$6, the highest price secured since November, 1902. The demand is of the urgent kind from dressed beef men, shippers and order buyers, and the better the kinds of cattle the keener the competition. Strictly dry cows and heifers are selling on the highest plane of the year, with best heifers going at \$5.50 last week and best cows at \$4.65. Common and medium and grassy stock, however, is selling 25 to 35c lower than ten days ago. The trade in stock cattle circles continues to be limited, owing to the light supplies and the slim country trade. Since the middle of last week the trend of hog prices has been upward, which was caused solely by reduced receipts, for packers continue their bearish attitude and they break the market upon the least chance. The quality continues of good kind and the average weight is strong. The tops to-day were made at \$4.67½, with the bulk of sales going at \$4.55 to \$4.60.

Light supplies and a strong general demand is the feature of the sheep trade now, as the feed-lots have been well emptied and natives continue scarce, with nothing of much note in sight until the range season opens up, which will be right around a month yet. To-day, Monday, fair to good woolled Colorado lambs sold at \$7.10 and desirable Kansas-Mexican lambs without fleeces sold at \$6.55, this figure being a new record for the season. Not enough sheep were at hand to cut any figure in the receipts.

FRIDLEY.

#### SWINE.

CHOICE young Shorthorn bulls very low prices; also open or bred gilts, Poles or Durocs. M. C. Hemenway, Hope, Kans.

A MONEY MAKER—Herd of registered Poland-Chinas and fine location for sale. Three pastures with water in troughs in each. Alfalfa, English blue-grass and best of wild grass; as well arranged 160 acres as you will find. Herd and farm is making good money, but I have not the time to attend to it. If you must work hard to make your money do not write. One and one-half mile from county seat. Box 238, Westmoreland, Kans.

SIX BOARS SEPTEMBER FARROW—Lengthy with good bone, best color, and good pedigree, for quick sale \$12 each; also few April pigs, good ones \$5 each. H. J. Lane, "Hedgebrook" W. 6th St., Topeka, Kans.

SWINE—Poland-Chinas. Choice young boars, at \$12.50 and \$15. Pigs at \$5 weaning time. Best breeding. Prompt shipments. Satisfaction guaranteed. E. L. Hull, Milford, Kans.

PEDIGREED POLAND-CHINA males cheap. Barred Plymouth Rock eggs 5 cents each. John D. Ziller, Hiawatha, Kans.

#### HORSES AND MULES.

FOR SALE—An extra fine Chestnut stallion at a bargain. Dam Strathmore by Norman by Mambrino Chief. Pedigree furnished. No better breeder living. Write for particulars. A. M. Graham, 1901 West 6th Ave., Topeka, Kans.

FOR SALE—Young, black Percheron stallion Charles L. Covell, Wellington, Kans.

FOR SALE—About 40 head of branded horse stock, Geldings and brood mares. The mares are unbroken except a few head. Geldings broken to saddle. This stock is of Clyde breeding and a good bunch of stock, in the hands of the right man. Lakin, Kans., 75 miles west of Dodge City. John O'Loughlin, owner, Lakin, Kearny County, Kans.

#### SEEDS AND PLANTS.

FOR SALE—Genuine Siberian millet-seed—55 cents per bushel. Sacks free in lots of two bushels or more f. o. b. at Topeka. Address J. W. Ferguson, Route 1, Topeka, Kans.

ALFALFA SEED—\$8.50 per bushel. No sand, no weed-seeds. J. H. Glen, Farmer, Wallace, Kans.

#### FARMS AND RANCHES.

WANTED—Owners of 1,300 acre improved ranch in Wyoming, all under title, fence and irrigation, with abundant range adjoining, wish to make five year loan of private parties of \$15,000.00 to invest in range cattle, and give first mortgage on cattle and ranch as security. Or will sell half interest. Thorough investigation invited. Further particulars on request. Address, Ranchman, care Rock Island Implement Company, Kansas City, Mo.

WANTED—To correspond with a real estate owner or agent who can trade an improved farm for a section of rice land in the famous "Katy," Texas, rice district. C. H. Standiford, 308½ Main St., Houston, Texas.

#### LAND FOR SALE.

In western part of the great wheat state. H. V. Gilbert, Wallace, Kans.

DO YOU WANT SOMETHING CHEAP? If so read this. 80 acres, 30 acres bottom, 8 acres timber, house, barn, sheds, etc. for \$1,500. 180 acres nice smooth land, small house, 75 acres cultivated, nice smooth quarter; price \$2,200. If you want something larger and better improved write us about the kind of a place that would suit. Garrison & Studebaker, Florence, Kans.

120 ACRES—New buildings, Osage Co., \$2,600. Bargain. Farm, Route 2, Williamsburg, Kans.

120 ACRES, new buildings, Osage Co., \$2,600. Bargain. Farm, R. F. D. 2, Williamsburg, Kans.

#### POULTRY.

EGGS FOR HATCHING—From my "Superior Winter Laying Strain" of Barrad Plymouth Rocks, noted for size and quality. Fifteen years careful exclusive breeding. 15 eggs \$1; 30 eggs \$1.50. E. J. Evans, Box 21, Fort Scott, Kans.

#### MISCELLANEOUS.

WANTED—Man who understands milking cows, and making butter, who wants steady work for one year for \$300 and board; also another man to attend to hogs and chickens at above price. Only good, steady men need apply. Write at once, giving former experience. J. C. Miller, 101 Ranch, Route 4, Ponca, O. T.

WANTED—Two practical experienced men for general work on farm. \$150 for 6 months. L. C. Walbridge, Russell, Kans.

FOR SALE—Second-hand engines, all kinds and all prices; also separators for farmers own use. Address, The Gelsner Mfg. Co., Kansas City, Mo.

500,000 POUNDS WOOL WANTED—Write us for prices; send sample and we will offer you the highest market price by return mail. Western Woolen Mill Co., North Topeka, Kans.

I WANT TO BUY a second hand hay-press. Write me what you have for sale and name price. T. J. Kennedy, Ozawie, Kans.

FOR SALE AND RENT—300 female cattle, 2,000 sheep, teams, and tools, for cash or short time. Will accept of share of sales for any number of years, good ranch to carry all of above stock. Good buildings for the purpose; pasture, fenced in three pastures, water in each; bottom and alfalfa hay; farm land fenced separately. Or will sell whole outfit on any kind of time. Address E. H. Boyer, Meade, Kans.

WORLD'S FAIR—50 rooms for visitors, close to grounds, furnished with or without board, good neighborhood, on car line. Write for list at once. A. T. Eakin, (formerly County Treasurer of Hodgeman county, Kansas) 4612 Bell Ave., St. Louis, Mo.

PALATKA—For reliable information, booklets, and other literature, address Board of Trade, Palatka, Florida.

## The Stray List

#### Week Ending June 9.

Montgomery County—Samuel McMurtry, Clerk. PONY—Taken up by J. F. Shipley, in Parker tp., May 18, 1904, one 10-year-old dun colored mare pony, branded C L on left shoulder, valued at \$20.

When writing advertisers please mention this paper.



## POULTRY BREEDERS' DIRECTORY.

PURE S. C. B. Leghorn eggs, 30 for \$1; 100, \$3. F. P. Flower, Wakefield, Kans.

FOR SALE—Eggs for hatching, from my 95 scoring Light Brahma and White Wyandotte pens at \$1 for fifteen. As I am now done setting, I have reduced the price just one-half for the balance of the season. There is no better stock anywhere. Mrs. J. R. Kenworthy, Cottage Home Poultry Yard, Wichita, Kans.

ROSE COMB RHODE ISLAND REDS—Superb in colors. Extra fine layers, noted for best results. Eggs \$1.50 per 15. L. F. Clarke, Mound City, Kans.

BLACK LANGSHAN eggs, \$2 per 15 from scored hens, and \$1 per 15 from unscored hens. Mrs. Geo. W. King, Solomon, Kans.

NEOSHO POULTRY YARDS, Established 1882. Breeder of Rose Comb R. I. Reds and Buff Arpingtons, scoring from 91% to 94% points, by Atherton. Eggs the balance of the season, \$1 per 15. Stock for sale after July 1. J. W. Swartz, Americus, Kans.

BLUE BARRED PLYMOUTH ROCK EGGS; 2 pens fine birds; \$1 per 15. Mrs. J. C. Leach, Carbondale, Kans.

INDIAN RUNNER DUCKS and White Wyandottes—Prize-winning stock, bred for utility; 16 eggs, \$1.50. Will exchange for turkey eggs. L. D. Arnold, Salina, Kans.

PLEASANT VIEW POULTRY FARM—White Wyandotte eggs for sale, 5 cents each. S. Bailey & Wife, Route 3, Independence, Kans.

S. C. BROWN LEGHORNS, exclusively. Eggs for sale from healthy, free-range stock. Satisfaction guaranteed. J. A. Kauffman, Abilene, Kans.

B. P. ROCK EGGS—\$1.50 per 15; \$5 per 100; free range. Collier pups. W. B. Williams, Stella, Neb.

BLACK MINORCAS—Biggest layers of biggest eggs. Fertile eggs for hatching, \$1.50 per 15; \$5 per 50; \$5 per 100. Also Light Brahmas, Black Langshans, Barred and Buff Plymouth Rocks, White, Silver and Golden Wyandottes, S. C. Rhode Island Reds, S. C. White and Brown Leghorns, American Dominiques, Houdans, White Crested Black Polish, Buff Laced Polish, Buff Cochins, Bantams. Eggs from choice matings of above \$1.50 per 15. James C. Jones, Leavenworth, Kans.

FOR SALE—Eggs from Rose Comb Brown Leghorns, Silver Spangled Hamburgs, Barred Plymouth Rocks, White-faced Black Spanish, and Black Langshans. Write your wants. Charles W. Gresham, Bucklin, Kans.

RHODE ISLAND REDS—Original stock from the east, the best general purpose fowl on earth. Eggs \$1.50 per 15; \$2 per 30. Mrs. G. F. Kellerman, Vine-wood Farm, Mound City, Kans.

WHITE HOLLAND GOBBLE—From first prize stock, \$4 each. E. W. Melville, Eudora, Kans.

SCOTCH COLLIE PUPS—Four more litters of those high-bred Collies, from 1 to 3 weeks old, for sale. Booking orders now. Walnut Grove Farm H. D. Nutting, Prop., Emporia, Kans.

BARRED PLYMOUTH ROCK EGGS—B. P. Rocks exclusively; won first premium on B. P. Rock capons, Kansas State Fair, 1903. Eggs \$1 per 15, \$5 per 100. S. H. Dunahugh, Route 1, Hoyt, Kans.

PURE WHITE WYANDOTTES for sale. Eggs for sale in season. \$1 for 15. Darby Fruit Co., Amoret, Mo.

MRS. GEO. L. BARBER, Saffordville, Kans., Will furnish Barred P. R. eggs from 94-point birds 15 for \$1.50.

Rose Comb Brown Leghorns Exclusively. Farm raised. Eggs per setting of 15, \$1. Incubator users write for special prices in 100 lots. P. H. MAHON, Route 3, Clyde, Cloud Co., Kans.

BLACK LANGSHAN EGGS Eggs from large, healthy stock, score 92 to 94, \$1.50 per 15. Cockerels for sale. P. C. MARCH, 1313 West Sixth St., Topeka, Kans.


WHITE WYANDOTTES White ones, pure bred, and good layers, Eggs \$1 and \$1.50 per sitting. ALVIN LONG, Lyons, Kansas.

## White Plymouth Rocks EXCLUSIVELY.

Three Grand Yards of the Best Strains in the Country

White Plymouth Rocks hold the record for egg laying over any other variety of fowl; elite pullets averaging 289 eggs each in one year. I have some breeding stock for sale at reasonable figures. Eggs in season, \$2.00 per 15, expressage prepaid anywhere in the United States. Yards at residence, adjoining Washburn College. Address

THOMAS OWEN, Topeka, Kansas.



### DUFF'S POULTRY

All our Fine Breeders of this season, also Spring Chickens for sale after the first of June. Barred Rocks, White Rocks, Buff Cochins, Partridge Cochins, Light Brahmas, Black Langshans, Silver Wyandottes, White Wyandottes, Silver Spangled Hamburgs, Black Minorcas, S. C. Brown Leghorns, and Belgian Hares. Buy the best now at the lowest prices. Write your wants. Circulars free. Choice Breeders and Show Birds.

**A. H. DUFF, Larned, Kan.**

## POULTRY SUPPLIES

STUNTEVANT'S  
 Thanolice (lice powder).....25c  
 Creocarb (lice killer).....50c  
 Egg Maker.....25c  
 Poultry Cure.....25c  
 Roup Pills.....25c  
 Medicated Nest-eggs.....5c  
 Conkey's Roup Cure.....50c  
 Buckeye Cholera Cure.....25c

**OWEN & COMPANY**  
 520 KANSAS AVE., TOPEKA, KANS.

## The Poultry Yard

CONDUCTED BY THOMAS OWEN.

### The Hatching of Chickens from Preserved Eggs.

The London Lancet recently published an article describing some experiments which had been made for the purpose of determining whether eggs could be hatched which had been preserved for twelve months by immersion in a 10 per cent solution of sodium. It was said in the article that chickens had been hatched from these eggs. A correspondent of the Lancet now writes to that journal, narrating some experiments which friends of his undertook, for the purpose of verifying the statements made. Twelve eggs were collected in June, and immediately placed in a 10 per cent solution of sodium silicate, and completely covered by the solution. On September 5 four eggs were taken from the solution and marked, and with nine other newly laid eggs were placed under a hen. All the newly laid eggs hatched out within three weeks, but the four preserved eggs did not hatch. One of these eggs was boiled and was quite fresh; the other three were broken and the yolk fell out separately from the white. The whites were whipped up and became quite stiff. This is stated to be the best test of a fresh egg. It is of interest to note that these preserved eggs, even when they had been incubated for three weeks, still remained perfectly fresh, seeming to indicate that their shells were still impermeable to external influences.

Assuming that the remarkable preserving effect of the sodium silicate is due to the formation of an insoluble glass with the lime salts of the substance of the shell, it is curious that it has been possible to hatch out a chicken without first making the shell again permeable to air. This experiment is one which should be repeated after the shell has by some method again been rendered permeable, for it seems improbable that the hatching of such preserved eggs can take place if the shell remains impermeable to air.—Scientific American.

### Poultry Notes.

A little parched corn is an excellent relish for poultry at this time of year. It should be parched until a considerable quantity of it is burned to charcoal. It will have just as much value burnt as if fed fresh, and even more, for it will serve as a corrective of the system, and can be given two or three times a week with good results.

To fowls that are penned up, a plentiful supply of green stuff is very essential at this season. Lettuce is easily grown and would be greatly relished. Cabbage also makes good greens for them, but we have found nothing to equal Essex Dwarf Rape. The chickens eat it ravenously and it is easily grown, either in broadcast or in drills. It can be sown any time.

Milk is very nutritious and as its constituents closely resemble the white of an egg, it is especially desirable for laying fowls. There is no danger of giving them too much, and a very good plan is to keep a supply where they can help themselves. Skim milk fed to fowls will give greater returns than when fed to hogs. Let the fowls have a part of the surplus milk, anyhow.

The ability to obtain high prices for poultry depends very much on one's locality. The early bird catches the prize. High-priced chickens are those which are out of season, or rather, those which get into market the very first of the season. As soon as every one has them, no difference how fine they are, they will be cheap. This is true also where there is no market. If one expects to deal in fancy priced poultry he must be near the place where he expects to dispose of them, otherwise the expressage will need to be deducted from his profit. But he must get them early to market if he expects to reach the top notch price.

All the young cockerels should be disposed of as soon as they are large enough to fry. You can realize more money from them when they are from a pound and a half to two pounds in weight than you can later when they weigh twice as much, and you save their feed and the chances of their living till they get to that size.

### How to Kill Lice and Mites.

EDITOR KANSAS FARMER:—I saw in your paper that a Mrs. Andrews asked for a recipe for killing mites and lice, and knowing what a pest lice and mites are, I give you a remedy that I think will do the work. Take crude oil, just as it comes out of the ground, and apply it freely to pour hen-house roosts and nests with a large brush, first cleaning the nests and house completely. Apply plenty of oil and that will put an end to the mites for one season at least. We were very much annoyed by mites, but since using the crude oil have not been bothered.

Chautauqua County. N. E. BOUTON.

### Publisher's Paragraphs.

Did you notice what low prices the Columbian Steel Tank Company, Kansas City, is making on dipping tanks. Read their advertisement on page 606.

Freeport, Ill., June, 1899.  
 Dear Sir:—Knowing as I do the excellent merit of your Balmoline as practically demonstrated by its use under my personal observation, I am thoroughly satisfied that for chafes, galls, cracked heels and all flesh wounds it stands at the head of the list.  
 MYRON E. McHENRY.

Did you ever notice what a combination could be made with a Belle City Manufacturing Company's small thrasher and the Weber Gasoline Engine, both of which are advertised on page 603. The little engine will do a great deal of work in sawing wood, pumping water, grinding feed, cutting fodder, and other work besides the running of the little thrasher.

One of the best advertisements in this paper is that of the Eli Gasoline Engine, sold by the John Deere Plow Company, Kansas City, Mo. The heading "Fool proof" compels one to look at it and then he is obliged to read it to find out why it is fool proof. The best of it is that they are able to prove every assertion they make about the Eli. Write them and get a descriptive catalogue.

Would you rub up a lather on your face, for shaving, with a coarse scrubbing brush? It's nearly as bad using toilet or laundry soap for the lather. After shaving, your face ought to feel cool and smooth and comfortable. If it does not—try real shaving soap—made by The J. B. Williams Company, whose advertisement appears elsewhere in this paper. Shaving may become a pleasure—as you will learn if you take advantage of their offer.

The writer has just returned from a trip of several hundred miles, and believes that he is safe in saying that he has never seen the prospect for a hay crop better than they are now. The best way to get money out of hay is of course to feed it to live stock, and sell the surplus. The best way to handle it, either for feed or sale, is to bale it, and the best hay press that we now know of is that offered by the Eagle Manufacturing Company, 995 Hickory Street, Kansas City, Mo. Write them and learn all about it.

### Modern Ways to Buy Fence.

If you will drop a postal card to the Advance Fence Co., 3742 Old St., Peoria, Ill., and give your name and address, you will receive a valuable booklet that will inform you how the best fence in the world can be secured from this large manufacturing direct at factory prices, with the privilege of returning it without any expense if after thirty days' trial it proves unsatisfactory for any reason.

This is the modern and sensible way of purchasing fence, and is rapidly coming into vogue, thousands of farmers and land-owners taking advantage of this method to save dollars and at the same time secure the strongest and longest lived fence made.

The construction of Advance Fence is such as recommends it to every beholder. All wires are continuous; there are no ends of wire to become unfastened. All its features are set forth in that book you are going to get and will appeal to your good judgment as truly as does the popular plan of selling it on thirty days' trial.

Prices will be quoted you on whatever quantity you need delivered freight prepaid.

The firm making this fence is reliable, the fence is good, the selling plan certainly fair. Why not take the benefit?

Annual Convention Travelers' Protective Association of America, Springfield, Ill., June 5-12.

The Chicago Great Western Railway will on June 16 to 20 inclusive sell round-trip tickets at one fare plus \$2 to Springfield, Ill. For further information apply to any Great Western Agent or J. P. Elmer, G. P. A., Chicago, Ill.

### Well Satisfied.

Omaha, Neb., December 21, 1903.  
 Dr. B. J. Dendall Co., Enosburg Falls, Vt. Gentlemen:—Please send me a copy of your "Treatise on the Horse and His Diseases." Am shipping clerk for Adams & Kelly Co.; we have about ten head of horses and have been using some of your medicines and have been well satisfied with them.  
 Yours truly,  
 C. E. STEINER,  
 Care Adams & Kelly Co.

## POULTRY BREEDERS' DIRECTORY.

BARRED PLYMOUTH ROCK EGGS, 50 for \$2.25; 100 for \$3.75. Adam A. Weir, Clay Center, Neb.

SINGLE COMB BLACK MINORCAS. The largest and greatest laying strain in the world. Eggs \$1 per 15, \$3 per 50, \$5 per 100. Address Geo. Kern, 817 Osage St., Leavenworth, Kans.

SPECIAL SUMMER PRICES on my Superior Strain Barred Plymouth Rocks: 15 eggs, 60c; 30 eggs, \$1; 100 eggs, \$3. E. J. Evans, Box 21, Fort Scott, Kans.

## The Buff Plymouth Rocks At Gem Poultry Farm

Are Better Than Ever. At State Fair at Hutchinson 1903, I won in warm competition, 1st cock, 1st hen, 1st pullet, 1st pen 2d pen.

### No Better Buffs Can Be Found.

Eggs from my two best pens, 15 for \$2; 30 for \$3.50. They are in the \$5 class. Mammoth Bronze turkey eggs, 11 for \$2. Stock all sold.

**C. W. PECKHAM,**  
 Haven, Kans.

## Suffering Will Not Help Your Disease, but Will Weaken Your Nerves.

Folks who think it is better to bear pain than soothe it—are wrong.

Old-fashioned doctors used to say it was better, because they had nothing with which to ease pain but dangerous, heart-paralyzing drugs.

But now, that a safe remedy has been found, Dr. Miles' Anti-Pain Pills, it is wrong to suffer, for nothing can be gained but weakened nerves.

A safe rule to remember is: When in pain, take an Anti-Pain Pill.

This will soothe your quivering nerves.

Dr. Miles' Anti-Pain Pills relieve pain by restoring the natural secretions, in which they differ from opium and similar narcotic drugs, which relieve pain by checking the action of the glands.

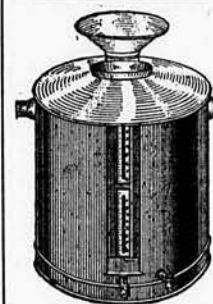
They are sure and harmless, and are the latest medical treatment for the cure of Headache, Neuralgia, Backache, Rheumatism, Dizziness, Toothache, Stomachache, Menstrual (Monthly) Pains. Also nerve irritations like Sea-Sickness, Car-Sickness, Sleeplessness, Indigestion, etc.

Pleasant to take, quick in results.

"I have used Dr. Miles' Anti-Pain Pills for sick, nervous headache, and have received the best results. I heartily recommend their curative properties, for they are successful."—REV. RAY A. WATROS, D. D., Iowa City, Ia.

Sold by druggists, at 25c. Money back if first box does not help. Never sold in bulk.

FREE Write to us for Free Trial Package of Dr. Miles' Anti-Pain Pills, the New Scientific Remedy for Pain. Also Symptom Blank. Our Specialist will diagnose your case, tell you what is wrong, and how to right it, free. DR. MILES MEDICAL CO., LABORATORIES, ELKHART, IND.

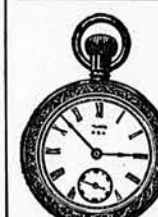


**Why** not buy your Cream Separator direct from manufacturer, and save dealer's profit? Formerly sold through agents and hardware men at \$10.00. We will deliver to your station, freight prepaid, a "New King" 10-gal. Separator for \$8.—guarantee satisfaction or refund money. Write for catalogue, KING MFG. CO. NEBRASKA CITY, NEBR.



**Largest Optical Mail Order House in the West.**

Any style glasses for \$1. Write for free examination sheet and illustrated catalogue. Satisfaction guaranteed. R. H. Baker Co., 624 Kansas Ave., Topeka, Kans.



**ONLY \$1.35**

Never Was And Never Will There Be again such a bargain offered. While they last we offer this elegant Watch. Gents size, open face, solid freight, richly engraved case, Conn. Watch Co. movement, stem-set and stem-wind, excellent timekeepers; never was sold for less than \$6. Our Price \$1.35, by mail or express. C. O. D. with privilege of examination before paying. ST. LOUIS MAIL ORDER HOUSE, St. Louis, Mo.



### Making Live-Stock Dip.

Editor Kansas Farmer:—Our attention has been called to an article published in one of the Lincoln, Neb., papers which is decidedly misleading and we ask you to kindly give space to the following explanation:

In the article referred to it seems that the information was given out by State Veterinarian Thomas. The information in that article, like the information given to the people in the State dipping regulations issued by Dr. Thomas and approved by Governor Mickey under date of March 28, 1904, is decidedly misleading.

The article that appeared in the Lincoln paper referred to the stockmen of Broken Bow, Neb., preparing to make their own lime and sulfur dip, and a portion of the article reads as follows:

"At present the price of a barrel of dip in Omaha or Kansas City is \$12. Freight to the western part of the State amounts to \$3, making a cost of \$15 per barrel. A barrel of manufactured dip can not contain more than 100 pounds of sulfur and lime, and the rest is Missouri River water in which the ingredients are cooked and mixed.

"One hundred pounds of sulfur costs \$3, sufficient lime to mix a barrel of dip costs 5 cents, water costs nothing, and fuel for cooking is a small item. At a cost of \$3.20 the stockman can make a barrel of dip."

This gives out the impression that we as manufacturers of the Government approved Rex Lime and Sulfur Dip are guilting and misleading the people. We wish to present figures and facts to correct this matter and let the people judge as to whether we are misleading them or whether the article referred to and the State dipping regulations misleads them.

In the article quoted above, you will please note these words: "A barrel of manufactured dip can not contain more than 100 pounds of sulfur and lime." The same impression is given in the State dipping regulations issued and signed by State Veterinarian Thomas and approved by Governor Mickey.

We sent samples to Dr. Avery of the State Experiment Station at Lincoln, Neb., to be analyzed and under date of May 10, 1904, Dr. Avery reports as follows:

"The sample of lime and sulfur dip recently submitted to me for analysis was found to contain dissolved sulfur in the proportion of 131 pounds per barrel of fifty gallons."

Dr. Salmon, chief of Bureau of Animal Industry, Washington, D. C., is undoubtedly the highest authority in the United States on matters of this kind, and in a letter from him under date of April 4, 1904, he reports the following:

"In the analyses which were made by Mr. Emory of your most recent samples we found about 26 per cent sulfur and 10 1/2 per cent of lime in solution. This is slightly over 25 1/2 pounds of sulfur in solution to 10 pounds of lime and shows that you have been getting a comparatively large amount of sulfur in solution."

This means 26 per cent of the total finished product. Fifty gallons of our dip weighs 500 pounds. Twenty-six per cent of 500 pounds is 130 pounds, so according to the Bureau of Animal Industry analysis a barrel of dip can contain 130 pounds of sulfur in solution. Dr. Thomas is quoted as saying a barrel of dip can not contain more than 100 pounds of sulfur and lime both.

The writer saw a copy of a letter written by Dr. Avery to State Veterinarian Thomas telling him it is possible to get even more than 130 pounds of sulfur in solution in a barrel of dip and yet Dr. Thomas is quoted as saying there can not be more than 100 pounds and the State dipping regulations practically say the same thing.

The Government requires that 8 pounds of lime and 24 pounds of sulfur be used for each 100 gallons of diluted dip. Dur-

ing the process of manufacture approximately 78 per cent of sulfur can be gotten into solution. Our ready-prepared dip is made on the 8 and 24 Government formula. Fifty gallons of our concentrated ready prepared, lime and sulfur dip makes 750 gallons when diluted according to directions placed on our dip by the Government and of Government required strength. To make 750 gallons of diluted dip requires the use of 180 pounds of sulfur and 60 pounds of lime. Dr. Thomas' statement infers that this would cost \$3.20. The average price of sulfur throughout the dipping country is at least 3 1/2 cents per pound, freight included, and the average price of lime is about 1 cent per pound, freight included. This makes a cost of \$6.30 for sulfur and 60 cents for lime, or a total of \$6.90 for raw materials only. Considerable additional expense must be added to this for boiling vats, settling vats, straining of the dip to get it free from sediment, cost of fuel, cost of labor, cost of inconvenience and delays by not having dip ready prepared when stock is ready to be dipped, and the boiling of lime eats out vats quickly and makes much expense that can not be exactly estimated, and with all things justly considered it will cost at least \$10 to \$12 to make 750 gallons of diluted dip or what is equal to one barrel of the ready-prepared dip, and with all things fairly considered it will be seen people are not being charged an exorbitant price.

Another very important consideration is that experience with home-made lime and sulfur dip throughout the country has proven quite conclusively that where inexperienced men make it without full equipments for making it properly, and where it is not properly mixed, boiled, settled and strained, the injury to the cattle or sheep is an item in itself that represents more expense than the total cost of the ready-prepared dip, as each animal that passes through the dipping vat carries out only from 1 1/2 to 2 cents worth of the ready-prepared dip. During the dipping process each animal is put completely under the dip at least twice and in their fright many of them swallow considerable dip, and where the sediment is left in or where the boiling or making is not properly done the dip is very "caustic" and it injures the internal organs in a frightful manner and very frequently blinds and kills animals. Our ready-prepared Rex Lime and Sulfur Dip would never have received Government approval were it not for the fact that it is properly and perfectly prepared and entirely free from sediment and the directions for dipping cattle and sheep are fixed by the Bureau of Animal Industry, and 50 gallons of our ready-prepared dip makes 750 gallons of diluted dip of the required strength, State Veterinarian Thomas' statement and the statement in the State dipping regulations to the contrary notwithstanding.

REX STOCK FOOD CO.,  
Omaha, Neb. F. O. Moburg, Pres.

### ROCK ISLAND SYSTEM.

#### Through Tourist Sleepers to California

Rock Island Tourist Sleeping Cars are fully described in our folder, "Across the Continent in a Tourist Sleeper." Ask for a copy. It tells the whole story—describes the cars in detail; names the principal points of interest en route; shows when cars leave Eastern points, and when they arrive in California. A. E. Cooper, D. P. A., Topeka, Kans.

#### National Republican Convention, Chicago, Ill., June 21-24.

The Chicago Great Western Railway will on June 16 to 20 inclusive sell round-trip tickets at one fare plus 25 cents to Chicago, Ill. For further information apply to any Great Western Agent or J. P. Elmer, G. P. A., Chicago, Ill.

## For People Who Are in a Hurry

The Rock Island System has an immense advantage over all other western railroads, as regards the location of its terminals in Chicago.

In addition to the La Salle Street Station—in the very heart of Chicago, and the largest and finest railroad station in that city—it has a station at Englewood, seven miles out.

This latter station is used by several eastern lines, as well as by the Rock Island. Here is where its convenience comes in: Suppose your train is a few minutes late. You get off at Englewood, walk across the platform and get on the east-bound train. It is a splendid arrangement for people who are in a hurry. It enables them to make connections with trains that they would have missed if they had taken any other line. Chicago trains leave Topeka at 6:15 a. m. and 3:35 p. m., daily. For reservations, etc., see



A. W. LACEY,  
North Topeka.

A. M. FULLER,  
C. P. & T. A.  
Topeka.

## COLORADO

AND RETURN

VIA

## UNION PACIFIC

\$17.50

EVERY DAY from June 1st to September 30th, inclusive, with final return limit October 31st, 1904,

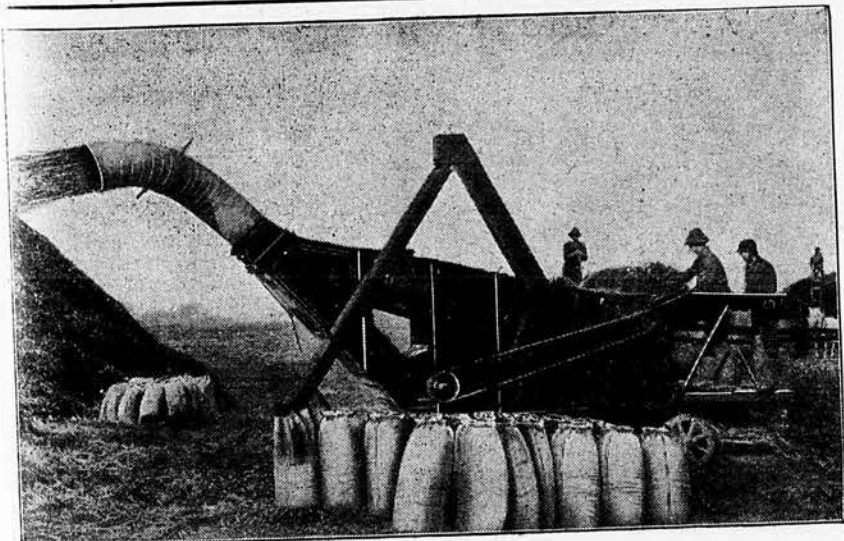
### FROM TOPEKA.

Be sure your ticket reads over this line

INQUIRE OF

J. C. FULTON,  
Depot Agent.

F. A. LEWIS, City Agt.,  
525 Kansas Avenue.



A Small Thrasher with Windstacker.

The illustration herewith shows the Belle City Small Thrasher, a machine that is admirably adapted to individual use or to the use of a club of farmers who can use it profitably. These machines can be operated by a small crew and the farmer, or club of farmers, owning one can do the thrashing the minute the grain is ready without waiting for a big thrasher to get ready to do the work.

This machine has stood the test of use and is guaranteed to save all the grain. It is well-known fact that the big thrasher who is hurried with the much work he has to do is very likely to crowd his machine until much grain is run over and lost in the straw stack. The farmer who owns a Belle City Small Thrasher wholly or in part need not wait and take the chances of delay and bad weather, for he can operate this machine with a crew that can be gathered up among his nearest neighbors, and thrash when ready. The Belle City Small Thrasher is so light it can be taken anywhere a wagon can go and yet is strong enough

for the hardest work. With this machine grain can be thrashed at less than the cost of stacking it and once it is thrashed the worry about it is over. They have a capacity of up to 800 bushels of wheat and 1,200 bushels of oats in a day, and frequently they save their cost in a year or two. After that they save money for the owner to the same extent and make the crops just that much more profitable. The farmer who owns a small thrasher is independent of the big thrashermen who frequently get delayed and disappoint and almost always waste grain. The small thrasher saves the farmer and his wife the trouble, inconvenience and hard labor consequent upon having a big thrashing crew to take care of and feed. We believe the Belle City Small Thrasher to be the best machine of the kind made. Our readers will be interested in the illustrated booklet concerning this machine which is issued by the manufacturers. This book is free to any one asking for it. Send for it, addressing Belle City Manufacturing Company, Racine Junction, Wis.

—A NEW—

## WABASH TRAIN

TO

## ST. LOUIS,

COMMENCING JUNE 5th, 1904.

Leave Kansas City,	-	-	-	11:30 p. m. Daily
Arrive World's Fair Station,	-	-	-	7:00 a. m. "
Arrive St. Louis (Union Station),	-	-	-	7:15 a. m. "

EQUIPMENT—Pullman Sleepers, Free Reclining Chair Cars and Coaches. Sleepers and Coaches open at 10.00 p. m. for occupancy.

WABASH is the ONLY line to WORLD'S FAIR Main Gate. Return Train leaves St. Louis 11.45 p. m. for Kansas City. Ask your Agent for Tickets over the WABASH.

H. C. SHIELDS,

Trav. Pass. Agent.

L. S. McCLELLAN,

Western Passenger Agent

Kansas City, Mo.



## DUROC-JERSEY SWINE.

**D. M. TROTT** ABILENE, KAS., fam. of Du-  
roc-Jerseys, Poland-Chinas.

**COUNTY SEAT HERD DUROC-JERSEY**  
SWINE, Geo. Briggs & Son, Clay Center, Neb.  
Annual sale of bred sows February 18, 1904.

Registered Stock, DUROC-JERSEYS, contains  
breeders of the leading strains.

N. B. SAWYER, CHERRYVALE, KANSAS.

DUROC-JERSEYS—Large boned and long bodied  
kind. A lot of fine fall pigs for sale. Prices  
reasonable.

R. F. D. 2, Scranton, Kansas.

## DUROC-JERSEY SWINE

CHOICE PIGS FOR SALE. ADDRESS

G. W. BAILEY, BEATTIE, KANSAS.

**C. H. SEARLE** DUROC-JERSEY HOGS  
Edgar, Neb. B. P. Rock Fowls.

## REGISTERED DUROC-JERSEYS

A fine young herd boar for sale; also choice young  
stock of both sexes. Write your wants.

R. H. BRITTON, R. F. D. Lebo, Kans.

**MAPLE AVENUE HERD** J. U. HOWE,  
DUROC - JERSEYS Wichita, Kansas.  
Farm two miles west of  
city on Maple Avenue.

## DUROC-JERSEY SWINE

Prize-winning strains. Bred gilts all sold. A few  
fall pigs, choice ones, for sale.

F. L. McClelland, R. 1, Berryton, Kans.

## FAIRVIEW HERD DUROC-JERSEYS

Two grand herd boars for sale at reasonable prices,  
if taken soon. Young stock all sold.

J. B. DAVIS, Fairview, Brown Co., Kans.

## DUROC-JERSEYS

We have a large number of excellent fall pigs sired  
by Red Duke 18663, the best son of Ohio King; and  
all are out of recorded sows.

BUCHANAN STOCK FARM, Sedalia, Mo.

## RECORDED DUROC-JERSEYS

Choice lot of topdy boars for sale cheap if taken  
soon.

L. L. VROOMAN,

Hope, Kans.

## OSAGE VALLEY HERD

## DUROC-JERSEYS

100 spring pig out of three noted sires. Am ready  
for orders now. Write for description and price.

A. G. DORR, Route 5, Osage City, Kans.

## Rose Hill Herd of Duroc-Jersey Hogs

I have for sale a choice lot of boars ready for ser-  
vice; gilts bred or open, and a fine lot of early spring  
pigs, all out of large, prolific sows and sired by well-  
developed boars. Special prices for next 30 days.

S. Y. THORNTON, Blackwater, Cooper Co., Mo.

## Rockdale Herd of Duroc-Jersey Swine.

I have at present 40 head of bred gilts I am pricing  
at \$20 and \$25 to close them out. Also 60 head of fall  
pigs I am offering very cheap. Prize-winning strains.  
Inspection invited. Rural Route and telephone.

J. F. CHANDLER, Frankfort, Kans.

## SOLOMON VALLEY HERD

## Duroc - Jersey Swine.

No sows nor gilts for sale, males only. Visitors  
always welcome. Write me.

W. F. GARRETT, Box 210, Portia, Kans.

## POLAND-CHINA SWINE.

**FOR SALE** Poland-China Hogs, Hol-  
stein Friesian Cattle; either sex. Best strains represented. H. N. HOLDE-  
MAN, Rural Route No. 2, Girard, Kansas.

## Kansas Herd of Poland-Chinas

I now offer for sale, Proud Kansas, he by U. S.  
Perfection, by a son of Mischief Maker and  
a son of Ideal Sunshine.

F. P. MAGUIRE, HUTCHINSON, KANSAS.

## Mains' Herd of Poland-Chinas

Up-to-date breeding. Will sell one Chief Perfection  
2d herd-boar. After Dec. 1 will sell a few herd-sows  
and a fine lot of fall pigs. Write for what you want.

JAMES MAINS, Oskaloosa, Jefferson Co., Kans.

## Pocan Herd of Poland-Chinas

Model Tecumseh 64138, American Royal (S) 30763,  
and Best Perfection 81507 at head of herd. Write us  
your wants.

J. N. WOODS & SON,

Route 1, Ottawa, Kans.

**RICHLAND** Poland-China Herd—Headed by  
Prince Henry 66955 and Black Chief Perfection  
30547; dams, Big Bone Beauty 178492, Richland J. F.  
Best 178498 and others of the Patchen-Perfection.  
Know strains of best Poland-China blood; my hogs  
have been bred for good length and size, with extra  
good bone, yet true to best Poland-China type; a few  
bred sows and gilts for sale. Write D. C. Van Nice,  
Richland, Kas.

## Perfection Herd of

## POLAND CHINAS.

I have at present some choice boars that are good  
enough for the best of company; also some choice  
bred sows, bred to choice Perfection boars, such as  
Royal Perfection 32382 and Rival Perfection 33377.  
None but choice stock shipped.

S. H. LENHERT, Hope, Kans.

ROME PARK POLAND-CHINAS  
and BERKSHIRES.

I have about twenty boars ready for use and  
twenty-five sows bred, and some unbred, and  
a large number of good pigs, both breeds.

T. A. HUBBARD, (County Treas. Office),  
Wellington, Kans.

## POLAND-CHINA SWINE.

**SHADY NOOK HERD**  
Poland-Chinas. Up-to-date breeding. Correspond-  
ence solicited. Inspection invited.

Wm. Plummer, Barclay, Kans.

## Chautauqua County Poland-Chinas.

Sows of Klever's Model, G. H. Sanders' Tecumseh  
Chief, Look Me Over, Perfection and Black U. S.  
blood. Headed by Kid Klever (33079). Pigs by Kid  
Klever and pairs not related for sale; also 4 yearling  
boars cheap. F. H. Barrington, Spring Creek, Kans.

## Clear Creek Herd Choice Poland-Chinas

Sows of Missouri's Black Chief, Ideal Sunshine,  
Perfection, Wilkes, and Hadley Jr. blood. Herd  
headed by Tecumseh Skylight 23337, Hanna's Style  
30273, Sherman's Corrector 30760, and Ideal Tecum-  
seh 32185. Five very choice serviceable boars for sale  
cheap. Phone at farm. E. P. Sherman, Wilder, Kas.

## Elm Grove Stock Farm Poland-Chinas

Woodbury 33838, Highroller 33839 and Perfection's  
Profit 33233 at head. Sows of the most popular  
strains. Visitors always welcome.

F. A. DAWLEY, Waldo, Kans.

VERDIGRIS VALLEY HERD  
POLAND-CHINAS

Contains as good or better individuals and finer  
breeding than ever. I breed for large size and heavy  
bone combined, with quality and finish and strong  
constitution. For Sale—10 good serviceable boars;  
also some extra fine sows and gilts bred for late June  
and early September farrow.

E. E. WAIT, Altoona, Wilson County, Kas.

## GLENWOOD HERDS.

## Shorthorn Cattle and Poland-China Hogs.

Shorthorns of highest quality. Scotch blood predomi-  
nates. Special sale—A 2-year-old red Scotch herd bull;  
also bull calves, high quality. Show material. Choice  
boars 175 lbs. to 300 lbs. Good enough to ship anywhere.  
Gilts, large prolific type, open or bred.

C. S. NEVIUS, Chiles, Miami County, Kans.

Forty miles South of Kansas City, on Mo. Pac. R. R.

HIGHLAND FARM HERD OF PEDIGREED  
POLAND-CHINAS

Ten extra good fall boars weighing from 150 to 200 lbs.  
sired by Black Perfection 27132, dams sired by Cor-  
win I. Know, Proud Tecumseh, Henry's Perfection.  
Spring Pigs by six of the best boars in the West.  
Seven and one-half miles northwest of Leavenworth.  
(1 ship from Leavenworth. Eight railroads.) One  
mile west of Kickapoo on main line of Mo. Pacific.

JOHN BOLLIN, Route 5, Leavenworth, Kas.

## CHESTER WHITE SWINE.

**PLEASANT VALLEY HERD OF CHESTER**  
WHITE SWINE. Choice lot of young stock  
of either sex for sale. Special attention given to  
correspondence and selection. Pedigree with every  
sale. A. F. Reynolds, R. F. D. 4, Winfield, Kansas.

## RELIABLE HERD OF O. I. C. SWINE.

Stock of all ages for sale; also White Wyand-  
otte Chickens. Write for circular.

S. W. ARTZ, - - - Larned, Kans.

## 20 Chester White Sows and Gilts

And 10 October Boars

For ready sale. Prices low for quick sales. Order  
to-day.

D. L. BUTTON,

Route 9, Elmont, Shawnee Co., Kans.

## THE CRESCENT HERD

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BEST SWINE.

Boars for service, sows and gilts bred for Septem-  
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## Large English Berkshires

Pigs of both sex sired by first prize boar at Topeka  
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Best Blood in the Land.  
My 3-year-old herd boar  
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## REGISTERED

## Tamworth Hogs

15 fall gilts, 5 fall male pigs and will spare one of  
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**FIVE REGISTERED HEREFORD BULLS** for  
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**Weston Stamp Herd**  
**REGISTERED... HEREFORD CATTLE**  
Anxiety 4th females with Ambercrombie 85007  
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VERMILLION HEREFORD CO.,  
VERMILLION, KANSAS.

Boatman 56011 and Lord Albert 131557 head of herd  
Choice young stock of both sexes for sale.

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The American Royal prize-winning bulls  
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FOR SALE—5 young bulls, 9 to 12 months old, sired  
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Bulls, bred heifers, and cows with calves at foot  
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Brave Knight, a choice son of Gallant Knight, a  
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Cruickshank, at head. Visitors welcome. Come by  
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All Red and Dehorned.

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Twenty females, from yearlings up, and nine young  
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FOR SALE CHEAP to reduce herd—Imp. Scotch  
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Cows bred; also bred and open heifers. Young bulls  
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Gloucester's Knight 171591, at head of herd. Young  
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The imported Missie bull, Aylesbury Duke  
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my Cruickshank bull, Lord Thistle.

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Shorthorns

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Baron Ury 2d 124970 and Sunflower's  
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Can ship via Rock Island, Union Pacific, Santa Fe,  
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SCOTH AND SCOTH  
TOPPED  
Shorthorn  
Cattle,  
Poland-China  
Swine.



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## Shorthorn Cattle.

For immediate sale, 12 bulls ready for service and 12 bull calves. Also 20 cows and heifers, 1 to 7 years old. Give me a call, or.....Address.....

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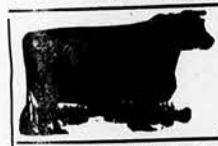
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On hand of last year's importation  
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One-half cash or bankable paper due in one year, with interest. Other half due when horse has earned it. You settle for one-half the horse only; the other half must run until the horse earns it. Just the terms you want. I mean to dispose of these horses at once to make room for October importation and I know the wide-awake buyers will be promptly on hand, as these horses are sure to suit. They are heavy-boned, massive, shapely horses, with two good ends and a good middle. Best of feet and action. These are 1,600- to 1,850-pound horses, each and every one fully guaranteed a sure foal-getter. Remember, you take no possible chances when you deal with Hefner. My terms should convince you that my horses are certainly right in every particular. I know they will suit you. These are 30 per cent better than "Top-Notchers," and just the sort "peddlers" are selling at \$3,000 to stock companies. Form your own stock company and come buy one of these grand Shires for your own use. I know my horses are the genuine, honest, reliable sort and cannot fail to please you and give the most satisfactory results; hence these unheard of terms. Write for information. Do so immediately, as these horses will soon go on these terms and prices.

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At the Minnesota State Fair our French Coach stallions won every possible first prize and grand sweepstakes. At the Ohio State Fair our stallions won fourteen first prizes out of a possible fifteen. At the Indiana State Fair our Percherons won three first prizes. Our French Coaches won every possible prize. At the Kansas State Fair our Percheron and French Coach stallions won every first prize, including grand sweepstakes. Four importations last year. Two already this year. The Custom House records show that we imported from France in 1903 four times as many Percherons and French Coach stallions as were brought over by anybody else. Ours are the very best, we import more of them, sell more of them and therefore can furnish our customers a better horse for the money than can be bought elsewhere.

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