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BREEDERS' DIRECTORY.

Cards of four lines or less will be inserted in the Breeders' Directory for \$15 per year or \$3.00 for six months; each additional line, \$2.50 per year. A copy of the paper will be sent to the advertiser during the continuance of the card.

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BUCKEYE DELAINE SHEEP FARM.
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Breeder of pure-bred Herefords. Beau Real 11065 heads the herd. Young bulls and heifers for sale. Also for sale, Poland-China swine. Choice bred young boars and sows by the World's Fair prize-winner, Longfellow 29785; and Berkshire swine of the noted Duchess and Lady Lee strains of N. H. Gentry. Bismarck and General Lee, both Gentry bred boars, in service.

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

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

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

MISCELLANEOUS.

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

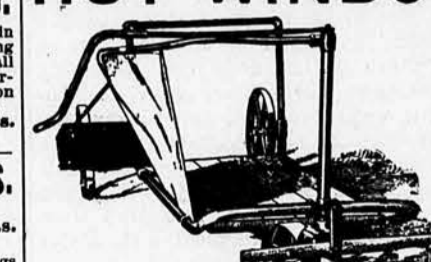
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Sales made in all States and Territories. Refer to the best breeders in the West, for whom I have made sales. Write or telegraph for dates before advertising. Terms reasonable.

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

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SHEEP AND POULTRY FOR SALE.—Some choice Cotswold and Merino bucks, any age. Will sell to suit the times. The leading varieties of first-class poultry for sale at all times. Address E. H. Hague & Son, Walton, Kas.

The Stock Interest.

THOROUGHBRED STOCK SALES.

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

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

ABOUT MATURING HORSES.

The farmer who breeds good horses and fully matures them for market realizes a profit on both his breeding and on his feeding. Too many of our horses are sold young and immature, when they can stand but little work, and the buyer is not inclined to pay much for such horses for hard city work, for he is but half a horse until he is fully matured and is thoroughly hardened to steady work. Thus it is the discouraged farmer gets a poor price for his horses while his more enterprising neighbor breeds the best class of heavy draft horses or large stylish coaches, with knee action, fully matures them on the farm and makes them earn their own living on the farm after they are 2 years old; they are thus, by judicious training and proper feeding until they are 5 years old, prepared for street work. Many think it will not pay to keep horses so long at present prices; there is where the profit comes in. Many young horses are bought throughout the West and matured in Ohio and Pennsylvania at big profits; they are fully grown, well broken, and hardened to work, fat and sleek, their feet and legs trim, clean and neat and their bone and muscles fully matured. The city buyer, always eager for such horses, pays double the price he would for the same horse at three years when he could only do half the work. The veterinary editor of the *North British Agriculturist* gives the following practical instructions:

Notwithstanding the extending knowledge of the management of horses, many horsemen still expect young and green horses to be put into good working condition in an unduly brief period by some short process or patent panacea. They do not sufficiently realize that in order to stand fast or hard work an animal must have his muscles, notably the great muscles of the heart, his tendons and ligaments, joints and other structures, brought up to a fair standard of strength. This can only be effected by suitable hard feeding, graduated exercise or work, and healthful surroundings. Neither alone suffices; all are essential to develop the full capacity of the tissues, to remove redundancy of useless fat, and to secure that co-ordination of parts requisite for the prompt and easy performance of work. Similar preparation is requisite in preparing either man or any other animal for the safe performance of feats of strength or endurance. The great job-masters, who buy their three and four-year-olds at £90 to £100, give them twelve months' feeding and training before they are fit for even comparatively light and considerate service. Indeed, until they are turned six, the best class of big carriage horses are not expected to do anything like full work, and even when on job they are only "played with." The like time and patience are expended in the training of valuable hunters. As four or five-year-olds they have short days, carry light weights and thus gradually attain condition and learn their business. Were the same principles applied in the breaking and consequent use of other descriptions of horses, they would be more sound, serviceable and lasting.

Horses, while growing, and until they are at least 5 years old, do not, as has been indicated, acquire that firmness of texture which gives stamina and endurance. In much the same soft state are horses out of condition

from illness, inadequate feeding, or want of work, as is often illustrated in animals that have been made fat for sale. Young and poor nags are sometimes rejected for indifferent action when their fault is mainly want of age and condition. When put to severe work, the horse, if unfit, flags, perspires freely on slight provocation, soon becomes leg-weary, and hence apt to suffer from ligamentous or tendinous sprains. At fast work he goes awkwardly and carelessly, is liable to interfere or click, his center of gravity is thrown too far forward, and he is prone to come down. Sometimes the shoeing is blamed, and, without benefit, injurious cutting and rasping of the hoof are resorted to, or special descriptions of shoes are recommended. The clicking, not infrequent in raw overtaxed horses, instead of being treated by corn and properly regulated work, is attempted to be remedied by shortening the toes of the hind feet, and this is occasionally carried to such an extent that the animal knuckles over on his hind fetlocks.

Some knowing grooms and cunning coachmen have recipes for getting horses into condition. Old authorities were wont to enjoin three doses of physic, the first to remove the humors, the second to purge them out and the third to promote fresh, healthier secretions. A dose of physic may be needed if the horse to be put in condition is "gross," itching, his bowels out of order, or his limbs puffed. But if in good health, and if his diet and exercise can be fittingly regulated, physic is not necessary. Neither purgatives, tonics, cordials or any other medicines can give young or soft horses the vigor and endurance which horsemen term "condition" or "fitness," and which we repeat is only gradually acquired by proper feeding, appropriate work and good stable management. Not a few horses are still subjected to a spring and autumn clearing out, prescribed by the attendants on the plea that it keeps their charges in condition, helps the change of the coat and prevents worms or other ailments. Horses are thus physicked with the ridiculous idea that plethora or fullness of blood is the prime cause of ailments—a notion which sixty years ago took thousands of people to the surgeons in spring and autumn to have what they considered a salutary blood-letting. In some stables frequently repeated balls or powders are systematically used with the view of promoting condition; but the owner, who has regard for the capability, health and life of his animals, will absolutely prohibit all such medicaments unless prescribed by the qualified veterinarian.

Color in Short-horns.

EDITOR KANSAS FARMER:—I note from account of recent Short-horn sales in England, that one of the Renicks, of Kentucky, has purchased a white Short-horn heifer for the purpose, as stated, of trying the effect of an introduction of new blood upon the old Rose of Sharon stock. That he should have selected a white one is very significant, but his head is level all the same. The Renicks are among the best breeders of America, having achieved a world-wide reputation as breeders of Rose of Sharon stock, but I am afraid such news will be a great shock to some of our Kansas stockmen, as a white spot upon a Short-horn bull is enough to give some of them the jim-jams.

I have before me a picture of the champion of the Short-horn breed (male) at the late Royal show of England, and though it is a painful truth, it must be told that he is very white on flank and belly, with white feet and a white switch. It is well he first saw the light in England. Had he been born in Kansas, his inevitable fate would have been to be a steer, as he could hardly have been sold at all otherwise. KANSAS BREEDER.

If our subscribers who are about to renew their subscriptions, will notice our advertisement of "Picturesque America" in this issue, they no doubt will desire to take advantage of our offer. Send for our supplement containing our various clubbing propositions.

The Future of Sheep Farming.

In his "Souvenir Hand Book," A. H. Foster, Allegan, Mich., says:

"We have for some time been nearing a critical point in the sheep business, as it has been conducted by the average farmer. It has been but a few years when nearly every farmer who kept sheep and most of the breeders were aiming to produce all the wool possible, in fact, keeping sheep for wool production almost exclusively, and in Michigan many of our leading breeders were politicians of no small influence, and if a protective tariff has or would increase the price of wool they have had the benefit of it, and in the past they have been in line with the demands of the market so far as the quality of wool is concerned.

"Some great changes have been taking place in the last few years, however, and the fine-wool business no longer enjoys the liberal prosperity of recent years, and there is no doubt but what we have passed the period in America when sheep may be grown with profit for wool alone. Changes in fashion and styles have made a change in the quality of wool demanded. This alone would not be sufficient ground for dropping our good old friend the Merino, for fashion is as fickle as its followers, but the time has come when on our high-priced land, even with wool at a fair price, we are not able to raise sheep for wool alone, and it can be done nowhere in the United States except on the Western range, where the price of land is from nothing to \$2 per acre.

"With the introduction of the mutton breeds of sheep into this country has sprung up an increased demand for mutton. With good mutton people will eat it liberally, for it is one of the most wholesome of meat foods. Some people will insist that Merino mutton is the best of any breed, which leads us to the conclusion that they have either never eaten any of it, or else any mutton but of the Merino, and that they are so stubborn in upholding their ancient idols that they have lost their sense of taste.

"There are several breeds of mutton sheep in this country, one of the oldest being the Southdown, which is an excellent mutton sheep, but light in carcass and fleece and not so hardy as some of the others. Of the black-faced types the Hampshires are the largest, but coarse and slow to mature; the Oxfords are next between the Shropshire and Hampshire in size. They are a cross-bred sheep and have many admirers. They originated in 1833, and were produced by a cross of the Cotswold ram upon a Hampshire ewe, but it was not until 1862 that they were recognized as a distinct breed at the Great Royal show in England. Their wool qualities are not equal to the Shropshires and they are not so prolific.

"Shropshire sheep have met with such marked success in the hands of the average American farmer and breeder that few of them have ever found their way to the mutton markets, but they have been largely used for crossing on the common native ewes and the half-blood lambs have been much sought after for mutton, producing a very superior quality of mutton, and lambs with black faces and legs have commanded a premium over any other kinds. The nearer we get them to pure-breds the better the quality of both wool and mutton. Being a very prolific breed and the ewes excellent mothers, caring for two lambs as well as most other breeds will for one, and being thrifty and hardy, they are becoming a general favorite wherever introduced. It has been said they could not be kept in large flocks, but the fallacy of this is apparent when we look at the large flocks of our State. We have a number of breeders keeping from 400 to 1,000 head of them. Mr. Jas. M. Turner, of Lansing, Mich., has produced and raised this year an increase of 176 per cent. of lambs, being 176 lambs for every 100 ewes, and he had 400 lambs. This shows excellent results in a large flock. Shropshire wool which grades medium brings the highest price in the wool markets, bringing at the present time nearly twice as much as the common

Merino wool, and the average Shropshire clip is nearly twice the average clip from the native fine-wool sheep of our State, as the average grade Merino sheep in our State do not average over five pounds of wool, and this will cleanse out over 50 per cent., while Shropshire wool will not cleanse out over 25 to 30 per cent.

"We have in the United States at the present time less than 50,000,000 sheep, and about 70,000,000 people, and are increasing our population at the rate of about 4,000,000 per year, and double our population in twenty-five years, and in another hundred years we shall have another China in America, and the question of the future is rather how the human family is to be supported rather than one of a plethora of food production.

"With good mutton, one sheep per year to each two inhabitants would cut but a small figure in their food supply, yet what an immense number of sheep it would mean to be slaughtered each year, and with the liberal production of a first-class mutton sheep there is no reason why we should not reach it.

"In the future, men who now have and worship fine-wool sheep and cannot give them up, will breed them for more size and endeavor to make mutton sheep out of them, and there will be many followers of the coarse-wool types, but the leading sheep of the future for profits will be a medium size sheep that matures quick, is prolific, hardy, with a maximum amount of the valuable cuts and a minimum of the waste products, meaning a low-down, square-built animal, with short neck and rather small head, and that are well covered all over with a dense fleece of clean, bright wool, of a fine, long staple, in fact a combination of the most valuable mutton and wool qualities. Such is the typical Shropshire sheep of to-day and such will be the leading sheep of the future."

Baby Beef Growing.

A successful grower of baby beef furnishes the following outline of his methods:

"Have the cows come in late in the fall or early in the winter. Let the youngster take his nourishment in the natural way until the milk is fit for use. Then wean him and put him on skim-milk immediately, as no one can afford to feed high-priced beef. Be very careful at weaning, always warming the milk, and be sure not to overfeed. As soon as the young steer begins to eat give him bran, shorts or any kind of ground feed twice a day; continue this ration until it is proven beyond a doubt that he thrives and keeps in a fleshy condition while on pasture.

"The next fall finds him weighing about 500 pounds, which at 3 cents per pound would amount to an expense of about \$2. By this time he is nearly a year old, and beef cannot be made as cheap as the first 500 pounds. This is probably gained in the spring marketing, as the price is usually 1 cent higher per pound.

"It must be borne in mind that to obtain the highest price it must be fed in the fall as soon as the pasture begins to fail. As soon as winter sets in put them on full feed. Under ordinary circumstances they will be ripe in March, when prices are generally highest. The weight at this time is from 600 to 900 pounds, which, at 4 cents a pound, would bring from \$24 to \$36 per head. This will probably seem to be out of reach of some farmers, but if they will but try, follow these instructions closely, I am confident that they can do fully as well, and in some cases better, particularly where the calves are of good breeding and of the improved breeds."

Kansas Swine Breeders.

The annual meeting of Kansas Swine Breeders' Association will be held at Wichita, Kas., Thursday, October 4, 1894, at 7:30 o'clock p. m., and continue over the 5th, in connection with the State fair.

By order of the Executive Board.
 GEO. W. BERRY, President.
 WILLIS E. GRESHAM, Secretary.

Get up a club for KANSAS FARMER.

Agricultural Matters.

MULCHING LAND.

A mulch is anything that prevents evaporation of the moisture from the soil. In "seasonable" years good crops are gotten because the supply of moisture is in proportion to the needs of the plants. If we could provide a proper amount of moisture, we would find most soils fertile enough to make good yields. Many years ago Mr. Terry began emphasizing the importance of preserving a store of moisture in the soil, and he attributes much of his success to care in this respect. A year ago Prof. Lazenby showed me a pile of potatoes grown on an unmanured plot that had a slight mulch of cut straw, and another pile that was grown by its side with the aid of manure. The season was droughty, and the unmanured plot, with a mulch so slight that it did not entirely prevent tillage, produced the most and finest tubers. The difference was very marked.

A year ago I told of a thin piece of land that was broken early for wheat and then mulched with straw. The clover sown in that wheat was much better than on more fertile land that was not mulched, and the following few weeks in August and September were excessively dry. Nearly all fallow land was too dry for seeding, even when much fining and firming had been done with harrow and roller during August. Near the middle of September I burned this straw, and the soil beneath was full of moisture. A light shower had fallen a few days previously—one that had little effect on bare land, but this mulched land required a few hours drying before it was ready for the drill. The effect of the mulch was so marvelous that one who has never observed it would think it nearly incredible.

When land is mulched with straw or other such material, the moisture rises by capillary attraction to the surface of the soil and is held there. If an old log or board is moved from its position on the ground, slugs and worms that like moisture can usually be found under them. The water rises to the covering and is held there. There is always a big store of moisture in most soils, and it continues to rise and escape day by day unless we can interrupt it. This was accomplished on the fallow land by the straw, and the result was that no effects of drought were apparent at seeding time. Of course, it is impracticable to mulch much land with straw or leaves, but it is worth our while to know the possibilities of such a mulch, and to gain an idea of the wastes of moisture that daily occur in our fields. We often notice that land top-dressed with long manure in the winter stays wet late in the spring. This same principle holds good in the summer.

The ground gains in fertility when mulched. Scientists say that organisms which convert the nitrogen of the air into available plant food, multiply fast in the decomposing vegetable matter of a mulch. This does not wholly explain the gain in fertility, as land protected by pile of lumber, stone or other sound material will become more productive than when left bare. This gain may be due to chemical changes in the soil that a constant supply of moisture promotes. Nature uses the mulch in restoring the fertility of abandoned land. The ground is covered with a growth, and this in time, makes a mulch over the surface.

In gardens, in lawns, and on thin points in grass lands it is practicable to use mulches freely. It is cheaper to draw a ton of straw than a ton of manure to a bare spot in a pasture, and the straw will secure a stand of grass. I have used grass clippings around young trees and other shrubbery, carrying them through a drought in their first summer without any injury. If one wishes to water fresh-planted shrubbery, it is best to have a mulch around it to prevent the soil from puddling, and a little water thus applied will do more permanent good than double the quantity without a protection to the ground.

In tilled fields we cannot use ordinary

mulches, but the mulch of loose earth that is gotten by surface cultivation is very effective. In southern Ohio we have had extraordinary heat and drought this summer. In the bottom of potato hills that had had no cultivation for many weeks on account of the large tops, there was no moisture. The soil had been settled by a shower weeks ago, when the tops had stopped cultivation, and with the thermometer registering way up in the nineties, and cloudless skies for weeks, nearly all moisture evaporated; but in the nutmeg field, where the Planet Jr. could be used freely, one could at any time remove the mulch of loose earth and find moisture at the top of the solid ground. It would seem that with the mercury at 98° in the shade, continued drought would take all moisture out of naturally warm soil, but these melon vines have so far found a store of it under the earth mulch. The only trouble with such a blanket of fine earth is that, as in the potato fields, when a hard shower comes after the vines fill all the middles, the mulch is destroyed, and continued heat and drought finally stop all growth and let the vines burn.—Alva Agee, in *Practical Farmer*.

Kaffir Corn Harvester Wanted.

EDITOR KANSAS FARMER:—I presume the result, or one result, of the present drought will be a greatly increased acreage of Kaffir corn next year. I wish the KANSAS FARMER would call the attention of inventors to a want in this connection. The growers of Kaffir corn want a machine that will head one row of Kaffir corn and drop or carry the heads into a receptacle for them to be dumped at pleasure or at end of a row, leaving the fodder to be cut by a sled to follow. The machine might be attached to a low-wheeled wagon, the turning of the wheel furnishing the motive power, which would be light. The wagon must run alongside the row, not breaking it down. In the near future there will be a brisk demand for such a machine, which ought not to cost over \$25 to \$30.

At the present time you can tell by looking in a man's face whether he has forty or fifty acres of Kaffir corn growing. If he has, you will see a hopeful countenance, while if his corn is all "Indian," his face requires a tape-line to take its dimensions. D. P. N.

Hot and Dry.

EDITOR KANSAS FARMER:—What is the matter with "Old Sol" this year? He did warm us up last week, and roasted alive our pretty corn fields, which looked like nothing could head off from making a sweeping crop. But now we have the satisfaction of cutting and shocking its withered forms, which we are doing with just as much nerve as only a Kansas man could, and we will try it again in 1895.

But, boys, there is another kind of corn that has stood these scorching blasts, and stood up like a silver man, called Kaffir corn. It is waving its green leaves to-day in defiance of the sun's rays, and will fill our old cows and steers full of sap this winter, and the heads will make our hogs fat. Every one plant ten acres and you never will know after how to farm without it.

Our sorghum cane will also make a good crop, and the mill will start to digesting it next week, and the week after we will put it on full feed, but it is a fearful eater. It has to have 250 tons every twenty-four hours, and it never got fat yet, even on that ration.

Our cattle, what few are left, are looking grand. Hogs look kind of limp, like the corn, but we are chocking them full now of this 29-cent wheat that went, over the county, from eight to twelve bushels to the acre.

Alfalfa seed is setting fine.

ELI BENEDICT.

Medicine Lodge, August 3.



Five World Beaters.

"SICKLES" BRAND HARNESS. All genuine stamped with this "Trade Mark." Made in five styles at \$6.50, \$9.00, \$10.00, \$15.00 and \$25.00 per set complete. The best harness for the money on the market. Ask your harness dealer for them. Manufactured only by J. B. Sickles Saddlery Co., St. Louis, Mo.

Harvesting Alfalfa Seed.

EDITOR KANSAS FARMER:—Seeing an article in your recent issue, requesting some one engaged in raising alfalfa seed crop, I herewith send you my plan.

For the last three years I cut with an Esterly binder, with a tilting table or platform fixed on in place of the binder. First, remove the binder and bundle-carrier; take two pieces of 2x4 scantling, place them in the frame of the binder under where the binder was and directly in line on either side and about four inches above a level with the bottom of the platform; let them extend outside of the frame-work of the machine twenty inches. These should be secured so the whole arrangement can be drawn out together to pass through gates. Next, build a box to catch the shattering in, by nailing flooring on the under side of these pieces, and build the edges up even with the top of these pieces. You now have a box equal to the width of your machine in length and twenty inches wide. Take two eight-inch strap hinges and nail them on the top of these pieces at the outer end. Take two pieces of 2x4, forty inches long, and nail the hinges on the under side at the middle, so they will balance, for cleats to build your table. Begin at the inner end and nail lath, two inches wide and six and one-half feet long, one-half inch apart. Continue your lath as far out as your box extends and board over the rest. This will let the loose seed and bowls through, which can be put in gunny sacks and poured on the alfalfa as they feed it through the thresher. Fasten a chain or rope to a lath and tie to the frame of binder, so it can tip only enough to let the cutting slide off. Place an old plow seat on top of your elevator so a boy can sit there and load the table as it falls from the elevator. When full, dump off in large windrows.

Set your binder in height about for low wheat and raise or tip so as to cut or head only low enough to get all the seed. Let it lie for one week or less, according to ripeness. By cutting this way you can let it get very ripe and you are ready to thresh. By all means don't stack and tangle it up. I have threshed 112 bushels in a day from the windrow—while forty bushels is a good day's run from the stack, cut with a mower and raked. Any good thresher run at a high rate of speed will thresh it with proper riddles. If you have no flax or timothy riddle, make one out of common screen wire. Get two header boxes to haul in, with tight bottoms. If you don't have them, give your neighbor five dollars a day for his. It will pay you. Also buy forty-eight yards of "L. L." muslin and make two sheets 24x9 feet, place one under the thresher and the other under the measuring-box and under the wagons. Drive on them. Get a club and don't let the feeder feed too fast. If you do you will run it out in the straw. A thresher can thresh it for one-half cut this way that he can cut with a binder.

J. M. VERNON.

Simpson, Mitchell Co., Kas.

Experience With Alfalfa.

A farmer in the Yellowstone valley writes: "Alfalfa, with us, is the great feeding crop. It produces more by three times than any other hay we grow. We begin cutting full crops thirty-five days ahead of any other crop in Montana, and it furnishes green pastures thirty to sixty days after other grasses are dried up. Contrary to most reports, alfalfa will stand a considerable frost without damage, both early and late. The time for cutting the first crop comes before the harvest of other grass and second crop just before the grain harvest and the third after most other crops are harvested.

"In Yellowstone valley it yields an average of five tons per acre for three cuttings, and quite often we get four crops in a season from same tract. It is great hog feed. Hogs relish it all seasons of the year. Two-months-old pigs turned in on alfalfa pasture in the spring have made fine 200 and 225 pound porkers in the fall. Hogs will winter on this and no other food. Cut and fed to hogs green it is conducive to good health. One acre will easily

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support twenty-five hogs through the summer.

"There is no better food for sheep than alfalfa. At our ranch, Hesper farm, last July we took 100 head of old ewes in fair order and after forty days feeding on alfalfa they made the very choicest of mutton. All sheep in winter seem to relish it and eat it in preference to any other hay. We fed this hay to some of our sheep last spring and the season before and they sheared a pound more of wool per head than some of the same sheep that remained on the range.

"As a milk-producer it is wonderful. Cows changed from other hay to alfalfa has the same effect as green grass in spring. They gain in their flow of milk, and it is good milk, makes fine flavored butter and a good rich flavor.

"For beef this hay is most excellent. It is considered by our butchers that it makes as good beef as any other food and some butchers think it superior to corn-fed beef. For pasture it is good for stock of all kinds. Some precaution must be taken in pasturing young stock on alfalfa, but grown stock of all kinds thrive on it without danger.

"At our ranch the horses had no other hay for the past five years. They are worked every day and I think compare well with the work horses of other sections.

"The cost of cutting, curing and stacking I estimate at \$1 per ton, less than half the cost of harvesting other hay. It is usual to let it lay a day after cutting, then turn it over and after another day it is thrown into windrows and allowed to take a day of sun. If rain falls on it it will have to stay out longer.

"We do not attempt to raise alfalfa without irrigation. We irrigate first after first crop is cut and again after the next cutting. Sometimes there is rain enough to avoid the first irrigating until second cutting. It is best to irrigate after cutting, as the water can be attended better and you are more certain of doing the work thoroughly, the hay will be free of sand and cleaner. The quality of hay depends on the care it has. It should be cut at first sign of bloom or before for first crop. If the weather is fine about one and one-half days in swaths, then rake and bunch. Extra care in hand-bunching will pay. In case of bad weather and also if it gets extra dry it will hold leaves better. Last crop will stand to be stacked quite damp. First crop dry good. By all means use drill, twenty pounds seed to the acre, ground well worked, fall plowing if possible, as it holds moisture longer in spring, and it is best not to irrigate when young. Early sowing is best. Then you can cut two fair crops the first season. Late sowing may have to be irrigated up and that is not so fine. I don't know of a failure when the seed has been drilled in alone, while quite a number have missed a catch by sowing with other grains.

"We have on Hesper farm a meadow sown nine years ago and it is as good as when started."

"Among the Ozarks,"

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

Irrigation.

IRRIGATION BY THE USE OF PUMPS AND WINDMILLS.

By John M. Irwin. Copyrighted by Stover Manufacturing Co. (Published by Permission.)

THE MAIN DITCH.

It should be located along the highest level of land you wish to irrigate, so that the water may be kept up high enough to run into the laterals or small ditches, which in turn must be kept above the general level of the land over which the water is to flow. Should the bottom of main ditch or laterals be below the top level of the ground, then all the water in the ditches below the land level will be wasted, as far as getting it up over the land is concerned.

TO PUT LAND IN SHAPE TO IRRIGATE.

Plow the land as deep as convenient, then with a drag made in the form of a capital letter A, but with the base eight feet wide and the top sixteen inches wide, constructed as follows: With plank 2x6 inches and twelve feet long for side pieces and suitable plank for cross pieces to bind the outside pieces firmly together. The side pieces should be arranged on edge. When ready to go to work hitch to wide end of the frame, and, after you have decided how wide and how long to make the beds (lands), drive straight across the field from one side to the other; the wide, spreading ends of the drag gather in the loose earth, clods and all, and heap it up back behind. This forms a ridge that will separate the field into beds. Some irrigators make these lands only sixteen feet wide, while others make them two, four or more rods wide. The width will depend largely on the size of the reservoir. If the land is so large that it will require more water than the reservoir contains at one time, it will not be all properly irrigated (watered).

After the field has been laid off into lands or beds as described, then if the ground between the ridges is humpy or uneven a scraper will come into good play. The humps should be scraped into the low places, and after this is done a harrow or drag should be used, and, to finish up with, a broad leveler, well weighted down, should be dragged over the land to put the beds in perfect condition, so that the water will spread evenly and flow rapidly over the ground so as to cover the entire bed. The ends of the beds should come up to the main ditch or a large lateral ditch, so that the water can be turned in full volume out of ditch onto the end of the bed. To do this, construct a dam (see how to make a dam in another paragraph), about opposite the ridge which separates the bed to be watered from the next bed below it, and then cut the lower side of the wall of the ditch about the middle of the bed to be watered and allow the full volume of water in the ditch to flow out onto the end of the bed to be watered. The bottom of the ditch, as we have before said, should be above the level of the ground composing the bed.

The length of the beds will depend entirely on the lay of the ground and kind of soil. If comparatively level but sloping gently, ten to forty rods is a good length. The height of water in the reservoir above ground level, kind of soil and slope of the land all have certain effects, and no general rule will fit every case. It may be well to make short beds under one condition, while in certain cases beds may be made eighty rods long.

WATERING THE CROPS.

To irrigate such crops planted as potatoes, both Irish and sweet, and corn, they should be watered between the rows. To do this, a furrow should be run between the rows, beginning at the end of the land by the ditch, and only water enough turned on from the ditch to fill up the furrows.

Vegetables and all crops that are started by level cultivation (except field crops, such as wheat, barley, rye, oats and grasses), should be watered in small areas, or over shorter distances, to avoid over or else insufficient watering. As soon as vegetables can be cultivated in rows then the water should

be confined to the space between the rows when irrigating.

TO TURN THE WATER ON.

Arrange the dam in the main ditch just below the point at which you wish to turn the water into the lateral, (the usual method is to construct a box with trap in main ditch just below the juncture of the lateral with the main ditch, and also have the same kind of dam across the lateral a few feet from its juncture with the main ditch, so that the main ditch may be closed and the lateral opened, or vice versa,) and then put in the dam across the lateral close by the ridge separating the land below from the one you wish to irrigate; then cut the embankment at the lateral on the side next to the land to irrigate.

Then open the water-box of the reservoir by lifting the trap-door just enough to allow as much water as you can use, without waste, to flow out into the main ditch. The water will flow rapidly along the main ditch until it reaches the lateral, and will then follow it to where you can cut the bank, and then will follow out and over the bed. The evenness of the flow over the bed will determine how well you have done your leveling of the land.

If your reservoir supplies water enough for two or more beds at one time, irrigate only one bed at a time, and as soon as you have finished one bed remove the dam which closes your ditch and move along to the next ridge and put in a new dam there and cut another opening through the lower side of the ditch embankment, closing up the opening first made, and thus turn water off from the bed just irrigated and onto the fresh bed to be watered, and continue in this manner as long as the reservoir holds out.

Those who have had experience in irrigating say the best results are obtained by watering late in the evening, thus giving the water time to soak into the ground before the sun scalds the plant. For this reason practical irrigators prefer the evening for watering the growing crops.

CANVAS DAMS.

How to Make a Canvas Dam.—First measure the width of the main ditch across the top of the embankments, for the length of scantling necessary to reach across; the scantling should be 4x4 lumber; then take ducking cloth (old grain bags will do by ripping them) a yard or so wide and fasten one edge of it to the scantling with carpet tacks or by nailing.

How to Use it.—Place the bar of canvas dam across the embankment of the ditch where needed and take hold of the lower or loose side of the canvas and spread it across the ditch up stream. Then with a shovel throw a small amount of earth on the loose edges to hold it down, and if you have had no previous experience you will be surprised with the satisfactory results obtained with this dam. Its chief advantage is the ease and quickness with which it may be changed from one place to another. It is a portable dam.

SLOPING LAND.

How to Lay off Ground for Irrigating.—When the land is too sloping to water by allowing the water to run straight down the slope. In all land which slopes at sharp angle it will be best to so arrange the beds that the water will flow across the slope instead of down it. In this case the ditches must all be properly located and the beds worked down to as perfect a level as possible, and at the same time there should always be a gentle slope to the beds, beginning at the ditch end and continuing through to the other end. This is obvious so that the water will flow readily the full length of the bed.

UNIFORM SPREAD OF WATER

over the entire bed is the thing most desirable. To be able to do this requires that you have the necessary supply of water—a full reservoir to begin with—and your beds in good shape, with both main and lateral ditches properly made and in good order, with a sufficient flow of water out of reservoir into ditch. It is the pressure of water in the reservoir that pushes the water ahead, and causes it to spread over all kinds of soils before it can soak away in the ground. For this reason

THE HOT WINDS

WOULD NOT AFFECT YOUR GROWING CROPS
IF YOU HAD A

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ONE CROP WILL PAY FOR PLANT.

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the last half of the water in the reservoir is not as valuable as the first or upper half.

GENERAL, AS WELL AS SPECIAL CROPS SHOULD BE GROWN.

To obtain fullest results from windmill and pump irrigation, such a full line of crops should be grown as will permit of all the year round work. Wheat and rye and alfalfa will require irrigation in the fall and winter; orchards also require watering in the winter. Lands intended for spring crops should be thoroughly watered in the winter. All kinds of spring crops, including corn and vegetables, require watering in spring. Most vegetable crops require watering in summer; also the orchards should be watered for the last time in July. It is by general crop culture that irrigation by windmills and pumps is to be made most profitable.

AMOUNT OF LAND THAT CAN BE IRRIGATED,

depends first, on the depth to water and supply of water in the wells; and second, on the size of windmill and pump used. And when general crops are grown, so that the mill and pump may work the year round, larger acreage can be irrigated than when only truck farming is done. The same size windmill and pump will irrigate only one-half as much land when water is raised forty feet as when it is lifted only twenty feet, and only one-quarter as much land when the water is lifted eighty feet as when lifted twenty feet.

(To be continued.)

Some Things About Reservoirs.

EDITOR KANSAS FARMER:—All reservoirs that are so situated that they will catch drainage or surface water, must be provided with good, safe and ample wasteways. In all such, take your water for your irrigation ditch out of wasteway.

In those reservoirs that only hold water that is pumped, or run into them by ditch, and can be controlled at all times, it is not necessary to have a wasteway, only a conduit to convey the water to your supply ditch outside of the reservoir. This should be built of mason-work the proper size to carry what water the ditch will accommodate, and laid up with water-lime or cement. This should be built the first thing before the walls of the reservoir are commenced. The gate should always be put on the inside end. A very simple and easy gate to operate, say up to eight or nine feet surface, is what we call the paddle-gate. The end of your sluice that the gate goes on should be made as follows: Extend the bottom into the pond eight or ten inches, pull the top back so the sides will describe an angle of 55° to the bottom line. Make the face straight and smooth; put two pieces 3x6 timber on top of wall and let them run back under dirt-work. Cut the paddle or gate about two inches larger than your aperture, bolt two cleats on near the ends and let them extend four inches above. Now bolt on a lever or handle in the center, three by four inches and eight feet long; bolt a roller crosswise to your cleats and handle close down to top of gate and make some convex boxes in the timbers on top of wall to receive them, put some strap-iron over these gudgeons, so the water will not lift the

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gate out of place. Put a pulley in the top end of the handle, and set a post on top of embankment. Fasten one end of a rope to the post and pass it through the pulley and back to the post. The action, the water will always close the gate, and to open it take hold of loose end of rope, pull back and snub to post.
J. S. SHERMAN.

Water for High Lands—Hydrographic Survey.

It is often asked whether it will be practicable to pump water for irrigation upon the high prairies of the divides and plateaus of western Kansas. Undoubtedly the irrigation wedge should be driven small end first, and the bottom lands, under which, at small depth, there is an abundant supply of water, which may, without much expense, be raised to the surface, should be first brought into the high state of productivity which is assured by the judicious use of water. Not unlikely it will be found that at present prices of bottom lands, where water is abundant at a depth of twenty feet or less, the joint cost of land and irrigation plant will be less than the cost of the irrigation plant alone where water has to be sought at great depth.

But many families have expended years in developing homes and have their all invested on the uplands. To these the one problem is the practicability of irrigating these upland farms or portions of them. Happily, we are not without information on this point.

The County Commissioners of Sherman county have installed a pumping plant in the court house yard at Goodland. The well is tubular and is 180 feet deep and has thirty feet of water. The pump has a three and three-quarter inch cylinder and fourteen-inch stroke. The power is an eighteen-foot steel windmill. The tank holds 2,500 barrels and is filled in forty-eight hours with an eighteen-mile wind. This may be regarded as satisfactory performance for so great a depth. With this amount of water enough land can be irrigated to produce a large amount of the things needful for human comfort.

The question is immediately raised as to the practicability of finding an adequate supply of water, even at the great depth of the Goodland well. The uncertainty as to this makes careful men hesitate before incurring the considerable expense of sinking the well.

There is in existence much detached information which, if brought together and properly studied, would go far towards answering the question of water supply under the western half of the State. Some further investigation will doubtless be necessary to the full determination of the problem. This entire work, whether it be little or much, will sometime be done by the State and will constitute a hydrographic survey. It should be made with the least possible delay. Upon it depends the judicious investment of money in irrigation plants for the

high lands, or its waste in fruitless attempts, in many cases, with necessary retardation of the development necessary to make the region prosperous.

Every farmer and every other citizen in the western half or two-thirds Kansas, should insist that his Representative and Senator in next winter's Legislature make it an essential part of his business to see that a hydrographic survey shall be provided for.

THE GOODLANDERS' IRRIGATION EXCURSION.

While the broiling sun and the dry winds continue their unwelcome attentions to the withering grain fields of the great grain-producing sections of the United States, nothing can be more important or more interesting than the success of those who, by artificial means, are supplying the needed moisture to their crops. It is impossible to convey, with mere words, a correct idea of the vivid contrast between irrigated crops and those immediately surrounding them. The Goodland Republic, without any attempts at word-painting, gives an account of what the Sherman County Irrigation Association saw during a recent excursion to irrigated districts. The following from that paper's notes on what was seen at Garden City, shows something of what may be done wherever the requisite water supply can be had:

"They [the excursionists] were shown the Wonder pump, a Kansas City pump, for irrigation purposes. It is a wonder, indeed. They were shown the interior of the Wonder pump, which works on the principle of a sausage-grinder, with two cylinders mashing into each other and run by belt. They will raise water twenty feet, but can be put one above another in deep well. They throw a continuous stream of water, but require good power. They throw 300 gallons a minute.

"In the forenoon of Thursday, August 2, the excursion party went out in vehicles furnished by the citizens of Garden City to the farm of D. M. Frost, the ex-Register of the Land office. He has twenty acres under irrigation by pumping. He has a pond reservoir of 90x100 feet, which is filled by two windmills. One is the old-fashioned Dutch windmill, overshot. The other is a steel gear mill, twelve-foot wheel, with a lift-pump, twelve-inch cylinder supplied by six-inch point, twelve-inch discharge pipe, twenty-eight feet of water, manufactured by T. C. Mitchell, of Garden City. There are four valves in the cylinder. Throws 200 gallons of water a minute. The lift is fourteen feet.

"The next place visited was Lee L. Doty. He has forty acres under irrigation, twenty acres by pump. He also has a pond reservoir supplied by pump, run by twelve-foot steel mill with triple gear [geared to make one stroke of pump to three revolutions of mill], eight-inch cylinder, lifting water fifteen feet to top of spout. He has six two-inch points in dug well: The stroke in ten inches raised two and one-fourth gallons at a stroke. It makes thirty strokes per minute in average wind.

"The writer met Mr. A. Bartlett, who formerly engaged in blacksmithing for Peter Baker and Mrs. Morse, who formerly resided in Goodland and is the mother of Joe Morse, of Goodland.

"The next place visited was that of Mr. J. Allen, who, while he has a ditch privilege, also irrigates with a windmill and pump. He has a fine orchard and small fruit ground. He has no reservoir but irrigates from the pump. He has only five acres, but it is perfectly embowered in shade, and yields a good revenue from small fruits and vegetables.

"Mr. A. Bartlett, whom we mentioned, has ten acres in vineyard. All the places visited were shaded in blocks with cottonwood or box elder trees, and within these enclosures were fruit trees, many of which were in bearing. The whole country was sodden with water, having had a good rain recently, which together with the ditches, made all the land moist and damp. The results of these experiments, both by ditch and pump, are

surprising and gratifying, and the Garden City country will eventually be one of the green spots of the Arkansas valley, and shows what can be done in western Kansas by irrigation.

"The next place visited was that of Mr. Johnson, who has two windmills and reservoir, and irrigates about seven acres and furnishes water for about three acres for neighbors. He has an orchard and small fruits. Mr. Johnson has cat-tail rushes to grow in walls of reservoir to reinforce it and prevent it from slumping off.

"The next place visited was W. R. Graves, who irrigates four acres from well and windmill. An irrigation ditch runs by, but he relies on the pump. His ground is in orchard and small fruits. He also farms land under ditch below his orchard.

"The next place visited was that of John Simon, who irrigates a few acres in orchard and small fruit, but relies on the ditch for the field crops. He has a triple gear steel mill, which runs three pumps on the same lift, eight-inch cylinders. His old mill was a Halliday, for which he substituted an Aermotor, ten-foot wheel. All of these places were embowered in shade and many of them reminded one of the swamps of the Carolinas.

"The last place we visited was that of I. L. Diesem, who has fifteen acres under irrigation and has two large reservoirs stocked with fish. He fills two ice houses from his reservoirs and furnishes ice for the city. He has a fine establishment. He has a milk house under the tower of his windmill, and a small stream from the discharge pump supplies a vat in which the jars of milk stand. He exhibited on a stand fruits, vegetables and alfalfa. The Coffman pump was on exhibition at the reservoir. It works on a balance beam and raises two streams of water.

"In the afternoon the party went out to the farm of J. M. Dunn, who irrigates with the Mitchell steel mill, twelve-foot wheel, well forty feet deep, eight-inch cylinder, ten-inch stroke, and raises two and one-half gallons. He irrigates ten acres.

"The State experiment station adjoins this place on the north, and has a reservoir 100 feet square in process of construction. It has a sixteen-foot Aermotor, triple gear, and two wells thirty-six feet deep, which will furnish a twelve-inch cylinder and will irrigate about ten acres. Mr. Frank Dunn is in charge, under Prof. Failyer, of the State Agricultural college.

"The party passed the farm of James Craig, who has 160 acres under ditch and nearly all in alfalfa. He settled on the land in 1879. He is now a well-to-do farmer.

"Adjoining these irrigated farms was bare buffalo grass prairie.

"On the place of D. J. Bell, who was excavating a caved-in well, alfalfa roots had gone down twenty-eight feet to water. Mr. Bell lives six miles north of Garden City.

"The next place visited was that of the Inge brothers. They have a Wonder pump in a dug well, in the bottom of which they have sunk drove wells, and they expect to find an abundance of water by going down 130 feet. They have a sixteen-foot triple gear steel windmill as power. The wind being light, the party did not see the power of the pump displayed. The party passed the Illinois main ditch, which was flowing full and carrying an immense volume of water.

"The next place visited was that of E. L. Hall, two miles northwest of Garden City. He has a splendid place and his superb orchard is the principal attraction. His place was raw prairie in 1886, and measurements of orchard trees twenty-four and one-fourth inches in circumference, set out in 1888. His farm consists of ten acres under irrigation from pump and reservoir, with two ten-foot windmills, eight feet to water. Among his cherry trees was one four years old, nineteen inches in circumference. His apple trees are set twenty-six feet apart, with rows set to break joints. One of the interesting features of the visit to Mr. Hall's place was feeding of the fish in his pond, which came at his call. His pond is 65x125 feet, and black with young fish when coming for feed. He put in five fish

last spring, three females and two males. Mr. Hall said that the old ones were three feet long.

"The 'Worll farm' was next visited, Fred Richter, proprietor. He has sixty acres in orchard, which is a sight to see. Peaches, plums, apples, etc., in profusion. This orchard was set out in 1881. He has an immense reservoir, 150x75 feet, fed by pumps. One run by a Halliday, one by a Mitchell and one by an Aermotor. He had several acres in sweet potatoes, the vines completely covering the ground.

"Several other places were visited, but it only would be a repetition on a smaller scale to describe them.

"Outside of the land under irrigation the prairies are utilized for pasturing of cattle. Cattle are brought here in the fall and fed on alfalfa until shipped out as feeders or as fat cattle.

"The excursionists left Thursday night for Colorado Springs and Manitou, and arrived at Goodland Saturday morning."

The Irrigation Agitation.

The series of meetings in Western Kansas advertised in the FARMER has so far been a successful one. Judge Emery and Prof. Hay went to Hays City on Tuesday, the 7th inst., and met a fair audience in the court house. The citizens were interested and Judge Emery's statements of the great area to be benefited by irrigation and the absolute certainty of results, with Prof. Hay's demonstrations as to the possibility of irrigation of sufficient land with waters within reach, were received with attention and a spirit of hopefulness was stimulated. Hon. E. D. Wheeler, the State Forestry Commissioner, also aided the meeting and the same persons addressed larger audiences at WaKeeney the next day and evening. Then Messrs. Hay and Wheeler went to Gove City for Thursday afternoon and spoke at Grainfield at night. Thence to Russell Springs, where a very great interest had been worked up and the meeting on Friday was a great success. Mr. Wheeler presented the claims for the organization of farmers' institutes and at each of these places a committee was appointed to call another meeting in September, at which to report and adopt an organization for institute work to be begun in November. A variety was brought into the meeting at WaKeeney in the form of an address by Mr. Chas. Sternberg, the famous collector of fossils, and again at Gove City by the presence of Profs. Williston and Haworth of the geological faculty of the State University, who gave short addresses containing some pertinent information.

The Family Doctor.

Conducted by HENRY W. ROBY, M. D., consulting and operating surgeon, Topeka, Kas., to whom all correspondence relating to this department should be addressed. Correspondents wishing answers and prescriptions by mail will please enclose one dollar when they write.

Hot Weather.

(Written for last week's issue.)

This year is no exception to the long list of years in which, during July and August, there is pretty sure to be a long list of casualties directly attributable to the excessive heat. During the last few days the telegraph has been busy recording the sun-strokes, the heat prostrations and the deaths from diseases which seem to have their origin in high temperature. Kansas has its quota of victims, though probably no sure case of sunstroke, for that is extremely rare in our State. But from Mexico comes the news of the death of Hon. John A. Murray, of Topeka, from yellow fever, and only a few days ago it was announced that Mr. Will Popenoe had died at the same place from the same cause. Hot weather and yellow fever usually go hand in hand in the low, swampy and alluvial regions of the Gulf coast, especially in Florida and Mexico. Then from New York comes the report of "Hot in Gotham," followed by the statement that it was the hottest of the year, accompanied with much humidity. And to one who can read between the lines, the whole secret of the difference between Kansas and New York is explained. The extra heat can always be borne in a dry atmosphere, while in a moist air the skin cannot exhale moisture enough of its own to carry off the surplus heat of the body. If the air is dry it readily takes up the exuded moisture of the sweat glands in the skin and carries off all excess of heat over the normal temperature. But in excessive atmospheric humidity, transpiration from the skin is so much retarded by the inability of the air to take up more moisture that great oppression and depression results, followed often by complete prostration. In Berlin the same con-

Only the Scars Remain.

"Among the many testimonials which I see in regard to certain medicines performing cures, cleansing the blood, etc.," writes HENRY HUDSON, of the James Smith



Woolen Machinery Co., Philadelphia, Pa., "none impress me more than my own case. Twenty years ago, at the age of 18 years, I had swellings come on my legs, which broke and became running sores. Our family physician could do me no good, and it was feared that the bones would be affected. At last, my good old mother urged me to try Ayer's Sarsaparilla. I took three bottles, the sores healed, and I have not been troubled since. Only the scars remain, and the memory of the past, to remind me of the good

Ayer's Sarsaparilla has done me. I now weigh two hundred and twenty pounds, and am in the best of health. I have been on the road for the past twelve years, have noticed Ayer's Sarsaparilla advertised in all parts of the United States, and always take pleasure in telling what good it did for me."

For the cure of all diseases originating in impure blood, the best remedy is

AYER'S Sarsaparilla

Prepared by Dr. J. C. Ayer & Co., Lowell, Mass.

Cures others, will cure you

ditions prevail substantially as in New York—heat, moisture, death. But there they have another hot weather invasion to contend with—cholera—from which many deaths are reported in the empire.

From China comes the astounding report that 120,000 people have recently died in the canton of Hong Kong from the plague or black death, which also seems to be a hot weather and filth disease.

Cholera prevails to a large extent in the orient, where it is apparently everlasting.

Answers to Correspondents.

(NUMBER 31.)

(Written for last week's issue.)

Dr. ROBY:—Several of my family have been poisoned this summer, I presume with the poison ivy or oak. Can you tell me what will give relief from the swelling and terrible burning and itching? Also, should anything be taken afterward for the blood? A SUBSCRIBER.

Poison ivy, or *Rhus toxicodendron*, is a very common and very poisonous climber in Kansas. There are, therefore, many cases of poisoning from it. It is sometimes confounded with the Virginia Creeper, or *Ampelopsis quinquefolia*, which it slightly resembles. But one single difference will serve to distinguish them. *Rhus* has but three leaves on each leaf-stem, while *Ampelopsis* has five and is not poison. Strong tansy tea, strong black coffee, dilute vinegar, are good washes. Hot water, as hot as can be borne, is very useful. Internally, belladonna or arsenic or grindelia robusta are very useful. Jaborandi, both as a lotion and internally, is often curative.

REDUCED RATES TO WASHINGTON, D. C.

Grand Encampment of the Knights of Pythias of the World.

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

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

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

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

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Secures detailed information regarding recent offers made by the
Bureau of Immigration,
Spokane, Wash.

The Home Circle.

To Correspondents.

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

The Breath of the Furze.

The breath of the furze came over the hill,
On a moonlit night when the wind was still,
From the tall, keen spires of the golden tower
That spring has built on the seaward down—
Thorn and blossom, all dimly seen
In a maze of gold and a mist of green—
Was issued forth for the world's delight
A fragrant message across the night.

The breath of the furze came down to the sea,
With the blackbird's voice from the hazel tree;
Sweet as nectarine, warm as peach,
Blent with the salt of the wave-wet beach,
Through the morning glory it strove in vain
To make its marvelous meaning plain,
For the world was reeling with sound and scent
And glow of the mid-May firmament.

The breath of the furze came over the heath
From the gold above and the gold beneath;
It floated down through the primrose dell
Where the chaffinch builds and the ring-doves
dwell.

Wandering waters with welcome chime,
Hailed it softly from time to time,
And the nightingale, when the dark drew nigh,
Wove it into his minstrelsy.

The breath of the furze like a dream stole in
To the city's heart through the drought and
dew—

With a sudden wonder a woman stopped
Where a yellow bough in the dust was dropped;
And all in a moment the tears arise
In healing streams to her dull, hard eyes,
And the spark of life that a dead soul keeps
Is newly kindled in somber deeps.

"I will arise now and go once more
To the cottage gate by the brown seashore,
Where the brooklet spray to the foam descends
Over the cliff where the furze-brake ends;
Perhaps the cowslips are blooming now,
Where the whitethroat sings on the whitethorn
bough;
Perhaps my mother is waiting still,
Where the breath of the furze comes over the
hill!"
—M. C. Gillingham.

Now I Lay Me Down to Sleep.

The fire upon the hearth is low,
And there is stillness everywhere;
Like troubled spirits, here and there
The firelight shadows fluttering go,
And as the shadows round me creep,
A childish treble breaks the gloom,
And softly from a farther room
Comes: "Now I lay me down to sleep."

And, somehow, with that little prayer
And that sweet treble in my ears,
My thought goes back to distant years
And lingers with a dear one there,
And, as I hear the child's amen,
My mother's faith comes back to me,
Couched at her side I seem to be,
And mother holds my hands again.

Oh! for an hour in that dear place!
Oh! for the peace of that dear time!
Oh! for a glimpse of mother's face!
Oh! for a glimpse of mother's face!
Yet, as the shadows round me creep,
I do not seem to be alone—
Sweet magic of that treble tone—
And "now I lay me down to sleep."
—Eugene Field.

LENGTH OF TERM IN THE DISTRICT SCHOOLS.

At the school meetings held all over Kansas recently the length of term for the coming year's school came up for its annual discussion, and when the returns are all in the average answer to the question will be found to be about six months.

The public school system of Kansas is as far above that of some sister States as it is below an ideal condition. We take just pride in our large number of school houses, large average attendance of pupils and amount of money economically expended for public education. Finances are in such condition that a general curtailing of expenses has become necessary. We are now paying debts, not making them, and it may be that the amount of money spent for the education of each Kansas boy or girl cannot at the present time be increased. My purpose is now to inquire whether there is not a good opportunity to do more with the same money than has been done.

Every teacher knows that long vacations cause great breaks in the intellectual progress of pupils. In the six months terms of a district school about one-third of the time must be consumed in getting the pupil in shape to take up his studies where he left them to enter on his six months' vacation. I believe the term should be nine months and that the boys, big or little, should not be taken from school to plow. This is written with full knowledge of the conditions under which farmers have to contend and the apparent necessity which demands all available help in crop season, but I believe that more good can be accomplished by having pupils in school between the ages of 6 and 14 years—eight years, for nine months each year, than under the present system where the average for the farmer's son or daughter may be, say twelve years of six months each, covering the ages from 5 to 17. The expense is the same. Farmers' children have a right to as good schooling as any residents of cities receive, and the time is near at hand when it will be possible for them to have this equality of opportunity. I believe it will pay as a business enterprise to make the

education of the children a prominent, persistent and systematic feature of our life's work, and not merely an avocation, an entertainment for the children to keep them out of mischief during the dull season on the farm. The backwoods are about cleared up; railroads, bringing daily news, have penetrated nearly all sections; books and apparatus are as cheap in the country as in the city. As our country districts become more thickly settled there will be a sufficient number of pupils residing in a district to permit of carefully grading the school, then will come up again as it should be always up for discussion, the teacher.

Here is, I think, perhaps the strongest argument in favor of a longer term. A professional teacher cannot afford to teach from four to seven months during the winter at the present state of salaries. He must find some other method of eking out an existence during the remainder of the year and this often unfits him for his work. He, like his pupils, becomes divorced from his school and must spend the opening weeks of each term "getting into the harness." A good teacher should be always in the harness, and those who have charge of the school business should make it possible and profitable for him to do so. The teacher who farms during the summer and teaches during the winter months neglects either the farm or the school, and no one knows this better than this teacher-farmer, but conditions have made such double duty necessary. As soon as he can he will drop the one or the other. If he remains a teacher the district will lose him; he will go to town, where he can be employed nine months in the year and can afford to spend a portion of his vacation in preparing for better work. The district school teacher needs the highest qualifications. He is primary, intermediate and high school teacher, disciplinarian, and, usually, janitor. There should be inducements offered, not for him to get into a city school as soon as possible, but for city teachers to desire promotion to the country. And the country lad will appreciate the sacrifices made for him. If not immediately, yet ultimately, he will pay good interest on the investment.
Otoe, Okla. J. B. BROWN.

She Wasn't His Wife.

The man got into a street car comfortably filled and crowded into a seat next to a sharp-faced woman in the corner. He squeezed her up against the end of the car, took out a newspaper, and shoving it half across her face began to read. She stood it for about five minutes.

"Excuse me," she said then, "are you a married man?"

He dropped his paper and looked at her.

"Yes," he replied curtly.

"I thought so," she went on. "Ain't your wife a little woman that won't say her soul's her own and lets you impose on her all you want to? I suppose she carries in the coal, builds the fires, gets your slippers, does the marketing, mends your clothes, tends to the children, submits like a lamb when you find fault and is generally an excellent wife, ain't she?"

"Madam"—he began.

"Don't say a word," she interrupted.

"I'm not your wife, am I?"

"No, and I'm not."

"That's all right. And as I'm not I don't propose to have you sitting down on me and crowding me up in this corner till I can't breathe without wheezing like a steam engine. Why don't you get out and walk?"

and the passengers snickered so that he did.—Detroit Free Press.

Common Dishonesty.

I stood near an entrance gate of an exposition, watching the people as they passed by me. A finely dressed lady and gentleman—I call them such for want of better names—approached the gate and handed out their tickets. The gentleman carried a boy who was struggling to get to the ground, and crying lustily.

"Put him down," said the gate-keeper.

"Put him down. I can just as easily guess his age if he be in your arms as if he were on his feet. If you wish to sell your place among honest men for the pitiful sum of 25 cents, I'm not the man who will stay the sale. Go in, sir, go in."

I heard a mother—shame that one who bears the sacred name, mother, should be so base—say to a railroad conductor, "My child is four years old." The conductor said nothing derogatory to her statement, but he branded her a thief and a liar.

How often we read, that the man who committed murder, or robbed a bank, is of a fine family, and was well reared. Do we know that he was well reared? I suppose the lady and gentleman whom I saw at the exposition gate were of fine families, but they were giving their son an object lesson in dishonesty. They were perhaps leading him to a prison or the gallows. The mother in the railroad car was teaching her child to steal and to lie, for well it knew that it was four years plus three years old, and why the lie was told.

I have heard parents say to their children, "Money makes the mare go." Nine chil-

dren out of ten thus taught, go to moral destruction. Parent, forget not the responsibilities you assumed when your child was born. Forget not the sacred trust of God. He gave you the jewel to refine, and you mold the womanhood and manhood of generations yet unborn. For your own sake, for your child's sake, for humanity's sake, for Christ's sweet sake, oh! parents, teach your child naught but that which is the best you know.—Jule Kay Brooks, in Ohio Farmer.

The Pocket Problem.

Andrew Lang says sagely that the reason woman has not a pocket is that man has left her nothing to put in it. No end of funny things could be said in this connection, but shall not, since all of them have been said before, hardly one of the stock witticisms dating more recently than the old nursery jingle wherein masculine humor—I'm sure it must be masculine—chuckles over the picture of heedless Lucy Locket losing her pocket, and Katy Fisher, opening it with great expectations, finding it empty, flat and unprofitable, save for the ribbon binding. Poor, pocketless Lucy has served ever since as a prototype of her sex, who stand by laughing in their sleeves—or their pockets—at the masculine question: "How do you get along without a place to put things in?"

We don't. There are more pockets in more dresses of more women than is dreamed of in anybody's philosophy. Every year there is a great flourish of trumpets from the dressmakers and in the fashion papers, who declare that "The pocket has gone," and so it has, into the seam of the dress. A pocket particularly adapted to an Eton suit or the popular skirt formed of two or three deep "cape" ruffles, was exhibited the other day by a clever little woman. It was simply a small, flat, oblong silk bag, fastened by its two upper ends to the belt of her Eton skirt, on the front, a little to one side.

There is really no need for a properly-made pocket to either show or spoil the set of a skirt. It should always be cut in a point at the top (never at the bottom, unless you want to turn it inside out every time you need your penknife, key or thimble), and the point firmly sewed to the belt of the dress. This done, it cannot possibly "sag." Always set it in a seam or under a deep pleat, near the back, face it up with the dress material, carefully press all seams, and you can have two such pockets in one skirt, as a woman I know has, and the world will never suspect it. The skirt opening is sometimes used, but is invariably troublesome to get at.

Always cut a pocket large—it is the small ones which betray their existence. An ingenious business woman claims that she has invented the "perfect pocket." It is a very large affair, made of two pieces, shaped somewhat like a kite turned upside down and sewed together at the edges, and with its opening down the middle. The point is sewed to the belt, the opening to the side seam in the usual manner, and the two side edges of the pocket tacked firmly but lightly to the skirt foundation to prevent it from "flopping." Another gown has a pocket with two compartments, cut by the pattern just described, and with a row of stitching running from the bottom half way up the middle, above which is the opening. For any one who makes a habit of carrying loose change in her pocket this arrangement is most convenient. Women without pockets, indeed! Such are few and far between, and when found they make such an outcry over the "tyranny of fashion" that they are taken for their whole sex. Most of them have the pockets, and the things to put in them—Mr. Lang to the contrary—and the ingenuity to put the former where no man, be he pickpocket or honest, can know of their existence.—Exchange.

There are two important articles in the New England Magazine for August, which are much more closely related to each other than might at first sight appear. They are Edward Everett Hale's article on "The New England Congregational Churches," and that by Rev. Charles G. Ames on "Boston—the City of God." Dr. Hale shows us what were the ideals of the men who founded New England. Mr. Ames tells us what the ideals ought to be of the citizen of the New England capital to-day. No man among us has a finer appreciation of the way in which the old New England Puritan put his religion into politics and his politics into religion than Dr. Hale. Nobody in this time has brought before us more strongly or strikingly the importance of putting our highest ideals into our social and political affairs than Mr. Ames does it in this noble paper of his on "Boston—the City of God." Mr. Ames burns with the same flame as those sturdy Puritans of whom Dr. Hale writes. His word ought to arouse the careless and indifferent in every city in the land. Published by Warren F. Kellogg, 5 Park Square, Boston.

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IVORY SOAP

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FOR THE BABY.

THE PROCTER & GAMBLE CO., CINTL.

A Correction.

The graduation thesis, "The Education of the Future," published in "Home Circle" July 25, was written and read at the Agricultural college commencement at Manhattan by John Cornelius Christensen. Our types gave the credit to George Luther Christensen, brother of the former, who has written KANSAS FARMER pointing out the mistake.

The hair, when not properly cared for, loses its lustre, becomes crisp, harsh and dry and falls out freely with every combing. To prevent this, the best dressing in the market is Ayer's Hair Vigor. It imparts that silky gloss so essential to perfect beauty.

"Can't Be too Quick!"

BELOIT, Kan., May 14, 1894.
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GENTLEMEN—Two years ago this month I commenced taking your Nerve Tonic. I had been a sufferer from epilepsy for 13 years and spent hundreds of dollars trying to get relief—doctored with the best physicians in Indiana, Illinois and Ohio, but obtained no permanent relief until I began your treatment, since which time I have not had a single attack. I would just like to say to all epileptic and nervous sufferers you can't be too quick in procuring some of this medicine. I will gladly answer any inquiries in regard to my case. Words cannot express my thankfulness to you for what you have done for me.
Box 486. MRS. MARTHA A. GORE.

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The Young Folks.

Grandmother's Cloak.

Cut it and rip it, each daintiest thread,
Many the years since the needle was sped,
Held by the fingers now nerveless and cold,
Pressing it, plating it, fold upon fold;
Smooth it out softly, in this latter day,
Fashion it deftly in quaint, modern way,
Tenderly touch its soft surface of brown,
Grandmother's cloak is her granddaughter's gown.

See! I am dressed, with a rose in my hair—
Grandmother, dear! do you know, do you care?
Out of the far realms of silence and shade
Can you look down at the gown I have made?
Can you remember when you, too, were young,
Setting the fashions the earth folks among?
Little you dreamed that your warm cloak of brown
Years would turn into a granddaughter's gown.

Grandmother, grandmother! when you were young,
Came to you ever with flattering tongue,
One who bent low with a smile, to compare
Soft damask cheeks to the rose in your hair—
"Sweeter than roses in Paradise grown?"
Did he go off with the rose as his own?
Waiting I stand, with a smile and a frown,
Doubting and glad, in my sweet modish gown.

What were the dearest of words ever said?
Were the skies bright on the day you were wed?
Did all your fair, loving dreams come to pass?
Ere you lay down under green growing grass?
Happy and faithful and tender and true!
May time be as gentle to me as to you,
And all homely virtues and graces come down
Like sweet olden scents, for the granddaughter's gown.
—Boston Transcript.

A WHITE CITY.

Algiers is a city in transition, perhaps in its most interesting phase. Enough has been done in the sixty odd years of the French occupation to give it in part a thoroughly European appearance, yet enough has been left absolutely intact to make it, in some respects, almost as distinctly Oriental as it could ever have been in the time of its misgovernment by the Deys. Between the two extremes the line is, of course, not tightly drawn, and there are stages in which the old and the new exist side by side; some amalgamations, besides, of the two modes of life has been naturally inevitable, but there is much less of it than would at first be imagined.

In reality, there is here a French town and an Arab town, and an admixture of both. The French element as a whole plainly predominates. The original limits of the old Arab town not only have been greatly restricted by absorption into the French city, but new quarters have sprung up which are wholly French. In its present condition the whole lower part of the city along the Mediterranean is European; and outside the fortifications which originally surrounded it, the town has been extended in compactly built streets into the new suburb of Bab el-Queud on the one side and Mustapha on the other. The Arab city, driven back from the water, rises directly in the center, behind the modern town.

Viewed from the middle of new Algiers, it is difficult to realize, considering the part of the world in which it is, that sixty years covers the entire period of the French possession. From the Place Bresson, for instance, one side of which is formed by the Municipal theater, extend on either hand solidly built streets of stone and stucco, with smooth wooden pavements and abundant gaslights. Except for the unmistakable garb of a part of the passing people, there is nothing whatsoever that locates the scene in the east. The same is true of the adjoining streets, and particularly of the Boulevard de la Republique along the sea. This superb street, constructed in the 60s with £300,000 of English capital, gives Algiers, architecturally, as fine a water front as any along the Mediterranean. To counteract the steep slope of the land, a massive wall, honey-combed with storage vaults and warehouses, extends some forty feet up the quays, which are approached by zig-zag driveways and flights of steps. The street at the top is built up only on the further side, away from the sea, over which there is an uninterrupted view out across the harbor and the long sweep of the bay to the mountains of Kabylia beyond. If I have said that there is little of the Orient in it I must, nevertheless, except the outer side, which, on sunny days, is thronged with a nondescript crowd of Arabs and negroes, people of infinite leisure, who lean over the stone balustrade idly watching the bustle of the seaport below. Curiously enough, it is not this street, with its Parisian buildings, its fresh air and its charming prospect, which is chosen as the fashionable promenade of Algiers, although in it are the best of the hotels and the largest cafes. The honor of popularity is accorded to the dark little Rue Bab-Azou, a narrow street, arched on both sides, where are situated the principal shops. Here, and not where they might be seen to better advantage, the ladies of the colony and the officers of the garrison exhibit their toilets to the jostling crowd, which is almost wholly European.

The Place du Gouvernement at one end of this busy thoroughfare illustrates much more accurately the real character of new

Algiers as only, after all, a graft of western civilization. It is here that the life of the west and the east most intimately meet each other to the exclusion of neither. The Place du Gouvernement is really an epitome of Algeria as a French colony. In its center stands a bronze equestrian statue of the Duc d'Orleans, once Governor of Algeria, made of cannon captured at the conquest. In front of it a full military band plays twice a week to a crowd more composite than even New York could turn out to a public concert in Central park. At the back are the dazzling white walls and dome of the mosque Djamaa el-Djedid. At the sides are European cafes on the one hand, and, under a most stately group of date palms, on the other, the Arab flower market. Visible through a narrow street in front, out of which comes pouring an unceasing stream of Moors, Arabs, Kabyles, Jews, and all the other elements, Oriental and European, that make up this heterogeneous population, is the Catholic cathedral, once a Mohammedan mosque, and back of it, tier upon tier, pure white in the sunshine, rise the flat-roofed houses of the native town in a wedge until they, too, are overtopped by Casbah, the dismantled stronghold of the Deys, whose harem has now been made by the conquerors into barracks and its mosque into a Christian church. The place is the center of the life of the town, native and European alike, and the people hurrying or lounging across it are as often one as the other.

The whitewashed houses of the old town extend straight up the hill without a break—at least it seems so, for the streets that wander off through its compact mass have no effect to destroy the continuity. Even when looking directly down upon it from the ramparts of the Casbah, it is impossible to follow the line of a single street or to realize that there are ways across it. Once within it the reason for this becomes apparent, for many of the streets, particularly in the upper part, are in places built completely over, while in others, although the space is not absolutely filled up, it is impossible to see the sky through the opening on account of the overhanging walls. Many streets are so narrow that one must step into a convenient doorway to let an approaching person pass. They are all fearfully steep and impassable to any beast of burden except a donkey. Through the whole length and breadth of the town, as at present constituted, it is safe to assume that no wheeled vehicle of any sort has ever been. It is bad enough for pedestrians, for, although the streets are all paved with stone blocks, these have been worn so smooth by swarms of feet that some degree of caution is required to avoid a fall, which, for many reasons, would not be pleasant. Most of the pavements, besides the incline of the hill, slope from both sides to the middle, which serves as a necessary gutter. The steepness and smoothness of these streets is doubtless a saving clause in the economy of the place, due whether to natural selection or to direct intention I cannot say. It is noticeably cleaner after a heavy rain, and if its odors now are not absolutely those which one is apt to associate with "Araby, the best," it is easy to imagine that they might have been worse under less favorable physical conditions.

The life of the Arab town is apparently as unchanged as are its streets, and as uninfluenced by French domination. The people who throng this labyrinth—the ants, rather, who live in this ant-hill—are all our friends of the "Arabian Nights." The glamour which the city doubtless had in the old days has departed long ago. There are few rich Arabs left, and there were apparently never many fine Arab houses within the present limits of the old town. A glance through an open doorway reveals now and then a court with twisted columns and old tiles, and bespeaks potentialities if they could only be come at; but the exterior goes for something, and it is hardly possible that it often conceals much Oriental or any other kind of magnificence. The native shops, too, of the old town are small affairs, though they often contain treasures of silk and embroidery for both masculine and feminine wear, which is unpacked from unsuspecting places. There are everywhere possibilities. With its other characteristics the old city has also kept its eastern impenetrability.

If there is a question as to what there is below the surface unseen, there can be no question as to the interest of the part which is apparent. Its picturesqueness is undoubted. As has already been said, almost nothing has forced itself into the old town to remind one nearly or remotely of the conquest, and you may even traverse it from top to bottom without seeing an European garb other than your own. It is not, however, to be supposed that the French authorities have allowed it, without let or hindrance, to follow its own devices. They evidently, on the contrary, have it well in hand, for once or twice I have seen a French policeman with a carefully made plan of streets and houses looking up somebody or something. Wisely they have left the Arab city in its densest part to all intents and purposes as

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it was. All around they have made serious inroads upon its edges. Below, by the sea, as I have intimated, it has, except for scattered houses, entirely disappeared, and its place has been taken by the new French town. Above, not only has the old Casbah been pierced by a public highway, but a broad street has been cut in between it and the compact houses of the city, down from which the little lanes dive like dark tunnels. It is not difficult to discern their policy in regard to it; its limits are being constantly contracted. Upwards of 300 of the old houses were demolished last year alone, and at this rate ten or twelve years will more than suffice to make it, as a town, absolutely a thing of the past. The modern stucco tenements that will replace it will, no doubt, be vastly superior in conveniences and sanitation, but Algiers to the traveler will have lost most of characteristic charm.

In the process of replacement, elsewhere in the city, a number of the best of the Moorish houses have been carefully preserved and are now used by the French either as government offices or as public buildings. The finest of all these old buildings is the Archbishop's palace, opposite the cathedral, itself once a mosque. Other notable instances are the houses now occupied by the Consell General and the old residence of Mustapha Pasha, which is now the library and museum. The Casbah, too, at the top of the town, although parts have been demolished and parts ignobly turned over as barracks to the French artillery, who mess under an arcade with marble columns, has still retained much of its ancient architectural beauty intact. From among its many separate buildings rises a beautiful minaret, and the tiles above the sculptured arches of its doorways are as bright as though laid yesterday.

Perhaps even more interesting, in some respects, for what it has kept of the past is the mole of the Penon, which formed the ancient harbor. Some of the details of its many structures are most interesting. A doorway in what is now the Bureau de la Marine, has above it, under a long Arabic inscription, two leopards in mosaic supporting a crown and crescent, and is unique in Arab art. Close by, in the house of the Turkish Rais, now the residence of the naval commandant, is a fountain with inscriptions which is almost the best of the kind left in Algiers. More interesting still for its associations is the Penon itself, and the light house at its extremity. Originally a Spanish fort against the Moors, it was finally captured in 1580 by the Algerian Dey, who set 30,000 Christian slaves at work to connect it to the mainland by a mole. On one of the old bastions, the entrance to which still bears the coat of arms of Spain, the present light house, twelve-sided and tiled in a broad stripe of many colors about the top, was built a little more than a decade later. It has since stood unchanged, through all the vicissitudes that have overtaken Algiers, the most prominent object in view from sea or shore. It has been a familiar sight to Americans under far less pleasant conditions of hospitality than are accustomed to be meted out to those of the present generation. In 1793 it is estimated that there were more than 100 citizens held here in slavery who had been captured by Algerian pirates on the high seas. It is utterly impossible, at this time, to realize that twice, in 1783, and again in 1812, Algiers declared war on the United States; that in 1795 we actually paid in ransom and tribute no less a sum than \$721,000, and that for many years after we were forced to pay an annual tribute of \$22,000 in stores and munitions, until 1812, when this sum was demanded in money.

The little English church has many memorials, in the form of tablets on its walls, of the time when Algiers was "the scourge of the seas." One I copied the other day into my note book: "1584, Lawrence, Master of Oliphant, the Master of Morton and other banished Scottish gentlemen enslaved at Algiers, whence they were probably never released." Cervantes was brought here a captive in 1555, and was not released until more than five years later. The best entertainment, however, that

Algiers offers to the stranger who dwells within (or, as most do by preference, without) its gates, 'tis the moving panorama of the streets, and one does not easily tire of its always shifting scenes. Nor is one restricted, as is the case in many parts of the east, to the town and its immediate surroundings. The French have constructed everywhere through this part of the colony chaussees that are the equal of any in Europe, and it is possible to drive in any direction through a country teeming with a perennial verdure, with carefully cultivated fields on every hand, orchards yellow with oranges and mandarins, and hills covered with vineyards. This part of Algeria is a veritable "garden of the gods." If you are a pedestrian, there is everything here to tempt you abroad. Back across the hills, where the fields all winter have been full of flowers, runs a perfect net-work of lanes and byways, so deep, frequently, in green that they are almost covered over and are cool on the hottest days. Although there is an abundance of rain in the winter months, this year an unusual amount, the climate is not too capricious and the air is dry and tonic. Add to this a temperature neither too cold for comfort after you become acclimated nor so warm as to be enervating, and singularly free from sudden fluctuations, and you have a picture of Algiers not too enthusiastically presented.—Correspondence New York Evening Post.

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"Ex-Pharmacist," Lindsborg, Kas., will confer a favor by again sending his real name to this office.

Indiana official crop report shows a discouraging situation. Illinois corn is estimated at three-quarters of a crop.

H. Morris and W. Hartacker have just started pumps with which to irrigate sixty acres of land on Lyon's creek, four miles south of Junction City. Six acres of the land is now being set in celery, twenty-five acres will be set in small fruit and the remainder will be used for vegetables.

The visible supply of wheat in the United States and Canada increased last week 2,320,000 bushels; corn decreased 574,000 bushels; oats increased 1,256,000 bushels. The visible supply now includes 62,321,000 bushels of wheat, 3,164,000 bushels of corn, 2,854,000 bushels of oats, 230,000 bushels of rye, and 87,000 bushels of barley.

Fish for Kansas.

Several car loads of breeding fish have been distributed in various waters in the State within the last few weeks. A car load arranged for by Congressman Baker was scattered along the Smoky Hill and Saline rivers in the Sixth district this week. State Fish Commissioner Wampler will take charge of another car load at Kansas City shortly and run it by way of Topeka, Hutchinson, Great Bend and Garden City. He is also endeavoring to get another car load for distribution in the southeastern part of the State.

All of these fish are furnished by the government. Most of them come from the hatchery at Quincy, Ill.

Weekly Weather-Crop Bulletin.

Issued by the United States Department of Agriculture, in co-operation with the Kansas State Board of Agriculture, for the week ending August 13, 1894, T. B. Jennings, observer:

The first days of the week were cool, but the temperature rapidly returned to its torrid condition and the last half of the week has rivalled the last week of July in the eastern half of the State, the week being clear, rainless and hot. .27 inch of rain fell at Downs, .09 at Independence, and trace at Rome, Elk City, Coffeyville and Lebo.

The effects of the hot drying weather has been generally shown by the whitening blades of corn, the wilting of grapes, the falling of apples and the browning of the prairies.

Corn is being generally cut and shocked; much of it in the northern counties will be unmarketable.

Prairie hay is light, is largely in the stack, and is about half a crop. Leaves are falling rapidly from the fruit and forest trees and stock water is getting scarce.

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

CONGRESS AGREES ON THE TARIFF.

The KANSAS FARMER has not, of late, tortured its readers with much of the tariff talk which has burdened the political press. It will not now enter upon the details of the long contest in Congress which has just resulted in a compromise which falls far short of the promises of the tariff reformers, but in many important respects reduces the taxes below those imposed by the McKinley law. The reductions effected were summarized by Mr. McMillan, of Tennessee, as follows:

"Free wool, free lumber, free hemp, etc., and the reductions in the general schedules. The duties in the chemical schedule were reduced from 34 per cent to 24; earth and earthenware from 51 to 35 per cent; metals and metal manufactures from 58 to 36 per cent.; wood and wood manufactures from 31 to 23; tobacco 117 to 105; cotton 55 to 43; flax, hemp and jute 45 to 41; wool and woolsens 98 to 48; silk and silk manufactures 53 to 46; pulp and paper 23 to 20; sundries from 26 to 24; total reduction from 58 per cent. to 38 per cent. Mr. McMillan eulogized other features, including extensions of the free list, and especially the principle involved in the income tax provision which taxed not what people consumed but what they had."

The great contest in framing the bill came on sugar, coal and iron. The trusts and syndicates engaged in these industries asserted their power and compelled concessions to their interests. The sugar bounty provision is repealed and in its place a tariff of 40 per cent. is imposed on its importation with an additional eighth of a cent per pound on refined sugar. In anticipation of this action, at its dictation, the sugar trust has just imported tariff free \$25,000,000 worth of sugar, on which its new-made protection of 40 per cent., plus one-eighth cent per pound, will make a profit of some \$11,000,000 to be paid by the consumers of sugar. The trust's profits for the year, however, will be less than they would have been under the McKinley law. So, also, the tariff on coal was reduced from 75 cents to 40 cents per ton.

There was no powerful force present to insist on protection for the wool-grower, and wool, therefore, went to the free list. This may well reconcile the manufacturer of woolen goods to the reduction from 98 to 48.

Perhaps the worst feature of the entire tariff policy is the fact that it is never settled. The American people have the ability to adapt themselves to any scheme of tariff or no tariff, of "protection" or "tariff for revenue only," if it be a stable one. But the constant unsettling of values and the continual disturbance of industrial relations to which the politician's game of battledoor and shuttlecock with the tariff subjects values and trade and industrial relations, cannot but prove detrimental to general prosperity. It is good enough for great speculators like the sugar trust but it is bad for productive workers.

The new tariff bill is a protection measure, and in its enactment disappears all vital difference between the great parties. The only difference now is one of schedules, of the measure of protection to be accorded to special enterprises. It is a game of grab, as to which can make the general public contribute most to its particular coffers.

The income tax feature is a just one.

SUGAR-MAKING AT MEDICINE LODGE.

The Medicine Lodge sugar works was to start the season's campaign, and probably did so start, on Monday of this week. The question of establishing a profitable sugar industry in Kansas has long been a subject of discussion and of experimentation and the often-heralded proclamations that the problem had been finally and forever settled in the affirmative has made sugar production a wearisome subject.

Readers of the KANSAS FARMER are aware that as at present perfected, the sorghum sugar industry would be a very profitable one if the price of the product were as high as when the first scientific attention was given to the

crystallization of the sugar. But since that time the price of sugar has depreciated even more rapidly than that of other products of industry, so that the successes which have been announced have had a truth back of them, but have had also to face a truth in front, in the form of declining prices, which has made a new solution of the problem repeatedly necessary.

The Medicine Lodge management is, however, sanguine of being able to produce sugar at as low a price as it can be made from either beets or tropical cane. There is now ready for the season's work a fine crop—about 3,000 acres—of cane. Notwithstanding the season's disasters to other crops, the cane is reported to be unusually fine, so that the requisite supply of raw material seems to be assured.

In addition to the experts heretofore employed, the company has this year a sugar engineer of very wide experience, covering all of the sugar-producing countries of the world.

The machinery of the mill is in perfect condition and is pronounced to be as nearly perfect in design, construction and arrangement as any factory ever built.

The company is financially able to operate the works to the best possible advantage and is confident of making a success of the industry at present prices for the product.

GRAIN CROPS AND PRICES.

The two questions, concerning crops, which most interest the farmer, are those of the yield and of the price which will probably be received for the surplus. These questions are also related to each other in such a way that any consideration of the latter involves some examination of the former.

The general showing at this time as to the yield of wheat in this country is that it is less than last year. The winter wheat crops have been harvested and threshing has progressed so far as to show some disappointment as to the expected yield. The spring wheat areas are not all affected alike. The northern portions report a fine crop, probably heavier than last year's, but with less old wheat carried over, while the Minnesota and South Dakota fields have suffered from drought. Reports from foreign fields are as yet in scraps. In speaking of the Danubian provinces, Dornbush, as quoted by the Cincinnati Price-Current, said, July 27:

"The autumn-sown wheat and rye crops are now almost secured, and their under average condition as well their deficit are fully apparent, whilst the great drought and heat which have prevailed in Roumania, and partially so in Moldavia and Wallachia, threaten the almost complete destruction of the spring crops, and at the same time seriously jeopardize the maize fields. In some of the Bulgarian districts the condition of the cereal crops has rather improved. In Roumania the maize crop is regarded as lost and the wheat is parched and poor."

The aggregate of the present information points to a somewhat shortened wheat crop for the world, in comparison with those of recent years.

The following compilation of exports of wheat and flour reduced to equivalent bushels of wheat shows what this country has heretofore had to spare to those less fortunate in their cereal production:

	Exports of Wheat, bu.	Export Prices.
1873.....		181.2
1874.....		142.8
1875.....	73,213,000	112.4
1876.....	76,171,000	124.2
1877.....	57,514,000	116.9
1878.....	93,419,000	133.8
1879.....	149,508,000	100.8
1880.....	180,934,000	124.5
1881.....	186,475,000	111.4
1882.....	122,598,000	118.5
1883.....	148,760,000	112.7
1884.....	111,534,000	106.6
1885.....	132,570,000	86.2
1886.....	94,568,000	87.0
1887.....	153,825,000	83.9
1888.....	119,625,000	85.3
1889.....	88,601,000	89.7
1890.....	109,430,000	83.0
1891.....	106,181,000	88.0
1892.....	225,666,000	108.0
1893.....	191,832,000	79.9
1894.....	184,283,000	67.2

The fact that the cereal year ending June 30, 1894, found this country with 54,657,000 bushels of wheat in sight, besides unknown quantities still in farmers' hands, and prices the lowest on record, shows that this country

could probably have made last year's exportation the heaviest ever known had prices been such as to call it abroad.

Doubtless the long-continued and apparently cumulative industrial depression abroad had the effect to curtail the consumption which would have occurred had the entire mass of the common people been able to maintain the standard of living which they would have indulged if they had been able to provide full rations of the best food. Likewise the industrial depression in this country made it necessary for many people to live on short rations, even though food was so cheap. This reduced the consumption in this country far below the normal and is responsible for a large part of the surplus carried over from the last into the present cereal year. Should the depression continue long and be greatly aggravated, it is difficult to see how even this year's moderate crop can be consumed.

The reports of the corn crop show a very great shortage. The burning sun and lack of rains over the great corn-producing States are factors which are daily reducing the prospective yield. A few favored sections still report fine crops of corn, but the aggregate reduction must be very great. The results of experiments so far had with feeding wheat have been so favorable that preparations are in progress for a much more extensive use of this cereal for feeding than ever before.

The consideration of all these elements is necessary to an understanding of the probable course of prices of grain. The question of how much importance to attach to the elements which tend to depression of prices and of those which tend to strengthen them is one with which grain speculators as well as producers are grappling. The final conclusion of speculators seems to be in favor of higher prices for grain, and careful statisticians estimate that the money equivalent of the shortened crops will be greater than would have been that of the full crop promised a few weeks ago.

Cistern Filter.

EDITOR KANSAS FARMER:—Will someone, through the FARMER, give the best and simplest mode of constructing a filter for a cistern? I dug or made a cistern by first placing a large flat stone solid on top of the ground, the stone having a hole in it big enough to get through, and then took a post-hole digger and worked down and out until it was big enough to work in; and as I was alone, I hired a man to pull the dirt out, a day at a time, and then trimmed it up and gave it a coat of cement from the top down every day, so the wall would be strong at the top. I put lead pipe into the cellar for the pump, and arched it over with brick laid up edgewise, but that does not keep the dirt out of the cistern, and that makes the water smell. R. W. McCORD. Roxbury, McPherson Co., Kas.

This inquiry was referred to Prescott & Co., sanitary plumbers, of Topeka, whose extensive experience and careful investigation of all matters in their line of business give unusual value to their observations. They say:

"Our experience is, that the best filter for all-round purposes is what is known as the "bee-hive" filter, which is built in the shape of a cone, of soft brick, in the center of the cistern; or a partition wall of soft brick built across the cistern, so that the water going into the cistern has to pass through it before reaching the pump pipe. There are many patent so-called filters which are claimed to filter the water before it gets into the cistern, but we have never seen a filter that would let water from a down spout pass through it as rapidly as it was delivered from the roof during a rain of any consequence, or that would do any decent work at filtering. They require constant attention, and where the water can pass through so fast it must of consequence take more or less dirt with it, particularly after the first hour of service."

NAMES WANTED.

It is not often that this paper makes a special request of its readers, but we want the name and address of every farmer in Kansas who is not a subscriber. Will every one of our readers favor us with a postal and a list of names?

Get up a club for KANSAS FARMER.

THE RUSSIAN THISTLE MUST BE EXTERMINATED.

EDITOR KANSAS FARMER:—Owing to the great importance to our people of learning now how to identify that unwelcome visitor, the Russian thistle, and do all possible for its destruction before the plants we may now have can ripen seed, I am sure you will pardon a few further suggestions along that line.

Our principal invasion is likely to come from Nebraska, where the enemy already has a foothold in about thirty counties. This weed is like our common prairie tumble-weed in some respects; looks like it when mature, grows in newly-broken land or along roadways, and is like it in its manner of tumbling before the wind. On closer examination the plant is found to be very different from the common tumble-weed. When ripe, its stems are much tougher and stiffer, enabling it to ride longer in the wind before being torn to pieces. At this stage the slender, soft leaves born during its early stages have partly fallen off and at each joint on the stems are several leaf-like spines, both strong and sharp. Plants large enough for good "tumblers" rarely grow among crops of small grain. They come from breaking, fallow ground, roadsides, freshly-made mounds and like places, where the native sod is temporarily destroyed and no strongly competing plants have as yet secured control. In fields of wheat the plants are crowded out of their spreading form of growth and are more or less erect among the grain. They rarely grow tall, but if the grain has only a poor chance to thicken by "stooling," the weed grows in large numbers among the wheat, and in thin spots in the grain produces large plants. In seasons when the moisture enables the wheat to grow vigorously during the early part of the season, most of the weeds grow only very small or are crowded to death. Where they grow one to two feet high and rather thick among the wheat it is difficult to drive teams through them, the spines causing great pain to the horses' legs; and the harvester oft-times can not cut through the hard weeds but must give way to the header, which is run over the thistles, taking only the heads of the grain. In some cases the weeds grow as high as the wheat and even the header will not work. In cultivating crops, as potatoes and corn, the occasional weed left by the careless farmer is liable to develop into the most robust tumble-weed, two to five feet in diameter, and in a crop of thin wheat the masses of the thistle grow large and thick enough so as to be massed together by the wind into "tumblers" of large size.

It thrives in our richest soils and does well when dry weather and hot winds choke most other weeds well-nigh to death. When young it is an innocent-appearing thing and will not compete strongly with grass and other plants for a place. In the early stage it is a soft, succulent kind of herbage, not unacceptable to stock. But if given a roomy nook, as on a freshly-made gopher-mound, ample room in a field of breaking, or plenty of air and sun-room along the wheel tracks in the highway, it grows amazingly.

From the mass of testimony as to the dreadful character of this scourge, I quote a specimen paragraph by Prof. W. M. Hays, of the Minnesota Experiment Station, who says:

"Never until we made a recent visit to Lamoure county, North Dakota, did we realize the gravity of the situation this weed has brought about. Beside this, the introduction of Canadian or Scotch thistle into the Northwest has been as one to a thousand in the frightfulness of its development and the trouble of its eradication. When men in a country very much subject to drought candidly state that this weed is a more serious difficulty in the way of making profits out of their farms than the lack of rainfall, one acquainted with that vast district bordering between the good farm lands and the vast, droughty ranching plains this side of the Rockies, realizes that the Russian thistle must indeed be a pest. In some districts the real estate dealers and the farmers rate lands three or

more dollars per acre less in value than they would were it free from this pest. In certain districts some farmers have actually given up the fight and left lands worth several dollars per acre."

In effectually dealing with this plant it would seem that co-operation is absolutely necessary. It will avail little if one farmer clears his ground and his neighbor allows the weeds to mature. Even if all the farmers in a neighborhood keep their land clean, it will do little good if the vacant lots and the unused streets in the towns are growing Russian thistles. Roadsides, railway embankments, vacant lots and streets must be watched with great care. It may fairly be presumed that farmers will look out for their own lands; it is the vacant lots and the highways—"everybody's" land—which must be looked after. Every neighborhood should band itself together against this common enemy lest it maintain a foothold in the unoccupied and out-of-the-way places.

F. D. COBURN,
Secretary State Board of Agriculture.

HOW SHALL WE FATTEN OUR OAT-TLE THIS YEAR?

The following inquiry from a prominent Marion county feeder, and answer from Prof. Georgeson, will be found to contain a statement of the situation and the best known principles on which to meet it as it exists in many localities this year:

The dry weather still continues in our necko' the woods, and two-thirds of our corn is gone beyond redemption, while a large portion of the remaining third must have rain soon or it will go likewise. If our feeders fatten many cattle this season it must be by using wheat largely. Would you kindly send me the proportion of ground wheat, bran and oil cake for a tolerably balanced ration, with alfalfa, millet or sorghum for roughness? Also a ration composed of the above ingredients, except the exchange of ground flax with all the oil in it instead of oil cake?

You ask what proportions of ground wheat, bran and oil cake should be used in order to make up a tolerably balanced ration for fattening steers, with alfalfa, millet hay or sorghum for roughness. Also what proportion of ground flax seed with all the oil in it could be used in such a mixture instead of oil cake. I will say in reply that it will be a comparatively simple matter to compound a balanced ration from those feeds, but whether it would be profitable to use these feeding stuffs on a large scale will depend entirely on their price.

To get a clearer insight into these problems let us look at the composition of the feeding stuffs named. The percentage of digestible nutrients contained in them are as follows:

Name.	Proteine.	Carbohydrates.	Fats.	Nutritive Ratio.
Wheat.....	9.5	60.90	1.9	1:6.91
Bran.....	12.0	44.1	2.9	1:4.1
Oil Cake.....	27.1	34.3	7.	1:1.91
Flax Seed.....	17.2	18.9	35.2	1:6.21
Alfalfa.....	9.4	28.3	1	1:3.3
Sorghum.....	2.	30.5	.7	1:24.

I do not have the composition of millet hay at hand, but millet of fair quality will be somewhat better than sorghum fodder. Now, bearing in mind that the nutritive ratio here referred to means the ratio existing between the proteine and the carbohydrates and fats—thus the nutritive ratio of wheat means that it contains one pound of proteine to 6.91 pounds of carbohydrates and fats, in which the fat is reduced to the value of starch—and further, that a balanced ration is a mixture of feeds in which the three nutritive elements named are present in such proportions that the system can receive the maximum amount of good from them. Now, just what these requirements are we find in the so-called "feeding standards." These standards assign a nutritive ratio of as 1 is to 6.5 for fattening steers; or that the feed must contain 1 pound of digestible proteine for every 6.5 pounds of the other two classes of nutrients combined, as stated above. The balanced ration should contain the nutrients in about that proportion. Now, by comparison of the requirements for the fattening steer with the nutritive ratios of the feeds above named, it will be seen that wheat and flax seed are very nearly balanced rations in themselves, while bran and oil meal, and even alfalfa hay (hay of best quality), are too "narrow" in their nutritive ratio. That is, there

is too much proteine in proportion to the carbohydrates they contain, and to balance them they should be fed with some material less rich in proteine and richer in carbohydrates, as for instance Indian corn. Theoretically, then, ground wheat itself is a nearly balanced feed for fattening steers, and if mixed with anything else it should be with a view to give variety to increase palatability, rather than to alter the relation of the nutrients. But unfortunately we have no experiments with the exclusive feeding of wheat for fattening steers from which to learn if the theory is borne out in practice. I am of the opinion that it will be found to be correct.

Bran is a good feed, but it will be more efficient if mixed about half and half with corn, Kaffir corn, or sorghum seed, in order to properly balance the nutrients. Ground flax seed has nearly the required nutritive ratio, but on account of the physicking effect of the large amount of oil it contains it cannot be fed exclusively to cattle, nor would its price admit of such a practice. An experiment at the Iowa station demonstrated, however, that a cow could be fed 8 pounds of flax seed and 12 pounds of corn meal daily without injurious effects. A pound or two of flax seed could be fed daily in connection with ground wheat, I believe, with good effect. Neither bran or oil meal could be used with advantage in connection with wheat. If the rough fodders above mentioned are all three available I would prefer to alternate sorghum with alfalfa or millet hay.

Kansas feeders are confronted this year with a unique problem in that wheat is abundant and cheap and corn scarce and high. The problem before them is how to best utilize the wheat as a feeding stuff. It has not heretofore been used for this purpose, but I am confident that it will be found to be a most excellent feed, which does not require the addition of anything else to balance it, though if fed in connection with sorghum fodder or corn fodder, both of which are deficient in the flesh-formers (proteine), a little oil meal, say about a pound a day per head, might be added to advantage in order to "balance" the coarse fodder. Wheat and alfalfa hay would be too rich a ration, i. e., there would be a waste of proteine; hence I suggest that half the ration of coarse fodder should consist of some poorer material, even good straw. Wheat and flax seed should be, in all cases, crushed or coarsely ground, or too large a proportion will pass through undigested.

C. C. GEORGESON.

Publishers' Paragraphs.

Newspapers are making many glowing and excellent offers these days as inducements to stir up their readers to secure more new subscribers, but our offer of "Picturesque America" is the best thing for the money we have ever seen. We send one part free to any one sending us one new subscriber.

A political and social story of the times, vivid, strong and well arranged, is the "Dead Line," by Gideon Laine, D. D. (G. C. Clemens). This story first appeared as a serial in the Topeka Advocate and was the means of bringing to that paper immense numbers of new subscribers. The Advocate Publishing Company has now brought it out in neat paper cover for 25 cents. The spirit of the story is populist.

The exceedingly dry weather has placed corn on the top shelf, and judging from the active market, wool is a close second. The dry weather has not been the means of creating the firm market on wool, however, but the cause may be assigned to two reasons; first, upon actual demand by the manufacturers, notwithstanding tariff tinkering, and second, on account of the anticipated tariff revision many millions of sheep have been driven to the slaughtering pen. We are creditably informed by Messrs. Silberman Bros., 212 Michigan street, Chicago, Ill., who, by the way, are one of the largest wool commission houses in the West, that the demand for best grades of wool at this time is more active than for two years past. Speculators, with an eye to business, think wool is good property, and this, together with above reasons, makes a decidedly firm market. Any shippers having wool to dispose of would find it to their advantage to correspond with the above firm and market their wool in the next two or three weeks while the market is strong, and before there is any possible show for foreign wools to come in free.

KANSAS' POPULATION.

The following table shows the population of Kansas by counties, from the assessors' enumeration made in March of the present year; also the population in 1893, and the increase and decrease since, compiled by the State Board of Agriculture. The increase in thirty-two counties has been 19,787, and the decrease in seventy-two counties 48,069, leaving a net decrease for the State (largely due to the exodus into the Cherokee Strip) of 28,262. The largest gain, 4,186, was made by Johnson, and twelve counties gained more than 1,000 inhabitants each:

Counties.	1893.	1894.	Increase	Decrease
Allen.....	12,372	12,770	398	
Anderson.....	12,172	13,275	1,103	
Atchison*.....	26,455	26,455		
Barber.....	9,378	5,753		3,625
Barton.....	13,776	13,448		328
Bourbon.....	25,372	25,090		282
Brown.....	19,828	19,416		412
Butler.....	22,565	21,126		1,439
Chase.....	7,322	6,789		533
Chautauqua.....	10,614	10,568		46
Cherokee.....	28,306	26,507		1,799
Cheyenne.....	4,668	5,044	376	
Clark.....	2,044	1,724		320
Clay.....	15,337	15,111		226
Cloud.....	18,037	17,044		993
Coffey.....	14,801	15,400	599	
Comanche.....	2,177	1,720		457
Cowley.....	35,349	30,490		4,859
Crawford.....	31,889	33,109	1,220	
Decatur.....	7,686	7,769	73	
Dickinson.....	20,900	21,579	679	
Doniphan.....	11,508	11,437		66
Douglas.....	23,104	23,113	9	
Edwards.....	3,640	3,320		320
Elk.....	10,980	10,183		797
Ellis.....	7,663	7,517		146
Ellsworth.....	9,597	8,752		845
Finney.....	3,388	3,553	165	
Ford.....	6,662	5,096		1,566
Franklin.....	19,634	19,980	346	
Geary.....	9,632	10,091	459	
Gove.....	2,409	2,368		41
Graham.....	4,383	4,066		317
Grant.....	1,330	771		559
Gray.....	2,050	1,503		547
Greeley.....	1,345	1,821	476	
Greenwood.....	14,704	15,090	386	
Hamilton.....	1,807	1,725		72
Harper.....	14,488	10,452		4,034
Harvey.....	16,613	16,600		13
Haskell.....	1,015	831		184
Hodgeman.....	2,462	2,172		290
Jackson.....	15,581	16,226	645	
Jefferson.....	15,238	16,174	936	
Jewell.....	17,930	17,468		462
Johnson.....	11,961	16,147	4,186	
Kearney.....	1,242	1,214		28
Kingman.....	11,055	10,091		964
Kiowa.....	3,187	2,750		437
Labette.....	26,201	25,956		245
Lane.....	2,073	1,798		280
Leavenworth.....	32,854	33,214	360	
Lincoln.....	9,662	9,294		368
Linn.....	15,466	15,215		251
Logan.....	2,983	2,603		380
Lyon.....	22,619	23,825	1,006	
Marion.....	20,241	20,193		48
Marshall.....	23,319	25,141	1,822	
McPherson.....	21,533	21,359		174
Meade.....	2,048	2,025		23
Miami.....	18,666	18,924	258	
Mitchell.....	13,913	13,936	23	
Montgomery.....	22,379	24,452	2,073	
Morris.....	10,917	10,877		40
Morton.....	674	457		117
Nemaha.....	18,377	18,922	545	
Neosho.....	16,990	17,699	709	
Ness.....	4,790	4,501		289
Norton.....	9,891	9,711		180
Osage.....	23,324	23,788	464	
Osborne.....	10,987	11,196	209	
Ottawa.....	11,705	11,250		455
Pawnee.....	5,331	5,144		187
Phillips.....	12,598	13,067	469	
Pottawatomie.....	16,850	16,716		674
Pratt.....	8,591	7,509		1,082
Rawlins.....	6,101	6,217	116	
Republic.....	27,139	26,066		1,073
Rice.....	17,047	16,771		276
Riley.....	14,465	13,874		591
Rooks.....	12,369	11,967		402
Rush.....	7,144	7,179	35	
Russell.....	5,487	5,150		337
Saline.....	7,447	7,250		197
Scott.....	18,158	16,144		2,014
Sedgwick.....	1,142	1,168	26	
Seward.....	40,177	39,043		1,134
Shawnee.....	1,000	820		174
Sheridan.....	47,219	45,125		2,094
Sherman.....	3,370	3,241		129
Smith.....	6,266	5,875		391
Stafford.....	14,529	14,470		59
Stanton.....	9,168	8,688		475
Stevens.....	985	797		213
Sumner.....	1,144	797		347
Thomas.....	31,684	27,126		4,558
Trego.....	5,032	4,415		617
Wabannsee.....	2,610	2,481		129
Wallace.....	11,063	11,170	77	
Washington.....	2,530	2,483		47
Wichita.....	21,978	20,408		1,570
Wilson.....	2,040	1,677		363
Woodson.....	13,740	14,023	283	
Wyandotte.....	8,545	8,975	430	
Total.....	1,366,613	1,338,331	19,787	48,069

* 1892. No returns for 1893 and 1894.

Excursion to Washington, D. C.

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

Get up a Club for KANSAS FARMER.

Horticulture.

Directions for Culture of Strawberries.
(From Elwanger & Barry.)

The Soil and its Preparation.—The strawberry may be successfully grown in any soil adapted to the growth of ordinary field or garden crops. The ground should be well prepared by trenching or plowing, at least eighteen or twenty inches deep, and be properly enriched as for any garden crop. It is unnecessary to say that, if the land is wet, it must be thoroughly drained.

To Cultivate the Strawberry.—For family use we recommend planting in beds four feet wide, with an alley two feet wide between. These beds will accommodate three rows of plants, which may stand fifteen inches apart each way, and the outside row nine inches from the alley. The beds can be kept clean and the fruit can be gathered from them without setting the feet upon them.

Culture in Hills.—This is the best mode that can be adopted for the garden. To obtain fine, large, high-flavored fruit, pinch off the runners as fast as they appear, repeating the operation as often as may be necessary during the summer and early autumn. Every runner thus removed produces a new crown and in the fall the plants will have formed large bushes or stools, on which the finest strawberries may be expected the following season. In the meantime the ground among the plants should be kept clear of weeds and frequently stirred with a hoe or fork.

Covering in Winter.—Where the winters are severe, with little snow for protection, a slight covering of leaves or litter, or the branches of evergreens, will be of great service. This covering should not be placed over the plants until after the ground is frozen, usually from the middle of November till the first of December in this locality. Fatal errors are often made by putting on too much and too early. Care must also be taken to remove the covering in the spring just as soon as the plants begin to grow.

Mulching to Keep the Fruit Clean.—Before the fruit begins to ripen, mulch the ground around the plants with short hay or straw, or grass mowings from the lawn, or anything of that sort. This will not only keep the fruit clean, but will prevent the ground from drying or baking and thus lengthen the fruiting season. Tan-bark can also be used as a mulch.

A bed managed in this way will give two full crops, and should then be spaded or plowed down, a new one in the meantime having been prepared to take its place.

Getting a Start of Fruit.

A year ago this spring I went to a neighbor three-fourths of a mile away. He had a large number of grape vines, and I gathered up the canes that were cut off and trimmed them up at home ready to set in the ground. I left two buds on each piece. After digging my trench I set them in the ground slanting, leaving one bud at the top of the ground, packing the ground down around them. Before the hot, dry weather came I mulched them with manure. To-day I have a long row of thrifty grape vines. The vines cost me, counting my work, cultivation and all, about one day's work, and in the years to come, whether it is I or not, some one will get well paid for that day's work.

When our neighbors trim their vines they are thankful to have us come and take the trimmings out of the way. The same can be said of blackberries and raspberries.

What I am working for myself and trying to persuade others to do is to get everything free we can, for we are in need of all the help we can get. The wealthy farmer does not have to economize. He may say: "Go to your nurseryman and buy them," but some of us may not have the money to buy with. It is like some editors of our supposed-to-be farm journals, that are urging the farmers of the West that have lost their wheat by the drought to plow up the land and plant it in Kaffir corn or some forage crop of some

kind. Now, any man that has ever seen a farm (and I am sure these editors have not), knows that a large majority of these Western farmers have not a dollar to spare to buy the seed with. The advice may be good enough, but there is an impossibility behind it that makes it of no use to brother Western farmers. Sometimes I think it has a tendency to aggravate the reader, so I always try to shave my words down to suit the occasion. I do this by imagining if I was in such a condition financially as my brother, how would I do? And if we want our neighbor to be accommodating or liberal with his grape cuttings, raspberry or blackberry sprouts, just be a good neighbor ourselves, and we will soon have a supply of small fruit of our own, and I want every reader of this grand, and one among the best farm journals, if they have no small fruit, to cut this article out and paste it in their hats, as the saying is, and read it over and over until they get it clearly fixed in their minds to make a start next spring to supply our tables with small fruit. Let us not in years to come have our children look with a longing eye as they pass a thrifty farmer's home, with his vines loaded with juicy grapes, or have them imagining what a happy home they would have if our delicious berries could be set before them, covered with sugar and cream. In fact, I myself, as I pass my own patch of berries, and view the many large red berries, really count the few days to come when I will have the pleasure of such a dish, and one of my greatest wishes is, if only every reader could say the same. Now, there is no impossibility about this; only make the effort.—*J. R. Cotton, Stark, Kas., in Epitomist.*

Crystallized Fruits.

The following suggestions are from *Southwestern Farm and Orchard*:

"The process of crystallizing fruits is by no means easy to learn. The exact knowledge can only be acquired by experimentation, and those who have succeeded do not make the details public, as crystallized fruits are usually produced for profit rather than for consumption in the home.

"The theory, however, is to extract the juice from the fruit, and replace it with sugar syrup, which, upon hardening, preserves the fruit from decay, and at the same time retains the natural shape of the fruit. All kinds of fruit are capable of being preserved under this process, and though the method is very simple there is a certain skill required which can only be acquired by practice.

"In the first place, that fruit should all be of as near the same degree of ripeness is of great importance, which is at that stage when fruit is best for canning, that is, when it is quite ripe, but not mushy. Peaches, pears, etc., are pared and cut in halves, as for canning; plums, cherries, etc., are pitted. It is then put into a basket, or a bucket with a perforated bottom, and immersed in boiling water. The object of this is to dilute and extract the juice of the fruit. The length of time the fruit is immersed is the most important part of the process. If left too long, it is overcooked and becomes soft; if not immersed long enough, the juice is not sufficiently extracted, which prevents a perfect absorption of the sugar.

"After the fruit is cool it is placed in earthen pans, and covered with sirup made of white sugar and water. The fruit now requires careful watching, as fermentation will soon take place, and when this has reached a certain stage the fruit and sirup are heated to boiling point, which checks the fermentation. This heating process should be repeated as often as necessary for about six weeks.

"The fruit is then taken out of the sirup and washed in clean water, when it is ready to be either glazed or crystallized as the operator may wish. If glazed, the fruit is dropped in thick sugar sirup and left to harden quickly in the open air. If it is to be crystallized, dip in the same kind of sirup, which is made to cool and harden slowly, thus causing the sugar which covers the fruit to become crystallized. Fruit thus prepared will keep in any climate and stand transportation."

THE best investment in real-estate is to keep buildings well painted. Paint protects the house and saves repairs. You sometimes want to sell—many a good house has remained unsold for want of paint. The rule should be though, "the best paint or none." That means

Strictly Pure White Lead

You cannot afford to use *cheap paints*. To be sure of getting Strictly Pure White Lead, look at the brand; any of these are safe:

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

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

These colors are sold in one-pound cans, each can being sufficient to tint 25 pounds of Strictly Pure White Lead the desired shade; they are in no sense ready-mixed paints, but a combination of perfectly pure colors in the handiest form to tint Strictly Pure White Lead. A good many thousand dollars have been saved property-owners by having our book on painting and color-card. Send us a postal card and get both free.

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

NATIONAL LEAD CO.

Profitable and Economical Culture of the Currant.

A correspondent of the *Massachusetts Ploughman* says:

"Our currant crop is important. We grow Versailles, Cherry and Fay's Prolific. The best is Fay's Prolific. We grow them altogether among our trees, because currants really need some shade. We do not plow nor hoe, but keep the field clean with a cultivator. We should use stable manure for fertilizer if we could get into our orchards easily with teams; but as it is, we use about a ton of dried blood from the slaughter houses for each acre. Dried blood costs \$30 per ton. It keeps the currants and trees in splendid condition, vigorous and dark green, with plenty of fruit.

"We used to trim our currant bushes, but have stopped the practice, except to cut out dead wood. We have currant bushes nearly twenty years old which still bear pretty good crops. Our currants are picked and marketed in twenty pound baskets. Picking is done by the day and costs about 1 cent a pound on the average. For currant worms we use the white hellebore."

Some very curious processes for propagation are practiced in the public gardens at Washington. One consists in cutting with a knife a ring around a branch of a plant. One might imagine that the intention was to kill the branch, but such is by no means the object in view. The cut having been made, a piece of wet moss is wrapped and tied around the branch at that point. Beneath this protection the sap exudes from the wound and little rootlets are developed. After a few days the branch is cut away from the parent stem, being then itself a complete plant, with roots all ready to put in a pot. The plan is adopted with plants of slow growth, because one plant may thus be split into half a dozen or more of good size, instead of waiting for a seedling or little slip to develop.—*Field and Farm.*

A new grape plague has appeared in Ohio, known scientifically as *fidia viticidia* Walsh. The bark is eaten from the grape roots, sometimes partially, but in many cases almost wholly, by numbers of small white grubs, as many as sixty-five having been found in the ground about a single vine. These grubs produce a small brown beetle—not the rose bug—a little over a quarter of an inch in length and covered with very short whitish hairs. The beetle feeds upon the foliage of the grape, emerging from the ground in June, and probably feeding until August or September. This beetle has long been known to eat the leaves of the grape in Kentucky, southern Illinois and Missouri, but up to the present time nothing has been known of the habits of the grubs. Spraying with Paris green, one ounce to twelve gallons of water, destroys the beetles. Bisulphide of carbon placed in the ground about the roots of the vines, three ounces each, will kill the grubs.—*National Nurseryman.*

You will find a box of Ayer's Pills an excellent traveling companion. For costiveness, indigestion, sick headache and nausea, they are prompt, safe and efficacious. Taken in season, they may prevent serious illness and vexatious delay and disappointment.

Kansas Fairs.

Following is list of fairs to be held in Kansas during the present year, their dates, locations, and Secretaries, as reported to the State Board of Agriculture and furnished by Secretary F. D. Coburn:

The Kansas State Fair, C. M. Irwin, Secretary, Wichita, October 2-6.
Allen County Fair and Moran Driving Park Association, H. P. Smith, Moran, August 22-25.
Allen County Agricultural Society, C. L. Whitaker, Iola, September 12-14.
Anderson County Fair Association, M. L. White, Garnett, September 4-7.
Brown County Exposition Association, C. H. Lawrence, Hiawatha, September 4-7.
Chase County Agricultural Association, Chas. Gregory, Cottonwood Falls, September 28-31.
Clay County Fair Association, J. J. Marty, Clay Center, August 28-31.
Coffey County Fair Association, J. E. Woodford, Burlington, September 10-14.
Coville County Fair and Driving Park Association, A. C. Bangs, Winfield, September 25-27.
Crawford County Agricultural Society, George E. Cole, Girard, August 28-31.
Finney County Agricultural Society, D. A. Mims, Garden City, October 4-6.
Franklin County Agricultural Society, C. H. Ridgeway, Ottawa, September 17-21.
The District Fair Association, Franklin county, J. J. McCabe, Lane, September 11-14.
Greeley County Agricultural Association, Thomas H. Orr, Horace, September 25-27.
Jackson County Agricultural and Fair Association, S. B. McGrew, Holton, September 24-28.
Jefferson County Agricultural and Mechanical Association, George A. Patterson, Okauchee, October 10-12.
Johnson County Co-operative Fair Association, C. M. Dickson, Edgerton, September 25-28.
Johnson County Fair Association, W. T. Pugh, Olathe, August 28-31.
Linn County Fair Association, Ed. R. Smith, Mound City, September 10-13.
Frankfort Fair Association, Marshall county, R. E. Trooper, Frankfort, September 4-7.
Miami County Agricultural and Mechanical Association, D. M. Ferguson, Paola, September 25-28.
Montgomery County Agricultural Society, D. W. Kingsley, Independence, September 18-21.
Morris County Exposition Company, E. J. Dill, Council Grove, September 25-29.
Nemaha Fair Association, E. L. Miller, Seneca, September 11-14.
Neosho County Agricultural Society, H. Lodge, Erie, September 4-7.
Osage County Fair Association, E. G. Pipp, Burlingame, September 25-28.
Osborne County Fair Association, M. E. Smith, Osborne, September 11-14.
Riley County Agricultural Society, R. C. Chappell, Riley, August 21-24.
Salina County Agricultural and Horticultural Association, H. B. Wallace, Salina, September 18-16.
Wilson County Agricultural Society, C. A. Cantrell, Fredonia, September 11-14.

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In the Dairy.

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

Oleomargarine.

D. W. Wilson, of Elgin, Ill., Secretary of the National Dairy Union, recently made "some remarks" to the butter merchants of St. Louis upon the oleomargarine business. The *Globe-Democrat* says:

"The sale of oleomargarine last year, according to government reports, reached the enormous volume of 97,000,000 pounds, the produce taking the place of that of 400,000 cows, thus forming a tremendous gap in the butter industry, and as well in the pasturage and fodder grown and ordinarily consumed in the farm and dairy business. Mr. Wilson had quite an elaborate array of figures before him, showing the magnitude of the operations of this imitation butter business and the extent to which it affected the producers, the commission merchants and the consumers as well.

"Particularly interesting were his remarks in regard to its healthfulness and the effect it has upon the digestive faculties of those who willingly or unwillingly eat it. Eaten in quantities and with avidity as pure butter it is insoluble by the digestive processes, and remains a floating, oleaginous mass in the stomach and bowels, to ferment and sour and thus disturb the entire system and to poison the blood with a lot of putrid matter and eventually to create a condition of disease the character of which few can understand. Following out this line of thought he presented instances of persons who had, in the interest of economy, willingly purchased it and fed it to their families, and who invariably discovered that it disturbed the entire digestive processes, and very soon compelled the calling in of a physician. If this is the case, he argued, with those who partake of it willingly and who are careful to watch its effects, how much worse must it be where it is partaken of by those who take it for butter and are unable to watch for its effects and to know what ails them?"

The sale of oleo must be restricted in Kansas or the dairy business will be mighty poor picking.

Thoroughbred vs. Scrub.

T. Lane, of Emmetsburg, Iowa, recently sold one Jersey cow and three calves for \$385. The same week several parties shipped ordinary fat cattle from this point to Chicago, where they brought about \$25 each. It cost no more to feed and shelter the Jerseys than the scrubs, and but a trifle more at first cost. Herein is a moral and a pointer. The moral is that it pays to raise blooded stock. The pointer is that the result of the World's Fair tests established the superiority of the Jersey cow for dairy purposes.—*Great West*.

The fall will soon be here. When it comes, if not already done, the inferior cows should be weeded out of the dairy. A poor cow is not worth carrying over until spring while there is a butcher who will buy her. Fodder can be fed to better purposes than supplying it to an unprofitable dairy cow. Her room is better than her presence in the dairy. Substitute in her stead a cow with a good percentage of fat in her milk, and by generous feeding increase her quantity of milk. The good cow, on an average, requires no more care or feed than the poor one. One means gain, the other implies loss. A little foresight at this time will save a great deal of unprofitable labor next winter. The most unprofitable form of labor that a dairyman can do is to feed and care for a herd that is maintained at a loss. The herd is seldom so inferior as to be a source of loss, but a few individual members make so poor a showing that the percentage of the whole is lowered to a point where profit is extinguished. In going into winter quarters it is best to start on a paying basis. This can be reached by disposing of every cow that is not a source of profit. This standard can be maintained by applying the funds resulting from

the sale of poor cows to the purchase of good ones. The selling price of two poor cows will buy one good one. The profit of such a transaction is found in the saving of fodder and the gain the good cow brings. In a calling where competition is so intense as it is in dairying, the smallest details must be looked after very closely if success is to be attained.

The time to begin to stable the cows in the fall is when the air becomes frosty or uncomfortably cool at night. The ration must be increased, that no slackening of the milk flow result. Constant care and watchfulness are needed that the milk flow is not decreased, or once interrupted, as it is a very difficult matter to restore it. Stables should be constructed so that the temperature can be controlled, and no matter how severe the weather, freezing in cow stables should be unknown. Of equal importance is thorough ventilation and an abundance of pure fresh air, for without perfect health, thrift and comfort would be wanting and a serious leak would follow in the income. Expensive buildings are not a necessity, but the dairyman should shape his surroundings in a manner most likely to meet the desired end that are within his means. Stables with cracks in the outer walls, wide spaces under the doors, badly fitting window frames and perhaps open windows on the floor above drive out and counteract any amount of animal heat generated by a herd; consequently extra food is needed to supply this waste from which no returns come. Boards and nails, chaff and sawdust are much cheaper and can be put in position and the remedy assured by any one capable of handling a hammer and saw. The chief reason why cows shrink in the milk yield is for this coldness in the stable.

Dairy Notes.

Dairy questions are always appropriate for farmers' institute discussions.

Butter-making is an art that requires care and intelligence for proficiency.

It is just as profitable to brush and curry the cows as the horses. The cows enjoy it and it makes cleaner milk.

If the farmer can dispose of his cream to the factory at profitable figures it is to his interest as a rule to do so.

Doing any sort of dairy business without a thermometer is like going to sea without a compass. You never know "where you are at."

Swiss dairymen are reported to have found a new use for separator milk. Machines have been made for condensing it for soap-making.

The man who launches out into dairying and stakes the outcome on poor cows in scanty pastures has a mighty "poor relation."

Be kind to the cows and they will return the compliment. Boys, ponies, whips and dogs are an uncalled for combination in dairy affairs.

If a good cow doesn't succeed in doing a good deal better than making the ends meet it is because she has fallen into the wrong man's hands.

The ordinary patent churn (and its name is legion) is scarcely worth the salt that goes into a batch of butter. As a rule they are wasteful in the extreme.

The following is a good ration for milch cows: Ten pounds corn fodder, 2 pounds ground corn, 2 pounds ground oats, 2 pounds bran and 1 pound oil meal, the grain to be mixed.

An exchange truthfully says that the human race is made up of two classes—those who go ahead and do something and those who sit still and inquire why it was not done the other way.

It is said that England takes twenty times as much of her butter supply from Denmark, six times as much from France, and four times as much from Germany as from the United States. And now comes Australia and New Zealand with great quantities of butter

put on board vessels and frozen during the voyage, thus reaching the market in good condition and at a lower cost of production than any other. What's the matter with us Yankees?

To meet the exigency of drought it has become imperative for farmers to set apart a convenient plot of ground for a soiling crop to tide their cows over such long dry spells of weather when pastures are no good.

If you are supplying customers with butter from your private dairy be regular in all things—time of delivery, amount and quality of product. Fix upon a price and stay by it. An observance of these things will win.

Some dairymen keep their cows in good running order by means of a dog; this is poor policy. Some men get careless in their attention to the cows so soon as they think they are not paying well on account of low prices; more bad policy.

Mr. B. F. Stevens, who owns a model dairy farm on the west shore of Spirit Lake, Dickinson county, Iowa, has begun the erection and enlargement of his dairy to accommodate 100 cows. Mr. Stevens will have one of the finest dairies in the West.

There is not much consolation in low prices, but there is in the fact that the price of butter is likely to get a bulge on it long before wheat does. The moral to be derived from this is to take good care of your cows and have them in good order when dairy products take a rise.

The pasture may be the source of the cheapest or the dearest feed on the farm. In the vigor of its growth and springtime luxuriance it is the cheapest. In the dry and parched condition following drought, if used alone, it is the dearest, for it lets stock go back, and this is the most expensive of all processes.

The Poultry Yard

Heroic Remedy for Lice.

A poultry-keeper, in an exchange, tells how he rids his flock of the lice pest. He says: "We prepared an emulsion mixture as follows: One bar of common laundry soap, cut into thin slices, and boiled in half a gallon of water. While boiling take from the fire and stir into this one quart of kerosene oil, stir briskly about ten minutes, set away for an hour or so, and it will settle into a jelly. This is the kerosene emulsion and can be kept any length of time. The dipping preparation is made by stirring this emulsion into a tub of warm soapsuds. Dip each chick and chicken on the place in this tub of suds and kerosene mixture. Dip thoroughly, until the skin is wet; no danger of it hurting the eyes or skin and no live lice can be found on any chicken or fowl so treated. It eradicates at once what you may in vain spend dollars, hours, days, weeks and months trying to get rid of."

Mongrels vs. Pure Breeds.

"Many old notions die hard," says a writer in the *Country Gentleman*, "and among them none has greater power of lasting than the idea that the best way to secure plenty of eggs is to mix promiscuously the different breeds. I recently met a farmer who for forty years has strenuously held to this view, and certainly he had a jumble-up of poultry. Nearly everything was to be found there, from Cochins to Hamburgs, and the crossing had been made without any regard to economic qualities. In short, it appeared, although he did not acknowledge as much, that the breed did not matter so long as he made some cross. But he has at last come to see that this method has no elements of success in it. Obtaining comparatively few eggs last winter his bailiff induced him to try a few Wyandottes, and the result was so self-evident that he has come to see now that he has been acting upon wrong lines all these years. This man, who is a type of a class, is a skilled breeder of cattle. He would think indiscriminate crossing of his animals madness, and knows that these wonderful milking properties, for

which he has bred many years, might be lost by the first injudicious cross. And yet it never seemed to dawn upon his mind that the same principles are applicable to poultry. If this were an isolated case it would not be nearly so serious, but he is merely typical of a large class. Men who will give careful thought to selection and breeding in larger stock, appear to imagine that fowls are altogether different in nature, and fail to realize that nearly everything which tends to elevate the former can be applied with equal advantage to the latter."

Roost Arrangements.

I had never before so satisfactory an arrangement of perches for my household of biddies as the present, and possibly a description of the same may prove helpful to many a farmer poultry-breeder.

Long ago I discarded the ladder style of roosts and accepted the all-on-a-level method of night-time comfort for them, but they were rather rude, makeshift affairs, of home manufacture, and were, in many respects, not at all satisfactory. But the ones in use out at the new poultry house are of genuine carpenter construction and finished as they should be, that is, in a manner that helps very materially to lessen the work of keeping the house clean and freed from insect vermin. No insignificant item, I assure you, to the one who has much of poultry work to attend to, and gives the house a daily cleaning. Those perches are of hard wood, made by sawing 2x4 timbers in two lengthwise, and they were dressed by planes and sandpaper until as smooth as glass. There is not a splinter, even, for lice to hide beneath. You can readily understand how easily they are cleaned with brush or cloth, and water. But very seldom do they need that sort of cleaning, because of distance apart, and because their house is clean and they do not go upon the roosts with fouled feet. Dressed, these perches are about one and one-half inches through, or on all sides. At present there are nine of them, five feet in length, placed one foot apart, and they are not stationary. They rest firmly upon other 2x4 timbers that are also dressed as smooth as the perches, nor are these strips stationary, but arranged to rest in sockets that hold them firm, yet allow of their being taken out to be washed when necessary. These long timbers are notched in squares to a depth of one and one-half inches, or, to be more exact, just the depth of the thickness of perches, and in these notches they rest, and they fit just loose enough to be easily lifted out. Those notched places might be an excellent place for lice to congregate, were they neglected, but that poultry-house is never neglected, so they find no encouragement to remain, and there seems no opportunity to multiply, nor do I find any trouble in that line.

Each morning the perches are lifted out, and that gives me all the floor space to get around in, making the work of poultry-house cleaning very easy. When all nicely cleaned, the notches made for the accommodation of perches are all plentifully sprinkled with air-slacked lime, and upon this bed of lime they rest. This roost arrangement stands two feet from the floor. A dropping-board was built at the time the whole poultry-house was constructed. But during the summer months, I have preferred that it give way to my "notions." So it stands out of doors. But early winter will find it in place again.

I found it easier to clean a well-sanded or dirt-covered floor, than the dropping-board, so discarded it for a time. But it will be needed again when the biddies must be more or less confined, through the cold months, for then they will need the whole floor surface to scratch and exercise in. But I think I can better the carpenter-built drop-board, so shall tear it to pieces and rebuild. But the roost arrangement suits me ever so well; I think it cannot be greatly improved upon.—*Nellie Hawks, in Practical Farmer*.

GOSSIP ABOUT STOCK.

It is reported that the Brown County fair, at Hiawatha, Kas., September 4-7, will attempt to eclipse all former efforts. Seven herds of registered swine are promised, besides the various breeds of cattle. The Secretary, C. H. Lawrence, proposes to make the fair the banner county fair of Kansas this year.

The Bureau of Animal Industry, of which Albert Dean is local agent, has just completed a statement of the number of cattle shipped from the Panhandle to Kansas pastures so far this season. The number is 70,253, showing a loss of 23,932 from the same portion for 1893. The number sent from New Mexico to Kansas is 15,189, against 14,845 last year.

The depression felt during the past year, so far as Southdown sheep are concerned, is disappearing. As an indicator of breeders' beliefs and expectations the public registry is a pulse. During the past the recording of Southdowns has been slow, the pulse-beats were weak and far between. For the last few weeks there has been a marked improvement; a large number of applications for registry have been received at the office of the Secretary of the American Southdown Association, and breeders generally report an unusually large crop of lambs that are doing well.

Our special report on the Chicago horse market says: "There has been considerable improvement in the market during the past week on all classes of horses. For the first time since spring there were Southern buyers present with orders for upwards of 100 head. Added to this was the buying of four car loads of large, plain workers for New Hampshire. These orders for two classes heretofore very dull helped them materially as well as the market in general. Independent of these there were some new buyers from New England and Mexico, together with the miscellaneous small buyers, which gave the market the appearance of spring trade, and as receipts were again very light prices all around were firm to strong. Smooth chunks, 1,200 to 1,400-pound, and good, large drivers with action commanded first place and sold freely at satisfactory prices."

Lucy E. Ziller, Hiawatha, Kas., writes: "My advertisement of eggs and chickens brought me a great deal of correspondence and many sales from over the West and Illinois. About eight weeks ago I advertised my imported Holstein-Friesian cow, Phemie 4002 H. F. H. B., for sale. She had one of the finest calves by her side I ever saw at any of the fairs, well-marked and a type of those famous dairy cattle. When you get anything better bred than this calf you will have to go far to find it. Her dam, Phemie, with a milk record of ten gallons a day, a very large cow, and its sire, Prince of Altijdwerk 2d 9307, a large handsome animal, bred by the noted breeder of Holsteins, M. E. Moore, of Cameron, Mo., out of his great show cow Leimke. The calf alone is worth the money I asked for both—\$75. The purchaser, John Schubkagle, of Frankfort, Kas., who was here in person, is greatly pleased with his purchase, and saw my advertisement in the KANSAS FARMER."

W. S. Tough & Son, managers of the Kansas City stock yards horse and mule department, report an increased volume of business during the past week. Receipts and shipments unusually large, but prices still continue very low, with no prospect for the better. There is a fair demand for nice smooth 900 to 1,000-pound mares and geldings for the Southern market, but prices on other grades have suffered a great deal, and with the present outlook for high feed it will not pay farmers to hold their stock for the fall and winter trade. There was a very large run of Western horses and they all sold, but the cheaper grades sold very low. There is a party here from Old Mexico wanting several pairs of fancy gentleman's roadsters and carriage teams. He will pay good prices for nice horses. Prospects for next week are very fair. Mule market quiet. Very little trading in any class. All stock sold that came in, but at prices that showed the effects of the drought and hard times.

Our live stock field man, Mr. Brush, reports a very pleasant visit made last week at the home of Mr. Bert Wise, whose 200-acre farm and crack herd of registered Poland-China swine are situated near the sprightly little town of Reserve, on the Missouri Pacific railroad, in northern Brown county, Kansas. Mr. Wise is a native Pennsylvanian and to the manor born, having since his early childhood been trained in practical agriculture and live stock breeding. He came to his adoptive State, Kansas, in 1879, and settled on his present home place in 1882, when he at once began making improvements and laying the foundation of his Poland-China herd. Mr. Wise is pretty generally known by the Western swine breeders, as he has taken time and spared no expense in attending the prominent swine sales and securing individuals whose breeding and characteristics, as judgment dictated, would add strength and individuality to his herd that

now consists of nearly 200 head—six aged and serviceable boars, twenty-five matured brood sows and about 125, both sexes, belonging to the spring pig crop of 1894. The reader that is desirous of adding some top blood, infusing strains not common to his own, or the founding of a herd will no doubt be interested in some facts concerning the nearly 100 head that have been catalogued and will be offered at public sale from the block to the highest bidder on Friday, September 7, 1894, the last day of the Brown county fair. The sale will positively take place, regardless of the weather, on the fair grounds at Hiawatha, Kas. A major portion of the youngsters that will be offered in the sale were sired by Roy Wilkes Jr. 9512 S., by Roy Wilkes, and he by George Wilkes 5950 S.; dam Tecumseh's Perfection 3d 22141, by D. F. Tecumseh 6555. He is a two-year-old now and a nice even fellow in his conformation, with a black coat and white points. His heart and flank girth is nearly fifty-six inches, with top line scale in good proportion. His bone, both front and rear, measures seven and one-half and eight and one-half inches respectively; stands well up on his toes and presents a typical standard Poland head, save one little point that the over-critical breeder might point out, namely, not turned quite enough in his ear. This may be criticising a little too close, yet the visitor will see that the defect, if defect it be, is entirely lost in his get and illustrates the great line of prepotent blood of his famous ancestors now coursing in his veins. He is, in short, one of the best individuals in the West, and has few, if any, superiors in the Eastern breeding fields. In an adjoining paddock were five finely conformed young fellows of the fall farrow of 1893, one of which was sold the other day for \$50. The others (four) will be offered in the sale and ought to go where individual merit and breeding would be appreciated. In the aged brooder division one sees a grand collection, less than half a score of them having cost Mr. Wise nearly \$1,000, and it is, perhaps, safe to state that no herd of equal numbers west of the Mississippi has taken a greater outlay of money to get together. Among the grand array is the four-year-old Lizer's Nemo 24471 S.—50478 A., by Black U. S. 4209 S.—18345 A., and out of Bessie's Pride by King Butler. She is, if her record, in addition to her very excellent individual conformation, be taken into consideration, one of the greatest brood sows on American soil. Her history tends to confirm one in this conclusion. She was formerly owned by Mrs. A. M. Edwards, of Fremont, Neb., of whom Mr. Wise purchased the animal at her last annual public sale, at which the prices realized were second highest of any sale in American swine history. She cost Mr. Wise \$275. Her 1893 farrowings sold for \$1,150, many of which were show pigs. Her early spring farrow of 1894 consisted of eight (six boars and two sows), sired by A. A. 2d, he by A. A., and he by Black U. S. At the time of the Edwards sale Mr. Wise promised his strongest competitor a pig from Lizer's Nemo's next litter, and accordingly a selection was made and shipped some weeks ago to Jno. J. Slatery, of Good Intent, Atchison county, Kas., who, under date of June 30, writes Mr. Wise, and among other facts, stated: "The pig weighed 120 pounds, showing over a pound for each day old, and that \$150 cash would not buy her, as I think she is destined to become a great brood sow." Her seven brothers and sisters are all show pigs in promise and will be among the offerings in the coming sale. Another queen among the court ladies is Lady U. S. Butler (15836), by Butler's Darkness, and he by King Butler 620 S.; dam White Face (15339), by King Tecumseh 3921 S.; dam U. S. Lady (10911). The sire of this very excellent brood sow, Butler's Darkness, is a full brother to Gresham's Darkness F. sow, whose litter won at the World's Fair three prizes, also the money offered by the Standard Record Association. Every one posted in Poland-China history will recognize that Lady U. S. Butler's breeding is among the best, and the visitor will find her all that could be expected. Her last litter of nine (eight females and one male), are well turned, growthy little queens and king in the strong herd array of youngsters. Three of the young sows are already show ring subjects and well worthy the ambition of some show ring aspirant. Among the individual brooders bred on the farm is Wise's Susa, that very favorably impresses the visitor, and especially is this so after looking over her sons and daughters of the 1893 fall farrow, as well as those of the 1893 spring farrow. Her last litter numbered eleven, ten of which she nursed successfully. They are a right handsome lot of youngsters. The spring litter of 1893 brought the top price in the youngsters' division at Mr. Wise's annual sale last fall. Another favorite brooder of Mr. Wise's own breeding is Mollie's Black Choice (17901), that has produced more prize-winners than any dam on the farm. While not quite 5 years old, her sons and daughters at several county and district fairs, including St. Joe, have won first, second and sweepstake ribbons. She is one of those extra long, smooth,

motherly dams that always farrows large litters and has the inherent qualifications to raise them, as the Hoosier breeder would say: "To raise 'em and raise 'em right, too." Among others of her progeny that will be included in the sale is a very promising young fellow that is up to the highest standard of the Western swine-breeder's ideal. To those seeking Free Trade blood, they will find among others Mona Free Trade (26507), out of Elwood Maid, a full sister to Free Trade. Mona Adams (26509), a two-year-old show animal by King Climax 5369, and out of White Nose (7331), that was bred by the veteran western Missouri breeder, D. F. Risk. One of her spring of 1893 farrow daughters and a very promising son of the fall of 1893 farrow will be in the array of sale offerings. There are yet many good ones that will have at this writing to be omitted for the want of space, but I cannot refrain from noticing Wise's Black U. S. and her young litter. She is out of Nellie Bly (25113), a full sister to Haine's Black U. S., that Cantrall & Garrett, of Waynesville, lately sold for \$800. And again, among the sale offerings is a string of spring farrow out of Mona's Niece, by Adam's Chip 3862, that was bred by the noted Indiana breeder, Bebout. A halt is here called, and hardly half done with the herd. Mr. Wise is also breeding a few good Holstein cattle and Mrs. Wise, the "gude wife" Mollie, is succeeding nicely with pure-bred Plymouth Rock chickens. The home surroundings and the general appearance of their farm betokens that its owner and entertaining helpmate and co-worker are, through their industry and intelligence, enjoying and are entitled to a full share of earth's blessings. In the meantime do not forget the sale date—Friday, September 7, 1894.

Mr. A. M. Vansell, proprietor of Ashland stock farm herd, near Muscotah, in north-west Atchison county, Kansas, has now on his place excellent herds of Poland-China swine and Short-horn cattle. Our field man, in a report of his visit last week, says: "Mr. Vansell is a native of Tennessee, and since 1870 an adoptive Kansan. Every dollar of value in his 240-acre farm, the 120 head of pure-bred Poland-Chinas and twenty-five head of Short-horns, is the result of his own industry, he having started for himself as a farm hand twenty-four years ago. The foundation stock of the Polands were the Corwin, Command, Give or Take and Black strains. The young herd now are mainly the product of Berry 10434 S., by Square Business 8531 S., he by Minority 8532 S., he by Success 277 S. He was a smooth, compact individual, a sure breeder and his produce proved early maturing and finely finished Poland representatives. Ten of his get, November farrow of 1893, were reserved, out of which to make selections to remain on the farm. A major portion of the seventy-five spring pig crop of 1893 were sired by the two-year-old Abbottsford, he by Abbottsford 26355 O., by Business 20439 O.—7429 S., by Forest 7430; dam Chance 7th 52872 O., and traces to Tom Corwin 2d. His get proves him an excellent breeder and his blood could not well be better, while his general Poland conformation would suffer but little at the hands of the score-card manipulator. A goodly number of the youngsters are by Admiral Chip 7919 S., bred by C. G. Sparks, Mt. Leonard, Mo. Admiral Chip was secured at his closing-out sale held last October by Mr. Vansell and Winterscheidt Bros., of Horton, Kas. Such was his individuality and breeding that he topped the sale at \$375. For a more extended description see notes elsewhere in this issue on Winterscheidt Bros' herd. Among the sixteen brooders is Governess 2d (24247), farrowed May 12, 1890, bred here, as was her dam, on the farm. Sired by Parrett's Choice 7934 S., two removes from Old Success 277 S.; dam Governess (19407), grandsire Moorish King 649 S. This very excellent female is beyond doubt one of the best show animals and brooders in the State. Her last two litters of eight each proved all desirable ones and always sure to please their owners on transferral. In the strong array line standing well to the front is Sal Fox (13641), by Gov. Hill 6063 S., who was a son of Osgood 3177 S. Her dam was Lillie Duffield (8578), she by Storm King 1959, out of young Sal Fox 3d (7734). The well-up Poland reader will recall that Storm King was one of Ohio's best, both in breeding and show ring victories. This four-year-old Sal always farrows seven to ten, raises them, and among others in the herd are four of her daughters that show the influence of the blood characteristics of their granddam. Lilly Duffield 3d, a two-year-old (21608), by Bayard 4693 S., running back to Success 277 S.; dam Lilly Duffield 2d (13643), a full sister to Sal Fox, both bred by James Duffield, Summersville, Butler county, Ohio, is, like her sister, a very prolific and successful brooder. Her litter of eight, 1893 spring pig crop, were sired by Admiral Chip 7949 S., that are promising indeed. The visitor will find representatives of four litters belonging to two generations that strongly sustains her worth both as to breeding, early maturity and show ring conforma-

tion. Another one that deserves special mention is the three-year-old White Face (21609), by Bayard 4693 S., tracing to Success; dam Pride of Ashland (18635), by Black Tom N. 2599 S., two removes from Give or Take 24 S. The Give or Takes belonged to that heavy and early maturing kind so much desired by the wide-awake modern swine breeder. Her last farrow of eight, April 6, 1894, are a very uniform set of youngsters. Selected individuals from her two former litters were retained in the herd, among which are some very excellent promising young brooders. Her last litter were sired by Admiral Chip 7919 S., and will, if one will take into consideration the breeding of dam and sire and their present promise, prove one of the most valuable farrowings in the herd. Among the re-inforcements lately added to the herd is the young sow Shellenberger's Pet, by Corwin Chip 26777 O., he by A. A., by Black U. S.; dam Daisy Queen (Vol. 16) by King's Magnet 14787 S., running back to Old Storm King. Her litter of eight, farrowed May 30, last, are by the noted World's Fair winner, J. H. Sanders, bred by Mr. Shellenberger. Three young gilts, sired by East Grove Exchange 9340 S., that was bred by Mrs. Edwards, have been bred, and something good is expected. Space forbids a more extended notice at this writing, but more will be given later on concerning the Poland herd, the cattle and the highly-bred Plymouth Rocks, whose kind mistress, the 'gude wife' Mrs. Myra A. Vansell, has been very successful with."

The Messrs. Winterscheidt Bros., breeders and shippers of pure-bred Poland-China swine, near Horton, Brown county, Kansas, were visited by our field man last week, and among other interesting things of note on Evergreen stock farm, is their very excellent herd of Polands. The brothers of which the firm is composed, have been engaged in agricultural pursuits in Kansas for twenty-four years, and have bred Poland-Chinas exclusively for ten years. Their original foundation stock was the best money could buy, and at this writing no better strains of blood can be found in the West than is now mingled in their herd of 130 head, all ages. The noted boar, Admiral Chip 7919 S., bred by C. G. Sparks, of Mt. Leonard, Mo., is now in his four-year-old form and weighs over 500 pounds in breeding condition. When he was out for show ring honors he tipped the beam at over 700 pounds and then was not overly dressed for ring contests. He has a good standard Poland face, measures five and a half inches between a pair of open bright hazel eyes, good ears, full arched crest, with typical jaw set on short neck, long, broad back, supported with a well-sprung rib, an extraordinary heavy, wide, deep ham, well down to hock; stands on a good well-turned bone and well up on his toes. His heart and flank girth measures sixty-two inches, his length from middle point of ear to set of tail is fifty-seven inches—in short, he is an individual of great character and stands on short, deep legs, close to the ground, with a very even top and bottom line. His get, though coming late along, the last spring season's farrow are typical little youngsters and give much promise of being very desirable, both as to conformation and well-up breeding. He is by Stem's Chip 4320 S., by Stemwinder 1214 S.; dam Admiral Maid (13513) by Admiral King 4662 S. A very growthy, smooth-turned young fellow, George Wilkes Jr. 11893 S., by Billy Wilkes 9309 S., he by George Wilkes 5950 S.; dam Pansy Blossom (24515), and she by Comet Chip 8743 S., will do part honors of the harem. To describe would take too much space, but just imagine one of the best short yearlings you ever saw and you have him. Corbett 11859 S., a September pig of 1893, by Nonesuch 2d 9019 S., he by Nonesuch 9020 by Seldom Seen 1988; dam Black Diamond (27598), and she by Comet Chip 8743 S., is an individual that comes to the last short leet front and claims the special attention of the scrutinizing onlooker. One more of the toppy young fellows cannot be passed without special inquiry as to his breeding, etc. He is recorded as Seldom Found 11856 S., by Nonesuch 2d; dam Gold Coin's Model (20745) by Gold Coin 7412 S., and he by Tecumseh Chip, the \$500 boar. The visitor to Evergreen farm will find a grand showy lot of brood sows, a major portion of them being above the average herd collection. That the reader may have some idea of the blood lines in the female division, a brief review of a part is herewith given. Hannah Tecumseh (24516), sire Gold Coin 7412 S., he by Tecumseh Chip 2169; dam Hannah (16823), by Black Levi 7431 S., is an excellent breeder and a prototype of her highly-prized and valuable dam, Hannah. Her last farrow, December 27, 1893, four sons and one daughter, are sure to attract the attention of the visitor. Viola (27597), by Comet Chip 8743 S.; dam Perfection Queen 16926, who after years of usefulness was turned off to the shipper for \$51.80. Some of the best in the herd are her descendants. Black Nell (25276), by Comet Chip 8743 S.; dam Iowa Queen (20073), she by Tecumseh Lad 8497, is a valuable acquisition to the herd. She was farrowed April 9, 1892, is a

very desirable animal and should be sent out to some one desiring a first-class Poland brood sow. Another special favorite in the herd is Rosa Lee (24100), by Gold Coin 7412 S., he by Tecumseh Chip 2169 S.; dam Lady Lee (20959), she by Ranger 7475 S., and he by Moore's Excelsior. She is a full sister to Perfection Queen, one of the best show queens on Kansas soil. Well along up in the front of the "line o' queens" is Square Tecumseh (20744), by Gold Coin 7412 S.; dam Perfection Queen (16926) by 7475 S., an excellent and prolific breeder. Hannah (16823), by Black Levi 7481 S., by Levi Arnold 607; dam Blackbird (16824), she by King Lawrence 2046 S. Her little ones are all worthies and seldom stay long if pick and choice are left to the selecting by the buying visitor. But a halt must be called, and that, too, before half the selection lot has been gone over. The reader will have had by this time an introduction to the herd, whose thoroughgoing masters invite all desiring something good to come and visit their herd. In case a notice is sent or addressed to them at Horton, Kas., the visitor will be met at the train and safely landed at the hospitable home of the Winterscheidt's. Later on, points pertaining to the herd will appear in the KANSAS FARMER, and in the meantime, if you wish earlier information, write them, or better, go and see them personally and look over their very excellent herd of Poland-Chinas.

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. Sometimes parties write us requesting a reply by mail, and then it ceases to be a public benefit. Such requests must be accompanied by a fee of one dollar. In order to receive a prompt reply, all letters for this department should be addressed direct to our Veterinary Editor, Dr. S. C. ORR, Manhattan, Kas.

DEAD CALF.—A calf was well in the evening, but was breathing hard next morning and died in twelve hours. The mannyplies were drawn up and hard and had a layer of green stuff between the layers; gall large; liver large and brittle. What was the cause? N. A.

Topoka, Kas.
Answer.—Your description furnishes no clew. You should have had the calf examined by a veterinarian.

SCRATCHES IN MULE.—I have a two-year-old mule that about July 1 began to go forward on her hind pasterns and broke out with scratches. She weaves some when walking and cannot clear the door sill with her hind feet. Toronto, Kas. J. B.

Answer.—Bathe the scratches once a day for two days with a saturated solution of sulphate of copper; then apply the following twice a day till healed: Sugar of lead, 1 ounce; sulphate of zinc, 6 drachms; carbolic acid, 2 drachms; rain water, 1 quart. If the weaving continues give 1 drachm of nux vomica in feed twice a day.

MANGY PIGS.—My young pigs about a week old have something like mange. Their skin is wrinkled and rough and they scratch themselves with their hind feet. Council Grove, Kas. D. P. N.

Answer.—Are you sure your pigs are not sunburned? If so, greasing with carbolized oil or lard will be all that is necessary. If they continue to scratch wash them with warm water and soap and then rub them over with the following: Lard, 1 pound; turpentine, half a pint; melt together, then stir in 1 pound of sulphur. They should be put in clean quarters.

PIGS DYING.—I fed my sows on soaked corn and swill on which they all did well until the pigs were two or three weeks old, when the sows got sick and did not eat much for a week or two; they would tremble about the flanks and shoulders and lie down most of the time. In a week after the sows got sick the pigs began to show the same symptoms, took diarrhoea, drooped around for a week or two then died. The sows got well, but I lost forty-eight pigs out of fifty. Mahaska, Kas. J. W. B.

Answer.—The symptoms given are those of an animal suffering from indigestion, probably from feeding too much corn and being confined in a small pen or yard.

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

Publications of United States Department of Agriculture for July.

A Report on the Uncultivated Bast Fibers of the United States, Including the History of Previous Experiments with the plants or Fibers and Brief Statements Relating to the Allied Species that are Produced Commercially in the Old World. By Charles Richards Dodge, Special Agent. Pp. 54, pls. 5. (Report No. 6 of the Office of Fiber Investigations.)

State Aid to Road-building in New Jersey. By Edward Burrough, Chairman of the New Jersey State Board of Agriculture and State Commissioner of Public Roads. Pp. 20, pl. 1. (Bulletin No. 9 of the Office of Road Inquiry.)

Letter from the Secretary of Agriculture, Transmitting, in Response to the Resolution of the House of Representatives of January 22, 1894, a List of the Special Agents of the Department, Together with a Statement of their Work and the Salaries Received, for the Four Years and Six Months ending December 31, 1893. Pp. 45. (House Ex. Doc. No. 243, 53d Congress, 2d session.)

Library Bulletin—June, 1894. Periodicals and Society Publications Currently Received at the Department Library. Pp. 8. Quarto.

Additional Investigations Concerning Infectious Swine Diseases. By Theobald Smith, Ph. B., M. D., and Veranus A. Moore, B. S., M. D. Pp. 117. (Bulletin No. 6 of the Bureau of Animal Industry.—A scientific treatise on the hog-cholera group of bacteria; an account of experiments on the production of immunity in rabbits and guinea-pigs with reference to hog-cholera and swine-plague bacteria; a discussion of the variability of infectious diseases as illustrated by hog cholera and swine plague; an argument to show that the bacillus of hog cholera cannot be increased in virulence by passing it through a series of rabbits; a deduction as to the fate of hog-cholera and swine-plague bacteria when injected subcutaneously in small numbers in pigs; and a summary of the practical bearing of the investigations described in the bulletin.

Information Regarding Roads and Road-making Materials in Certain Eastern and Southern States. (Furnished by Officials of the Various Railway Companies.) Pp. 29, maps 5. Bulletin No. 7 of the Office of Road Inquiry.)

Experiment Station Record, Vol. 5, No. 11. Pp. v, 1041-1106.

Report of the Statistician. New Series, No. 117. Pp. 8.—A synopsis of the crop report taken from the Report of the Statistician for July, 1894, and embracing returns showing acreage and condition of corn, potatoes and tobacco; the condition of wheat, rye, barley, oats, rice, cotton, grasses and various fruits, and a tabulated statement of the acreage and condition of growing crops.

Report of the Statistician—July, 1894. Pp. 395-444. (Report No. 117, Division of Statistics.—Contains crop report for July; notes on foreign agriculture, embracing accounts of crops in Ontario, crops and live stock in Manitoba, the wheat crop of India for 1894, and report of European agent for the month of June, 1894; reports of United States consular officers from Cochin China, New Brunswick, Ontario and Belgium, and transportation rates.

Important Insecticides: Directions for Their Preparation and Use. By C. L. Marlatt, First Assistant Entomologist. Pp. 20. Farmers' Bulletin No. 19.—A popular description of the preparation and application of insecticides and remedies for external biting or sucking insects, subterranean insects, and insects affecting grain and other stored products.

The Army Worm. (*Leucania unipuncta* Haw.) By L. O. Howard, Entomologist. Pp. 5, figs. 3. (Circular No. 4, second series, Division of Entomology.)—A brief description of the general appearance and method of work, distribution, natural history and habits, remedies and preventive measures, and natural enemies of the army worm.

The Manufacture of Sorghum Sirup. By G. L. Spencer, First Assistant Chemist. Pp. 3. (Circular No. 1, Division of Chemistry.)—A circular of information giving the method producing the best results in making sorghum sirup, as demonstrated in the experiments of the United States Department of Agriculture at Sterling, Kas., under the direction of Mr. A. A. Denton.

Monthly Weather Review—Annual Summary for 1893.—Pp. vi, 377-390, charts 7. (Subscription price 50 cents per annum.)

Monthly Weather Review—May, 1894. Pp. 193-234, charts 4.

Instructions for use of Combined Maximum and Minimum Soil Thermometers. Prepared by Profs. C. F. Marvin and Milton Whitney, under the direction of the Chief of the Weather Bureau. Pp. 8, figs. 2. (Circular G, Instrument Room.)

Instructions for the use of Maximum and Minimum Radiation Thermometers. Prepared by Profs. C. F. Marvin and Milton Whitney, under the direction of the Chief of the Weather Bureau. Pp. 10, figs. 5. (Circular H, Instrument Room.)

Charts of the Weather Bureau. (Size, 19x24 inches.)—Weather-Crop Bulletin

(series of 1894), reporting temperature and rainfall with special reference to their effect on crops. (Nos. 16, 17, 18, 19 and 20, for the weeks ending July 2, 9, 16, 23 and 30, respectively. Semi-daily Weather Map, showing weather conditions throughout the United States and giving forecasts of probable changes.

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MARKET REPORTS.

LIVE STOCK MARKETS.

Kansas City.
August 13, 1894.
CATTLE—Receipts, 7,508 cattle; 233 calves. Dressed beef and shipping steers, \$3 25@3 90; cows, \$1 40@2 75; bulls, \$1 50@1 60; heifers, \$1 40@2 50; calves, \$4 50@5 00; stockers and feeders, \$1 70@2 87 1/2; Texas steers, \$2 80@3 25; Colorado steers, \$3 40@3 90; Colorado cows, \$1 85@1 90; Texas and Indian steers, \$1 85@2 90; Texas and Indian cows, \$1 50@2 35.
HOGS—Receipts, 5,395. Fat hogs sold well but were in small supply. Poor stuff was draggy and uncertain as to price. Heavy hogs, \$4 40@5 25; pigs and lights, \$2 50@4 35.
SHEEP—Receipts, 1,970. Lambs, \$3 50@3 75; Utah, \$1 97 1/2@2 25; ewes, \$2 00; mixed, \$2 50.
Chicago.
August 13, 1894.
CATTLE—Receipts, 18,000. Market strong. Texans steady. Beef steers, \$3 00@4 35; stockers and feeders, \$1 50@2 85; bulls, \$1 85@3 00; cows, \$1 00@2 60.
HOGS—Receipts, 35,000. Market 5@10c higher. Mixed, \$5 00@5 40; heavy, \$5 00@5 50; light weights, \$4 90@5 30.
SHEEP—Receipts, 9,000. Market steady. Natives, \$1 50@3 35; lambs, per cwt., \$2 50@4 20.
St. Louis.
August 13, 1894.
CATTLE—Receipts, 4,500. No good natives. Texans active, top \$3 15. Native steers, common to best, \$3 50@4 00.
HOGS—Receipts, 4,500. Market strong. Bulk, \$5 10@5 20. Top, \$5 25.
SHEEP—Receipts, 1,200. Market strong. Natives, \$2 00@2 75.

GRAIN AND PRODUCE MARKETS.

Kansas City.
August 13, 1894.
WHEAT—Receipts for forty-eight hours, 151,200 bushels; last year, 94,800 bushels. There was but little doing in this grain to-day. The arrivals were free and it was announced that the Northwest would raise one of the largest crops—125,000,000 bushels—in the history of that section, and there was a big increase in the visible, which had a bearish influence upon the speculative market and caused cash stuff here to sell lower and the demand the lightest for some time. Holders, however, were slow to accept the lower offers, and many of the samples on sale were carried over at the close. By sample on track on the basis of the Mississippi river, local 6c per bushel less: No. 2 hard, 4 cars 59 and 60 pounds at 52 1/2c, 1 car choice 60 pounds at 53c; No. 3 hard, 2 cars at 52c, 2 cars at 52 1/2c, 1 car at 51 1/2c; No. 4 hard, 50@51c; rejected, 45@50c; No. 2 red, 2 cars 60 pounds at 53c; No. 3 red, 2 cars choice 58 pounds at 52c and 3 cars choice at 52 1/2c; No. 4 red, 1 car at 50 1/2c.
CORN—Receipts for forty-eight hours, 17,400 bushels; last year, 33,000 bushels. Market slow and barely steady. Not much coming in, but buyers hesitate about paying present high prices, the South still holding back, and white, in consequence, weaker than mixed. By sample on track: No. 2 mixed, 5 cars at 52c; No. 3 mixed, 50@51c; No. 2 white, 3 cars at 52c, 6 cars at 52 1/2c, 3 cars at 51c; No. 3 white, 50@51c.
OATS—Receipts for forty-eight hours, 39,000 bushels; last year, 22,000 bushels. Market slow and lower, the increased supply making buyers backward and bearish and sales in consequence light. By sample on track: No. 2 mixed, 2 cars at 30 1/2c, 2 cars at 31c; No. 3 mixed, 2 cars at 30c; No. 4 mixed, 28 1/2@29 1/2c; No. 2 white, 34@35c; No. 3 white, 32@33c; No. 4 white, 30@31c.
RYE—Receipts for forty-eight hours, none; last year, none. Firm under the influence of scarcity and demand fair. By sample on track: No. 2, 51@52c; No. 3, 48@49c.
FLAXSEED—Steady and in good demand at \$1 15 per bushel upon the basis of pure.
BRAN—Selling fairly at old prices. Bulk, 58c; sacked, 63@64 per cwt.
HAY—Receipts for forty-eight hours, 890 tons. Market hardly so active, but steady. We quote: Fancy prairie, \$7 50@8 00; choice, \$7 00@7 25; low grades, \$5 00@6 00; timothy, choice, \$9 00@9 50.
BUTTER—The market continues firm and demand good for all good to choice table goods; and low grades are taken hold of fairly by packers. Creamery—Highest grade separator, 20c per pound; finest gathered cream, 18c; fine fresh, good flavor, 15c; fair to good, 13c. Dairies—Fancy farm, 14@15c; fair to good lines, 10c. Country store-packed—Fancy, 14c; fresh and sweet packing, 10c.
EGGS—Firm and in fair demand. Fresh, 9 1/2c. **CHEESE**—Kansas and Missouri, full cream, 8c.
POULTRY—The supply of springs good and demand light, although no change in values is noted. Hens steady and inquiry for the light supply good. Turkeys and ducks quiet and very few coming. Hens, per pound, 5c; roosters, 15c each; springs, per pound, 6 1/2c; turkeys, per pound, 5c; ducks, young, 8c; old, 6c; geese, 8c; pigeons, per dozen, 60c; veal, choice, 80@100 pounds, per pound, 4 1/2@5c.
POTATOES—The market is firmer and is being quoted at 55@60c on orders, although growers are selling at 45@50c by the wagon load. Retailers are doing very little.
MELONS—The supply of watermelons continues to be heavy and movement good at steady figures. There are a great many home-grown coming that make the market. Fair stock sells at \$6 00@10 00 per 100, while choice is \$12 00@15 00. Cantaloupes plentiful and bringing 50@75c from growers.
PEACHES—Not many coming in and quality poor. Prices, however, steady. Good, 60@75c per basket, and fancy, \$1 00@1 25.
GRAPES—Arrivals light and market firm. Concord, 4c per pound.
FRUIT—Apples, fancy, per bushel box, 40@50c; choice, bushel, 25@40c.
VEGETABLES—Jobbing prices: Beans, navy, California, per bushel, \$2 10@2 15; country, \$2 00@2 10; cabbage, per 100 pounds, \$4 00; celery, California, 75c@1 00 per bunch.
EARLY VEGETABLES—Cabbage, home-grown, per pound, 1 1/4c; cumin, per dozen, 10@20c; beans, per bushel, 30@50c; beets, per dozen bunches, 10@15c; egg plant, per dozen, 30@40c; new corn, per dozen, 10@15c; tomatoes, half bushel, 50@60c. New onions, 40@50c per bushel. Squash, 20@25c per dozen.
BROOMCORN—Harled, green, 3@3 1/2c per pound; green, self-working, 2 1/2@3c; red-tipped, do., 2 1/2@2 1/2c; common, do., 1 1/2@2c; crooked, half price. Dwarf, 2@3 1/2c.
GROUND LINSSEED CAKE—We quote car lots sacked at \$24 per ton; 2,000 pounds at \$25; 1,000 at \$14 00; less quantities \$1 50 per 100 pounds.
WOOL—Demand fair and prices steady. Missouri and similar—Fine, 8@11c; fine medium, 10@12c; medium, 12@14c; combing, 13@15c; coarse, 11@13c. Kansas, Nebraska and Indian Territory—Fine, 7@10c; fine medium, 8@11c; medium, 10@13c; combing, 12@14c; coarse, 9@10c. Colorado—Fine, 7@10c; fine medium, 8@11c; medium, 10@12c; coarse and carpet, 9@10c; extremely heavy and sandy, 5@7c.
Chicago.
August 13, 1894.

MARKET REPORTS.

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

	High-est.	Low-est.	Closed Aug. 6.	Closed Aug. 13.
WHEAT—Aug.....	53 1/2	53	53 1/2	53 1/2
Sept.....	54 1/2	54	54 1/2	54 1/2
Dec.....	55	54	55	55
CORN—Aug.....	54 1/2	52 1/2	53 1/2	54 1/2
Sept.....	54 1/2	51 1/2	53 1/2	54 1/2
May.....	52	50 1/2	49	52
OATS—Aug.....	29 1/2	29 1/2	30 1/2	29 1/2
Sept.....	30	29 1/2	30 1/2	29 1/2
May.....	34 1/2	34 1/2	35 1/2	34 1/2
PORK—Aug.....	13 40	13 35	13 15	13 40
Sept.....	13 50	13 37	13 15	13 45
Jan.....	13 80	13 55	13 00	13 80
LARD—Aug.....	7 45	7 40	7 17	7 45
Sept.....	7 50	7 37	7 17	7 50
Jan.....	7 55	7 40	7 03	7 55
S. RIBS—Aug.....	7 25	7 12	6 85	7 25
Sept.....	7 25	7 05	6 82	7 25
Jan.....	7 12	6 97	6 60	7 12

WHEAT—Cash—No. 2 red, 53 1/2@54c; No. 3 red, 50c; No. 2 hard, 52c; No. 3 hard, 51c.
CORN—Cash—No. 2, 54 1/2@54 1/2c.
OATS—Cash—No. 2, 29 1/2c; No. 2 white, 32c.
St. Louis.
August 13, 1894.
WHEAT—Receipts, 130,000 bushels; shipments, 7,000 bushels. No. 2 red, cash, 50 1/2c; August, 50 1/2c; September, 51 1/2c; December, 54 1/2@54 1/2c.
CORN—Receipts, 47,000 bushels; shipments, 16,000 bushels. No. 2 mixed, cash, 51 1/2c; August, 53c; September, 53 1/2c; May, 49 1/2c.
OATS—Receipts, 45,000 bushels; shipments, 8,000 bushels. No. 2 cash, 27 1/2c; August, 29 1/2c; September, 30 1/2c.

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WOOL

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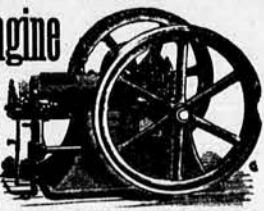
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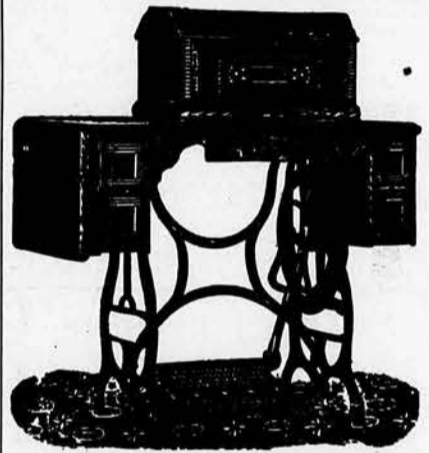
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Economy is a virtue in itself, and, when judiciously applied, it becomes financial wisdom. Of course the family must have a sewing machine, but it is poor economy to pay \$40 to \$60 for what you can have for less than half the money.

READ:—We will deliver, express charges prepaid, at any express office in Kansas, the "Kansas Farmer" high-arm sewing machine, all complete, with full attachments, and warranted

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to furnish to subscribers to the KANSAS FARMER this famous art and literary production. Edited by **WILLIAM CULLEN BRYANT.** Revised to date.

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SPECIAL! To any one who sends ONE DOLLAR to this office for one year's subscription to the KANSAS FARMER and at the same time requests it, we will send one number of PICTURESQUE AMERICA FREE! After seeing one part everybody will want the others at the low rate mentioned above, viz., 10 cents per number. This work was until now sold at 50 cents per part, and over a quarter of a million were disposed of at this price.

PROPOSED AMENDMENT TO THE CONSTITUTION.

Substitute for Senate Joint Resolutions Nos. 1 and 2.

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

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

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

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

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

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

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

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 I am selling excellent farms of 160 acres in Rooks county, Kansas, and in central Nebraska from \$5 to \$10 an acre, and most of them improved. I have 8,480 acres in Lincoln county, Nebraska. If sold quick \$3 per acre, spot cash, will take it, which is only half its value. One of the best stock and grain farms in Kansas, well and extensively improved, and other great bargains. Don't pay rent any longer, but own your own farm. Write what you want to
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 Write for prices and circulars. Address, mentioning this paper,
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PEDIGREE SEED WHEAT. Red Clawson, per bushel, \$1.00. Winter Fife, " " 1.00. Curril, " " 1.00.

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Farmers, Spay Your Sows For fall fattening. Also your Nannies, Ewes and Gip Dogs, with Howsley's Spaying Mixture. Easily used, quick, absolutely certain and safe. Price, \$3 per bottle; \$2 half bottle. One bottle spays one hundred head. Write for testimonials and particulars.

THE HOWSLEY SPAYING CO., Kansas City, Mo.

THE STRAY LIST.

FOR WEEK ENDING AUGUST 1, 1894. Allen county—Jas. Wakefield, clerk.

TWO MULES—Taken up by C. K. Mills (Postoffice Moran), one span of mouse-colored mare mules, 2 years old, no marks or brands; valued at \$30. Labette county—J. F. Thompson, clerk.

MARE—Taken up by B. Cozad, in Mount Pleasant tp., July 3, 1894, one brown mare, fourteen and a half hands high, 7 years old, both hind and left front foot white, shod with light plates all round.

HORSE—Taken up by S. V. Green, in Canada tp., a mile and a half north of Angola, June 23, 1894, one bay horse, 10 or 12 years old, weight about 1,000 pounds, spavin on right hind leg, shod in front.

FOR WEEK ENDING AUGUST 15, 1894. Norton county—D. W. Grant, clerk.

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

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

HOMES IN SO. DAKOTA AND MINNESOTA FOR SALE \$5.00 to \$10.00 per acre. 10 years time, low int.

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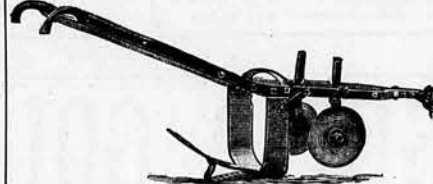
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Table with 6 columns: Cattle and calves, Hogs, Sheep, Horses and mules, Cars. Official Receipts, 1893: Cattle and calves 1,746,828; Hogs 1,948,373; Sheep 569,517; Horses and mules 35,097; Cars 99,755. Slaughtered in Kansas City: 956,792; Sold to feeders: 249,017; Sold to shippers: 360,237; Total sold in Kansas City: 1,566,046.

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