

KANSAS FARMER

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SENATOR BURTON RESIGNS.

J. Ralph Burton on last Monday resigned the office of United States Senator from Kansas. His resignation was sent to Governor Hoch. The offense for which Senator Burton was twice found guilty consisted in selling his services to a St. Louis swindling concern to influence the Post-Office Department to allow said swindling concern to continue using the mails for purposes of fraud.

After his first conviction, Mr. Burton took his case to the Supreme Court, where it was found that some technical errors had been made in the trial and the case was ordered retried. The second trial resulted in a second conviction and reaffirmation of the sentence to pay a fine of \$2,500 and to serve six months in jail. Again the case was taken to the Supreme Court. This time the highest court found no error in the proceedings below, and affirmed the finding. Application was made for a new hearing before the Supreme Court. This application is still pending.

Since his first conviction, Mr. Burton has not been allowed to sit in the Senate nor to appear as a Senator at any of the Departments of the Government. His salary has gone on until now, even though he could render no service.

The resignation was, doubtless, prompted by the commencement of proceedings in the Senate which were to have resulted in Mr. Burton's expulsion on Tuesday of this week.

Mr. Burton's punishment is severe. To spend six months in jail, to pay a fine, and to be forever disqualified from holding office under the United States is in painful contrast to the vision of greatness and honor which must have shone before him on his election in January, 1901. That vision might have been realized. So great a fall can not fail to call forth the sympathy of citizens of Kansas and of the country.

Some there are who excuse Burton's act on the ground that he was no worse than others. Such seem to think his misfortune was in being caught. Doubtless the time is coming and coming soon when a higher standard of official integrity will be required. Mr. Burton is an early victim of the demand that, led by President Roosevelt and made by increasing numbers of Americans, will have nothing short of the "square deal." It will be well for officials and those who aspire to official positions to take due note thereof and govern themselves accordingly.

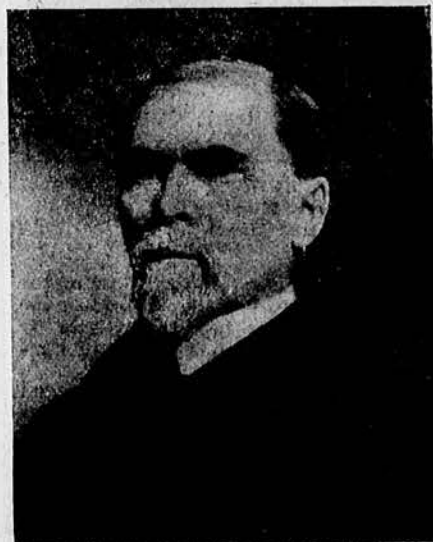
SENATOR F. D. COBURN.

Surprised and gratified is the feeling of all Kansas on learning that Governor Hoch has appointed Secretary F. D. Coburn to succeed J. R. Burton in the United States Senate. The appointment is a most fortunate one in every way and especially on account of the fact that political "bosses" and "gangs" will have no control over him.

In Senator Coburn every worthy interest in Kansas will have a faithful and able representative. The farming and live-stock interests realize that the new Senator has been their friend and helper for many years. The horticultural interests have always found in him an enthusiastic cooperator. When occasion shall arise, the oil and gas interests, the coal, salt, lead, and zinc interests, the cement, clay, and glass interests, the transportation interests, the educational, moral, and religious interests of Kansas will find his information exact and complete, his views well defined, and his action efficient.

Senator Coburn has just passed his sixtieth birthday. He is a native of Wisconsin. As a boy, at seventeen, he

entered the Union army and served until the end of the war. After a brief course at college, he came to Kansas and hired out as a farm-hand to the man who had been his colonel in the



Senator F. D. Coburn.

army. The employer and his brother—Col. J. F. True, now of Topeka—and the future United States Senator all slept in one bed, the Senator in the middle. They fed cattle and hogs all day, rain or shine. The friendship that bound these three men together is of the un-

the office of Secretary of the State Board of Agriculture, to which position he has been reelected by a unanimous vote every two years since that date.

During the administration of Governor Glick, Mr. Coburn was appointed a regent of the Kansas State Agricultural College. His work in this position was of the thoroughgoing character that characterizes all his efforts. The great President Fairchild found him a most energetic and valuable regent. During Governor Stanley's administration, Mr. Coburn was again made a regent of the college. He was a strenuous advocate of the idea that an agricultural college is for the education of farmers, especially in the branches useful to the profession of farming. Mr. Coburn's three children are graduates of the Kansas State Agricultural College.

The office of the Kansas State Board of Agriculture has long been noted for the excellence of the reports of its secretary. Mr. Coburn's reports are classics in their use of the English language, accurate in their facts and statistics, scientific in their reasoning, and are taken as authority above question in all parts of the world. Some of them are used as text-books in institutions of learning, while in the markets of the world they all command implicit confidence.

Mr. Coburn should accept the high office that has been tendered him. His kind of service is needed not only by Kansas, but by the entire country. Once in the Senate, the people of Kan-

science, 26; architecture, 3. Every male student is required in any course to take one year of industrial work in the shops, carpentry, and blacksmithing, and one term of general agriculture. Every female student must take one year of sewing and one term of cooking, even in the general science course. In the domestic science course students are given a special training not surpassed in any school in the United States.

Farming is given as the occupation of the parents of a large number of this year's graduates. Practically all of those completing the agricultural course will return to the farm or dairy or take charge of general or dairy farms. Very many of the men who graduate from the general science course have specialized in agriculture during the last year, and will choose agriculture in some form as a business.

All of the graduates of the mechanical and electrical engineering courses either have accepted good positions or are considering offers.

The three graduates in the course in architecture will open offices for themselves, or with others, as architects and contractors.

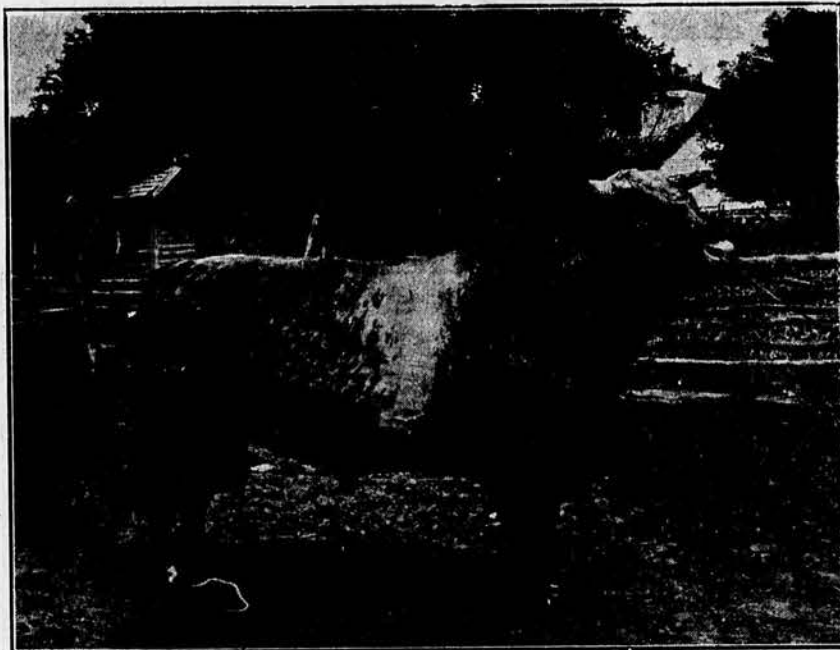
Some of the girls will teach domestic science, others will practice it in their fathers' homes, some probably will soon practice it in their own homes, some will teach in public schools, and some will take special courses elsewhere. But wherever the girls go, we may rest assured that they will keep aloft the standard of good American citizenship founded on the good American home.

SOME CATTLE IN THE VICINITY OF DOVER, SHAWNEE COUNTY.

In the live-stock industry we have the fancier and the feeder. Both are necessary and each is essential to the greatest success of the other.

A visit in the vicinity of Dover, Shawnee County, enabled the writer to come in contact with both phases of the business. The fanciers, Messrs. T. K. Tomson & Son, are well known to the readers of THE KANSAS FARMER, and to the breeding fraternity of Kansas. Their cattle have taken many prizes. Their old herd-header, Gallant Knight, has offspring in many localities. This venerable bull, now 10 years old, still holds his own as to flesh and vitality in spite of the fact that he has done long and good service for his owners during the past, and he still looks as though he were able to continue. The 3-year-old roan bull, Silvery Knight 20653, sired by Gallant Knight, is now relieving his sire of a part of the service in the Tomson herd, and there is every reason to believe that he will produce offspring of as high standard as his sire. Silvery Knight has reached the top notch of beauty as far as color is concerned, according to the idea of the writer. His almost white belt grades off to almost a red, and the silvery roan between the red and the white is responsible for his name. He is a magnificent bull with broad back and finely shaped legs. Messrs. Tomson are justly proud of him.

The subject of color has never been a serious one in the Tomson herd. The visitor will find that the red and roan are exhibited with equal consideration. Silvery Knight is out of a roan cow and sired by a red bull. If a red and roan combination will produce the ideal of the breeder, aside from color, why should he allow color to be the most important point in breeding? Is there not danger of injuring the breed if good animals are discarded because they are not of a solid color? Is not



SILVERY KNIGHT 20653.
Of Herd of T. K. Tomson & Son, Dover, Kans.
(Photographed by THE KANSAS FARMER Man.)

ending sort. At night, during this time, Mr. Coburn wrote his book on Swine Husbandry, which was afterwards published by the Orange Judd Company and is still standard authority.

Money was saved by Mr. Coburn, and a farm was bought and cultivated. After a few years the young farmer was called to the office of Secretary of the State Board of Agriculture. Changing events next landed him in the position of editor of the "Live Stock Indicator," at Kansas City. To this journal, his work brought a prestige upon which the paper lived for several years after his retirement from its editorship. In 1894 Mr. Coburn was again elected to

sas will do well to see to it that he be reelected and retained as long as his working machine remains in good order. Kansas and the entire country are to be congratulated on securing such a Senator.

COMMENCEMENT AT AGRICULTURAL COLLEGE.

Commencement at the Kansas State Agricultural College will occur June 14, 1906.

The ninety-six graduates this year are classified as follows: Agriculture, 21; mechanical engineering, 5; electrical engineering, 19; veterinary (no graduates on account of recent introduction); general science, 22; domestic

color after all of little importance? This is the line of reasoning followed in mating in the Tomson herd and there is no evidence that this policy will be given up.

Tomson & Son are successful breeders. They have had an ideal before them and have worked toward that ideal in spite of criticism. The preference for solid reds has not influenced them nor hindered them in their effort to produce the Shorthorn they believed to be perfection. They probably have not produced their ideal of perfection, but their efforts have been well rewarded.

The writer also visited the farm of Charles Todd, a successful farmer and breeder living four and one-half miles east of Dover. Mr. Todd has a preference for Herefords. His business is an example of the other phase of the cattle industry mentioned above. He believes in pure-bred cattle, and his pure-bred Hereford bull is a good animal. He is putting good backs on Mr. Todd's calves. Were he a Shorthorn bull sired by Mr. Tomson's Gallant Knight, we would have a more complete example of the two phases of the business and their relation to each other.

The raising of pure-bred cattle would not long exist if the farmer did not appreciate the fact that he is able to produce better beefs if he has a pure-bred bull to head his herd. It is Mr. Tomson's business to produce the herd-headers for the feeders' herds. Mr. Todd produces the beef for the public.

Mr. Todd does a general farming business. He milks a dozen cows and sells the butter. His calves are all first-class grades, and they sell well on the market. Mr. Todd farms 460 acres. He raises hay and grain for his steers and hogs, and is making a success of farming.

The report of the President's commission to examine the packing-houses discloses conditions which may well lead to legislation in the interest of health of consumers of packing-house products.

QUESTIONS OF INHERITANCE.

EDITOR KANSAS FARMER:—I have a legal question which I would like you to answer or tell me where I can get it answered.

Suppose a young man marries a widow, the widow having several children. They acquire property together. Finally the man dies leaving no will. In case the widow should die what proportion, if any, of the property would go to the children that the widow had when she married this man? Would it make any difference if the man and woman have other children? G. P. B.

McPherson County,

When a married man dies in Kansas leaving no will and no issue, his property—after payment of debts, etc.—is inherited by his wife. If the widow die without having made a will, her children share and share alike in her property. In this case it all goes to her children by the former marriage.

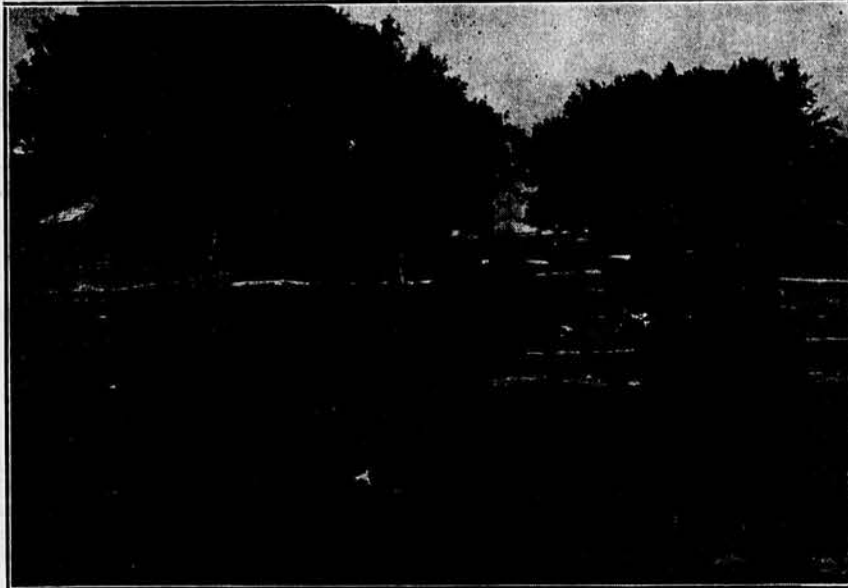
If there are children by the second

marriage, the widow inherits half of the property left by her second husband, and the children by the second marriage inherit the other half of the property at the death of their father. At the death of the mother, her property is divided equally among her several children without reference to what any of them may have received at the death of their father.

The laws governing descents and distributions in Kansas are found in chap-

the temptations which present themselves in connection with consignments of perishable products, such as fruits and vegetables, are too great for some who are in position to profit by a false representation of the condition of the goods. Yielding to such temptation some commission men have ruthlessly robbed those who have reposed confidence in them, and have placed perishable products in their hands.

To provide against such wrongdoing



THORNY LASS AND CHERRY BUD.
A Pair of the Tomson Heifers, Dover, Kans.
(Photographed by THE KANSAS FARMER MAN.)

ter 109, General Statutes of Kansas. All of the provisions of these laws in relation to the widow of a deceased husband are, by section 26, made applicable to the husband of a deceased wife.

Alfalfa-seed is so valuable a crop that many would be glad to produce more of it if it were possible. The conditions favoring the production of seed are not well known. As the result of an inquiry throughout the State, the Kansas State Agricultural College Experiment Station has issued Bulletin No. 134, on "The Alfalfa Seed-Crop and Seeding Alfalfa." This bulletin will not enable one to produce a crop of alfalfa-seed at will, since some of the conditions are beyond our control, but it will be of value to every grower of alfalfa. It may be obtained free by addressing the Agricultural Experiment Station, Manhattan, Kans.

The new milking-machine is now in operation at the Kansas State Agricultural College dairy-barn, and is very successful. It was obtained from the D. H. Burrell Company, Little Falls, N. Y. The price was \$500. The cost

as far as it is possible for a law of the United States to provide against it, the following bill has been introduced by Senator F. M. Simmons, of North Carolina:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Agriculture be, and is hereby, authorized and directed, under such rules and regulations as he may prescribe, to examine and inspect at the place of final destination fruits, berries, vegetables, potatoes, and melons shipped from any State or Territory in the United States to the District of Columbia or any other State or Territory of the United States. The inspectors and subinspectors appointed by the Secretary of Agriculture to make such examination and inspection shall be located at as many of the centers to which fruits, berries, vegetables, potatoes, and melons are shipped as may in the judgment of said Secretary be practicable, and it shall be the duty of said inspectors upon the arrival at said centers of cargoes of fruits, berries, vegetables, potatoes, and melons, transported thence from another State or Territory of the United States, to examine and inspect such cargoes or parts of cargoes as the con-



CHARLES TODD AND SOME OF HIS MONEY-MAKERS.
Dover, Kans.
(Photographed by THE KANSAS FARMER MAN.)

of a suitable engine for running it is \$100 to \$125.

The Interstate Commerce bill has been finally agreed upon by the conference committees of the two branches of Congress. It is a stronger and better measure than even the President had hoped to have passed. THE KANSAS FARMER hopes to be able to give at least a synopsis of its principal features next week.

TO PREVENT FRAUDS ON SHIPPERS OF PERISHABLE PRODUCTS.

Many commission men are honest and honorable in all their dealings. But

signee or consignees thereof shall claim, and so report to said inspector to be damaged or in bad condition, for the purpose of ascertaining whether the same is in marketable condition, and if in marketable condition, whether damaged or not. That it shall be the duty of the said inspectors to give to the consignee of such products a certificate in duplicate containing the result of such inspection, and the said consignee shall transmit to the consignor with his remittance of the proceeds of the sale of said products either the original or duplicate of said certificate and any consignee of such cargoes alleged to be damaged who shall

(Continued on page 612.)

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Agriculture

English Blue-Grass for Pasture.

I wish information regarding English blue-grass. Does it make good hay? Will it stand pasturing? Will it stand drouth? How will it do to sow with alfalfa and cut as hay? We do not know anything about it up here, and if it is a good thing we want to know it. Alfalfa does not make good cow pasture, and I wish your advice as to what grass combines hay and pasture that will do well in Republic County. I would like to get a good pasture-grass, as my pasture is not productive any more. Some tell me English blue-grass does not make good hay. We would like to get something for cow pasture. Alfalfa is a splendid pasture for horses and hogs. Let me know your choice of grass for hay and pasture, drouth considered. I have lived here thirty-five years, and have run up against several dry seasons in that time.

ED. S. MCKAY.

Republic County.

I have mailed you a copy of Press Bulletin No. 125, giving information regarding English blue-grass. English blue-grass will make a very good hay and pasture-grass in Republic County, but I should prefer Bromus inermis to English blue-grass both for pasture and for hay. For pasture, I should advise to sow a combination of Bromus inermis and English blue-grass in preference to English blue-grass alone, seeding about 12 pounds of each of the grasses with 3 or 4 pounds of clover or 4 or 5 pounds of alfalfa per acre. When alfalfa is pastured in combination with grasses, there is little danger of its injuring cattle. However, clover is probably safer than alfalfa where clover will succeed well. The purpose in sowing clover or alfalfa with the grasses is to make a more permanent and more productive pasture, since the legume acts as a fertilizer to the soil. I have mailed you copy of Press Bulletin No. 129, giving information regarding the seeding and culture of Bromus inermis.

English blue-grass hay is apt to be rather tough and wiry unless the grass is cut early. It should be cut for hay before it blooms or about the time it begins to bloom. The Bromus inermis makes better hay than the English blue-grass, and it may be cut late in its period of growth and still make a good quality of hay.

A. M. TENEYCK.

Timothy Hay—Verdigris River Bottom-Land for Alfalfa.

When is the proper time to cut timothy hay? I have been cutting my hay when the timothy is in the second bloom, or just before the seed is formed. I have been told that it makes better hay if cut when dead ripe.

Does Verdigris River bottom-land need to be inoculated to successfully grow alfalfa? Our river-bottom is flooded almost every year, and as there are a great many alfalfa-fields in the flooded district, I should think that would be sufficient to inoculate the soil.

O'DONNELL BROTHERS.

Wilson County.

When timothy is grown alone, to make the best hay for horses the grass should be cut at the stage called "second bloom," which is really just at the stage when the grass has about ceased blooming and most of the blossoms have fallen. When cut at this stage, the greatest weight of crop is secured and the greatest possible amount of nutriment, but the hay is more woody and less palatable than timothy cut earlier or just before it comes into bloom. The maturer hay is relished by horses, and is considered superior to the immature hay because less washy. After the blooming stage, as the timothy matures, the stems become more woody and the hay is less palatable than timothy cut at the stages named above. In fact, if you leave the timothy long after blooming, you might as well cut it for seed and use the straw for hay.

To make the most palatable hay, timothy should be cut just as it is coming into bloom, and when grown in combination with common red clover, it is necessary to cut the crop thus early in order to secure the clover before it has become too ripe to make good hay. The hay cut at this stage is best for cattle and sheep. Timothy should not be cut when in full bloom, since it will then be dusty and especially objectionable for horses. The mature grass contains more of the elements of plant-food than the less mature grass, but as the grass matures it not only becomes less palatable to stock, but also, as a rule, the per cent of protein

decreases in the hay as the plants approach maturity, although the total yield of the mature crop may be greater than the yield of the grass cut at an earlier stage of maturity. The purpose for which the hay is to be used and the relative proportions of timothy and clover will be the deciding factors as to just what stage the crop had best be cut for hay, in order to give the greatest feeding value for the purpose required.

It is my opinion that Verdigris River bottom-land does not need inoculation for the growing of alfalfa. By carefully preparing a seed-bed and sowing good seed when the soil and weather conditions are favorable for starting the crop, a careful farmer should succeed in securing a good stand of alfalfa on the lands in question.

A. M. TENEYCK.

Experiment With Alfalfa on Alkali Land.

EDITOR KANSAS FARMER:—Page 556 of THE KANSAS FARMER for May 24, 1906, contains an inquiry as to growing "Alfalfa on alkali land." As I have had some experience along this line (on white alkali), I venture a little unsolicited information. Three years ago this spring I seeded oats on cane stubble by sowing broadcast and cultivating them in. The field contained some very hard and tough alkali spots. The soil in these spots was so hard and apparently so poor that nothing would grow well on it. As soon as the oats were cultivated in, I top-dressed the alkali ground rather lightly with barnyard manure. As soon as the oats were removed from the field, I plowed the land and to my surprise the manured alkali spots broke up nicely and easily, not mellow like loam, but in pieces roughly cubical in form and from one-fourth to one inch in size. I harrowed thoroughly, kept the ground in good condition until about September 1, and seeded to alfalfa, which took well and grew well, fully as thick if not thicker on the alkali land than on surrounding ground which seemed in much better condition than the alkali land. The results of three seasons' trials have been uniform, namely, fine alfalfa on the alkali land. The plants did not grow quite as tall as on some other parts of the field, but stood thick on the ground and produced hay of superior quality. During the past winter I plowed this land and now have it in corn. The manured alkali land again broke up nicely, except that the alfalfa roots were hard to cut, and the corn is now growing nicely.

I firmly believe that alfalfa can be profitably raised on alkali land if it has been manured, and I also believe nothing disintegrates and improves alkali land like manure. GEO. S. FISHER. Lyon County.

Alfalfa Worth Working For.

I would like to make a suggestion based on several years' experience in Virginia with inoculation. Any man who knows what a plant alfalfa is, I take it, is willing to do all in his power to make it succeed. Failure may come from any one of twenty things, but it oftenest comes from want of inoculation, and therefore we should make sure of that first of all. I used the Department of Agriculture cultures before anything was said of them for the public. I have used them repeatedly since. They are all right. I used soil from the Illinois Experiment Station, where they got soil from the Kansas Station to start their alfalfa. That worked all right. Yet the want of lime, the heaving by frost in the spring, the flush growth of weeds, and similar other causes have prevented my getting always and everywhere just the stand I would like to secure. I think it worth while to inoculate with soil from old fields of alfalfa; to wet the seed with the Department cultures; to transplant alfalfa-plants from an older piece; to use sweet clover in with the alfalfa-seed, and along roadsides and in waste ground for the sake of the consequent inoculation, and I shall also, in connection with all these means and methods, take up Governor Hoard's plan of sprinkling newly seeded alfalfa with a cart-tank containing the Department cultures developed in a large quantity of water until the whole is milky. Alfalfa likes irrigation, and must have inoculation either naturally or artificially.

This latter way of sprinkling seems to come near meeting both demands. I do not think it costs too much to use all the methods I have mentioned to get a good stand of alfalfa. I have cut a fair crop for two summers now, and it is the best feed I ever saw. All that is necessary where trouble is met in getting it established is to set your teeth hard and keep everlastingly at it.

I met a Kansas man four years ago who lives in a region where alfalfa is a common crop now, but for many years was given up as hopeless. He advised me to keep sowing and trying, no matter how I failed nor how many times. He said he sowed it nine years straight on one field before he got it, and then he went on and got a hundred acres of it, and had made his fortune by it. That was good, honest advice, worth any farmer's while to follow.—J. A. W., in Rural New Yorker.

The Application of Power to Farm-Work.

ELWOOD MEAD, CHIEF OF IRRIGATION AND DRAINAGE INVESTIGATIONS, OFFICE OF EXPERIMENT STATIONS, BEFORE ANNUAL MEETING OF MANUFACTURERS OF AGRICULTURAL IMPLEMENTS.

Although agriculture is the oldest of human industries, its greatest improvement has been made in the last hundred years. Up to the beginning of the nineteenth century, men plowed as they did in the time of Pharaoh, and thrashed as they did in the days of Abraham. Progress in agriculture dates from the time when machinery began to be substituted for hand-labor, from the time when it relieved the farm of the hardest tasks and gave greater rewards for the hours of toil. We can hardly realize the changes wrought by the long list of agricultural machines and implements which American ingenuity has brought forth, nor what this continent would be like if we still cut grain with a sickle and thrashed it with a flail.

Machinery enables us to grow the leading farm-products with one-fifth the labor required fifty years ago. In that time, the wages of farm-laborers have more than doubled, yet the cost of producing crops has been lowered one-half and the quality greatly improved. Striking as are these statistics, they give no adequate conception of what agricultural machinery has done for the development of this nation, because its material benefits have been more than equalled by the social and intellectual gain which has come by relieving farmers from deadening toil. In a republic, the quality of the man is of as much importance as what he earns, and while we can not measure by percentage what machinery has done for the intellectual development of the farmer, we know that swinging a hoe does not stimulate thought like operating the lever of a steam-thresher.

We need not undervalue the great achievements of the pioneer farmers to realize how much greater are the requirements of to-day. The courage, intelligence, and skill with which our forefathers used their primitive tools, and the success they won, is a proud heritage. But their tools and their methods will not answer now. In the rapid series of changes wrought by the progress of invention, the old tools have disappeared almost as completely as the Indian and buffalo. Gone also are the skill and dexterity with which the scythe, the hoe, and the ax were used. The trouble we now labor under is that the evolution of farm-machinery has gone on so rapidly that it has outstripped the farm-laborer's growth in mechanical skill. He has forgotten the old methods and not fully mastered the new.

The American farmer uses power machines because he can not afford hand-labor. It is too scarce and costly, and he is now facing certain tendencies which make his success more dependent on the economics of power than ever before. Other factors which enter into the cost of producing crops all tend to an increase. There is no more cheap, fertile public land. The price of land is rising; so is the outlay for maintaining its fertility. Farm-labor was never so scarce nor wages so high as now. The American farmer has to compete with the foreign farmer in prices he gets for his produce, and with the American railroad, mine, and factory in the prices he pays his help. The home competition in labor is becoming more direct and severe each year.

The building of suburban steam and trolley lines, the extension of telephones into farming districts, and free rural delivery, are bringing the city and country into a constantly closer union. Farm- and city-laborers meet and compare notes, and the farmer's son or the farm-worker no longer hesitates to try his fortune in the factory if wages or conditions of labor seem more attractive. With the increasing wages and shortened hours of labor in the factory, he is insisting more and more that farm-work shall have the same privileges. In any event the influence of organized labor and the rising wages of the cities is felt to-day in every ag-

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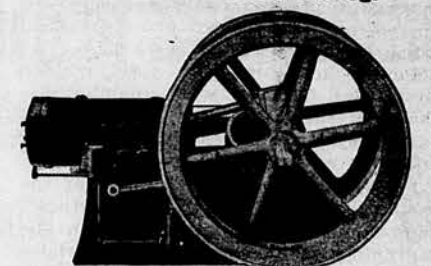
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ricultural community. Men no longer work from sunup to sundown and where labor is scarce, as in California, the hours are as rigorously restricted as in any city factory. If American agriculture is to maintain itself in the markets of the world, it must do this through a continued improvement in machinery which will make the individual man more and more efficient.

It is not possible to say how this will be done with respect to any particular machine, for the work of the inventor is always an advance into the unknown, but we may with profit consider some of the general influences which should be utilized to secure improvement in design and more efficient use of machinery. The first thing is better training for the American farmer in mechanical principles. American farm-machinery is not rendering the service it should, because it is not selected with wisdom and not operated and cared for with skill. We buy a plow which needs a team of 1,700-pound horses to pull it, and then hitch it behind a team of 1,200-pound horses. The result is neither plow nor team is a success. We leave our wagons, our mowers, and our self-binders exposed to rain and sun, thus lessening both their life and their service, and we do this without shame or reproach. We need in this country a public sentiment which will put the farmer who neglects or misuses machinery on the same plane with the farmer who has poor breeds of stock or who neglects to care for them. We need investigations which will enable farmers and manufacturers to adapt machinery more perfectly to the power that is to run it and the strength that is to control it. How much does the average farmer to-day know or think about the power required to pull any machine or the importance of having the size of machines adjusted to the size or number of horses which he keeps? And how much energy in this country is wasted by teams which walk too far for they work they do or which are worn out by being harnessed to a load too heavy for them to pull? Investigations carried on last year by the Iowa State College, to determine the relation between the weight of horses and the draft of breaking-plows, show how valuable to both the farmer and the maker of machinery a better understanding of these matters would be. When we have studied the relation of the power needed to operate machinery to the size and weight of the horses which supply this power, as we have studied the chemistry of feeding animals or the relation of fertilizers to the needs of soils, the factory will make better tools and the farmer will make more money out of their use. There has, however, been so little systematized study of the principles involved in the operation of farm-machinery and so little attention given to instruction in farm-mechanics in our agricultural colleges and technical schools, that manufacturers have had difficulty in securing properly trained men; that is, men who combine mechanical training with a knowledge of agricultural science and practical familiarity with farm life.

I have thus far spoken solely of the use of animal power as a substitute for hand-labor. We are, however, in the beginning of another evolution whose possibilities we are unable to forecast. This is the employment of steam, wind, gas, and electricity as sources of power in farm-work. How far these are to take the place of both men and animals we can not predict, but every year sees their uses widening. Wind, which was at first used almost solely for pumping water for live stock, is being used to cut feed, saw wood, run the machinery of dairies, and it seems possible that with the improvements in electrical storage, it may in time light the farmer's house, furnish the heat to cook his dinner and iron his clothes. The potential power of the streams which rise on our mountain summits and flow down to the sea is enormous. Much of this is unutilized because heretofore the factory had to go to the stream and this was not possible, but with the improvements in electrical transmission the stream now goes to the farm and the factory. The waterfalls of the Sierras now generate electricity which pumps water for the irrigation of farms in the Santa Clara Valley, 240 miles away. Steam- and gas-engines plow and pulverize the soil, plant the seed, pump water for the irrigation of the crop, run the cultivator, the harvester, and thrasher. Some are so nearly automatic that they almost displace the man as well as the horse. Gas-engines used in lifting water for irrigation have run day after day an entire season with no attention except refilling the oil-cup and the gasoline-tank.

Some farms now have more power and more complicated machinery than many extensive factories. On one ranch in California, the farm-machinery operated by gas or steam cost over \$60,000, and the farm-equipment of this character is being constantly increased. This kind of power seems to be displacing the horse just as the locomotive has supplanted the stage-coach. The automobile can go faster and longer than the trotter. The steam-plow in some places does better work than the horse and does it cheaper. This year a gasoline-engine attached to a harvester on the water-logged lands of the Northwest was able to run in fields where horses mired. Throughout the southern part of the United States there is a great field for the steam- and gas-motor. They can operate in the summer's heat, amid the mosquitoes and flies, without discomfort and loss of efficiency which attends the use of the horse and mule.

To me, the most interesting feature of the Lewis and Clarke Exposition, and one which was most significant of our advanced civilization in this country was the splendid display of farm-machinery in the agricultural building. No one could look at this without having pride in the men who require and use such tools. I filled page after page of my note-book with a list of these evidences of American inventive skill. It includes dairy-machinery which makes better butter than can be made by hand; a 30-horsepower steam-plow which will turn over the soil of a good-sized farm in a single day; a 40-horsepower traction-engine which hauls its load over the country roads at five miles an hour and requires as much mechanical skill to run it as a locomotive.

The full benefits of farm-machinery are not realized because the average farmer has not the mechanical training or the requisite skill to get the best results out of these complex tools. This has been brought home to us in our studies of pumping-machinery used in lifting water for irrigation. Two years ago I gathered the results of eighteen gasoline-pumps installed in a valley in the Southwest. Thirteen of these had been abandoned, not because irrigation by pumping did not pay, but because the men who bought this machinery were not equal to keeping it in order. They had never before tried to run anything more complicated than a mule, and the change to a gas-engine was too violent.

This year our investigations have included a large number of field-tests of pumping-machinery in Louisiana and California. Millions of dollars have been invested in this kind of machinery. Measured by value, nearly one-tenth of the irrigated products in this country are now grown with water lifted by pumps. In the rice districts of Louisiana, one-fourth of the outlay in growing a crop is for pumping. Manifestly the efficiency of this machinery has much to do with the profits of farming. In the field-tests made this year, the highest efficiency was sixteen times the lowest, or 5 per cent for the poorest pump and 82 per cent for the highest.

Last spring I called on the owner of one of the largest ranches in Southern California—a ranch where much of the water used in irrigation is pumped and where in consequence the importance of proper mechanical training has been made conspicuous. I told the owner of this ranch that our office wished to obtain the services of a man who had a knowledge of irrigation methods and who, in addition to that, was a skillful mechanical engineer; that we wished him to do two things: investigate the efficiency of the pumping-machinery in a particular district; advise the farmers how to correct defects where they were observed, and show them how to use water in the right way. The reply was that if his ranch had such a man, the department could not obtain him; that such a man would be worth \$20,000 a year, and that they were prepared to pay for the man who promised well a salary of \$5,000 a year. This, of course, is an extreme case, a case where large interests were involved, but a better knowledge of mechanical principles to the small farmer and to the maker of farm-machinery in the country at large is relatively just as important.

The importance of mechanical knowledge to the American farmer is just beginning to be appreciated. Until within the last ten years training in farm-mechanics was practically ignored by our agricultural colleges, but in recent years some of the most progressive have established courses of instruction and begun investigations. The results of this innovation have been most en-

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couraging. These colleges have, however, labored under one serious difficulty. It takes all the time and strength of instructors to do the work of the classroom. They are not in a position to conduct investigations and collect data needed for their students, and there is at present a lack of any systematized information for use in the classroom. Realizing this fundamental need in the training of the future generation of farmers, Dr. A. C. True, director of the Office of Experiment Stations, in his report for 1904, recommended that the irrigation and drainage work of this office be extended to include investigation in the application of power to other agricultural purposes besides irrigation. In support of this he made the following statement:

"The need of a better understanding of the principles of mechanics and of better training in the use of machinery is one of the features of American agriculture which has not yet been adequately recognized in the courses of instruction in our agricultural colleges or in the work of this Department. We are the greatest makers and users of farm-machinery in the world, and it is owing to this fact more than to any other single cause that we have been able to maintain our agricultural supremacy in the markets of the world. The cost of this machinery to the farmer is one of his heaviest outlays, and the gain by increasing its life through better care or its efficiency through more skillful operation can hardly be overestimated. The difficulty of doing this is greater to-day than ever before. The character of this machinery every year becomes more complicated, requiring increased knowledge of engineering principles on the part of farmers. The traction-engine, the steam-plow, the combined harvester and thrasher operated by steam power, the automobile, the growing use of electricity as a motive power on the farm, the machinery now required in dairies, in the cultivation and harvesting of rice, in the growing of sugar-beets and manufacture of beet-sugar are illustrations of the momentous changes in the character of farm-machines which have taken place in the last fifty years. The increase in skill and mechanical knowledge required by farmers to operate these complex and costly machines compared to what was needed to operate the primitive tools of half a century ago can not be stated in percentages. The leading European Governments have recognized the revolutionary character of this feature of farm-life more clearly than we have. Especially is this true of Germany and France, where both Governments are continuously investigating this subject. The recent investigations of the German Government to determine the possibility of using alcohol, which can be purchased at home, to supplant gasoline, which is not produced in Germany, to operate farm-engines is an illustration of the governmental studies being made in Europe."

This extension of the work of the Agricultural Department was approved by Secretary Wilson, who supplemented Dr. True's recommendation by an extended statement, which will be found in his report for 1904. From this I have taken the following extracts:

"Closely related to the healthfulness,

convenience, and cheapness of farm-buildings is the right selection, care, and use of farm-machinery. The studies of pumping-machinery have shown that the most important factor in its successful use is the mechanical skill of the farmer, and we are beginning to understand that the increased complexity and cost of farm-machinery make the education of the American farmer along these lines more and more desirable.

"Realizing the need of improvement in these matters, and partly to meet the requests of implement manufacturers for young men having agricultural and mechanical training which will enable them to design and construct implements suited to the conditions of the American farm, a number of agricultural colleges and experiment stations have inaugurated courses of instruction and begun systematic experimentation for the purpose of bringing about a general diffusion of intelligence about this feature of farm-work. They have appealed to this Department for aid in this work similar to that already given them in other lines of agricultural investigation."

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October 2-4-5, 1906—Glasco Live Stock Association sale of pure-bred stock, Glasco, Kans.
October 10, 1906—H. L. Faulkner, Jamesport, Mo.
October 11, 1906—American Galloway Breeders' Association Combination Sale, Kansas City, Mo.
October 17, 1906—W. J. Honeyman, Madison, Kans.
October 17, 1906—Poland-Chinas, W. A. Pruitt, Asherville, Kans.
October 18, 1906—Poland-Chinas, W. A. Davidson, Simpson, Kans.
October 20, 1906—W. R. Dowling, Norcat, Kans. Poland-Chinas.
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October 30, 1906—Leon Calhoun's sale of Poland-Chinas at Atchison, Kans.
November 1, 1906—Frank Zimmerman, Centerville, Kans.
November 6, 7, 8, 1906—Sale of all beef breeds, Kansas City Sale Pavilion, R. A. Ford, Lawson, Mo., Manager.
November 8, 1906—T. P. Sheehy, Hume, Mo.
November 13, 1906—Howard Reed, Frankfort, Kans.
November 16, 1906—G. M. Hebbard, Peck, Kans.
November 20-23, 1906—Blue Ribbon sale of all beef breeds, D. R. Mills, Mgr., Des Moines, Iowa.
November 27, 1906—L. C. Caldwell, Moran, Kans.
December 4, 1906—Poland-Chinas, Lemon Ford, Minneapolis, Kans.
December 8, 1906—American Galloway Breeders' Association Combination Sale, Chicago, Ill.
December 11-12, 1906—James A. Funkhouser and Charles W. Armour, sale pavilion, Kansas City.
Improved Stock Breeders' Association of the Wheat Belt—November 13, 14, 15, 1906, at Arkansas City, Kans., I. E. Knox, Nardin, O. T., manager; Dec. 5, 6, 7, 1906, at Anthony, Kans., Chas. M. Johnston, Caldwell, Kans., manager; Dec. 13, 19, 1906, at Wichita, Kans., J. C. Larrimer, Derby, Kans., manager; Feb. 13, 14, 15, 1907, at Caldwell, Kans., Chas. M. Johnston, Caldwell, Kans., manager.

Railroad Rates on Breeding Stock.

EDITOR KANSAS FARMER:—I have noticed with great pleasure the zeal exhibited by some of the Kansas railroads in the education of the farmers along their lines, in the improvement of corn-culture. Their efforts in that line are certainly very commendable, though, of course, not entirely disinterested. When a railroad does any business through mere benevolence, the millennium will surely have arrived. Yet we should give them full credit for the good they do, no matter what the motive.

I now wish to call the attention of all railroad officials to another line in which they may greatly benefit their farmer patrons. The improvement of the stock of Kansas is of as great consequence as the improvement of corn culture, and, strange to say, the railroads are the greatest stumbling blocks the farmers and stockmen have to contend against in that line of improvement. By their excessive freight rates and harsh and unreasonable rules for shipment, they make it as difficult as possible for the breeder and his customers to get together and do some business. In fact, they do not want any traffic of this kind at all, and make their freight rates and rules for shipment in accordance with the end desired. They now have a rule requiring an attendant to go with every animal, crated or otherwise, shipped outside the limits of the State, and he must pay full fare going and returning. Their rules also demand an attendant for every animal uncrated, no matter where he is consigned. In Canada the freight on such shipments by railroads is about one-third of the rate in Kansas, and the railroads in that country make the rules of shipping as easy as possible for the shipper. What a contrast! I have imported fine bulls from Canada, some crated and some not, and all came through with dispatch, and with no attendant, all arriving in good condition, having been fed and watered through the whole journey. D. P. NORTON.

Morris County.

Why I Breed O. I. C. Swine.

The following paper was prepared for the Kansas Improved Stock-Breeders' Association's annual meeting by Dr. O. L. Kerr, Independence, Mo., breeder of the Grand Champion and many other prize-winners at the Louisiana Purchase Exposition and other great shows:

To the Hog-Breeders of Prosperous Kansas:—I thought it appropriate to select for a subject at this time a few reasons why I am a breeder of O. I. C. We will first consider what a hog is, and its mission (I am now speaking of the swine variety).

The hog is conceded to be the farmer's best money-maker, for if he has good hogs they are currency at any time. We will first consider the disposition of the O. I. C. They are kind and peaceable at all times, and I feel sure you will agree with me that it is

much more satisfactory to care for the pigs and mother at farrowing time with your hands than to use a pitchfork. When the sows are quiet they do not jump up and mash their pigs when you go into their beds, and this is of great importance, especially in winter. The O. I. C., without question, farrow more good pigs in a year than any other breed. They are not only prolific, but are even breeders and good sucklers. I had eleven sows farrow 159 pigs. Three of the eleven raised 30 shipping pigs and 3 feeders. The most remarkable feature of the breed is that we never have trouble with a gilt in farrowing, and all of you are aware that the death rate is high in the Poland and Berkshire at this period. The O. I. C., unlike the old Chester, is a rapid-maturing hog, will fatten at any age, has a coat of hair second to no breed, therefore is no more subject to skin disease or sun crack than any other hog. The average man judges hog hide as he judges the teeth of a negro, the backness of skin by contrast hides the defect of the pearly masticators. I think the fact that any foreign substance is a contrast to the O. I. C. hair and skin is a point in our favor, for I have known black hogs to die from skin disease before the owner would detect its presence. Mange has been the great war cry from the breeders outside the white-hog tribe, until we have proven to them by actual demonstration that they can not lay claim to any superiority of endurance over the O. I. C. The O. I. C. is especially good for the cattle-feeder. Any cattleman knows that frequently hogs will get their growth at 200 to 350 pounds and will stop. It is no longer profitable to feed them, the cattle are not ready for market, and the feeder does not know where he can get hogs to take their place. The O. I. C. will make the same growth with a given amount of time and feed as any other breed, will be ready to ship at any time, and will feed to profit up to 600 pounds.

When they come to the market, they are in demand because they are uniform in color and type, dress clean, cut out well, and the skin is white. The O. I. C. is a white man's breed of hogs. They will do for me and are good for Kansas.

Information on Sheep-Feeding.

I have read your bulletins for several years, and I have read of your making all kinds of experiments in cattle- and hog-feeding, but have not read of your making experiments in sheep-feeding.

I have fed cattle for the last ten or fifteen years until this spring. I fed a bunch of sheep on shelled corn and alfalfa hay, and they did fine. In cattle-feeding, I find it does not require nearly as much hay when the corn and cob are ground together as it does where the pure corn-chop or shelled corn is fed, and I think the cattle do better to have the cob ground in with the corn. I think the same should apply to sheep, but my partner thought it would not do to let the sheep eat the cob, as the stomach of the sheep was different from that of cattle and that it would kill them.

If you have ever made any experiment of this kind in sheep-feeding and have a bulletin on the subject, you would do me a great favor by sending it to me. If not, please give me your opinion on the subject, as I would like to feed another bunch of sheep this fall and would like to get all the information on the subject that I can.

Johnson County. Z. GARDNER.

We have been feeding sheep experimentally at the college station for the past two years, and in the near future will publish a bulletin giving some of the results.

I am glad to note that you have been successful in your efforts, and believe you will find it a profitable business if properly managed. Sheep are ruminant animals, the same as cattle, consequently, can make good use of roughage, but they chew their grain much more thoroughly than cattle.

I do not know of any experiments for testing the value of corn-and-cob-meal for sheep. In practically all of our sheep-feeding experiments we have used the whole grain, the sheep being able to grind it more cheaply than it can be ground by machinery. For roughage I do not think there is anything that can equal alfalfa hay of good quality.

Our last test was to compare Kafir-corn, corn, emmer, or spelt, and barley as grain-rations for fattening sheep. Tests were also made with both corn and Kafir-corn to which a small amount of cottonseed-meal was added. Of the four grains, barley made the largest daily gain during a period of 68 days, spelt or emmer coming second, Indian

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OF THE

Tebo Lawn Herd of Shorthorns

Fine Stock Pavilion

Kansas City, Mo., June 19, 20 and 21, 1906

260 World's Choicest Shorthorns 260

Including 60 cows with calves at foot and the celebrated herd bulls, Choice Goods, Prince of Tebo Lawn, The Conqueror and Golden Goods.

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For catalogue address

E. B. Mitchell, Manager

Clinton, Missouri

corn third, and Kafir-corn fourth. Kafir-corn and cottonseed-meal made slightly better gains than shelled corn and cottonseed-meal. The gains with these different rations varied from 21½ pounds to 26 pounds per head for the 68 days of the experiment. This test seems to indicate that spelt or barley is slightly more valuable, pound for pound, than shelled corn for fattening sheep. Experiments have shown that nothing is made by grinding grain for sheep.

If you are on our bulletin mailing list you will receive the results of our sheep-feeding experiment as soon as it is published. G. C. WHEELER.

Cane-Seed for Hogs.

I have 50 or 60 bushels of cane-seed which has been heated in the bin and will not grow. Is it worth anything to feed to hogs, and if so what is the best way to feed it? A SUBSCRIBER.

Republic County.

In composition, cane-seed is very similar to Kafir-corn, having slightly less carbohydrates but being richer in fat. An experiment was conducted at the Kansas Station recently to test the value of cane-seed as hog-feed. Four lots were included in this test. Lot 1 received ground cane-seed four-fifths and soy-bean-meal one-fifth; lot 2 received Kafir-corn-meal four-fifths and soy-bean-meal one-fifth; lot 3, meal one-fifth; lot 4, received corn-meal alone. During this test the daily gains were as follows: Lot 1, 1.02 pounds; lot 2, 1.37 pounds; lot 3, 1.29 pounds; lot 4, 1.07 pounds. The cane fed was valued at \$12 per ton, Kafir-corn \$13, corn \$14, and soy-bean-meal \$25. On this basis the gains cost per 100 pounds, for lot 1, \$4.26; lot 2, \$3.37; lot 3, \$3.73; lot 4, \$3.92. You will see that the cane fed gave rather poor results in comparison with Kafir-corn and corn-meal, although over a pound a day for a month is a fair gain, and I would suggest that you could certainly get some good from this cane-seed which has been damaged by heating.

G. C. WHEELER.

Animal-Breeding in Europe.

W. J. KENNEDY, VICE-DIRECTOR OF EXPERIMENT STATION AND PROFESSOR OF ANIMAL HUSBANDRY, IOWA AGRICULTURAL COLLEGE. READ BEFORE AMERICAN BREEDERS' ASSOCIATION, LINCOLN, NEB.

Since practically all of the breeds of domesticated animals in this country owe their origin, and in the majority of instances their present state of perfection, to the work of the breeders of some one or other of the various European countries, it is nothing more than natural that we, as American people, should be interested in the methods practiced in the production and development of these breeds. This is especially true so long as we continue to return to the mother land from time to time in search of new and supposedly better blood to replenish our American-bred stock. The advisability or non-advisability of continuing these importations is a subject which affords many points for discussion. To continually go to other countries for new blood may lead the people of the other countries to think that we can not breed the best in this country. Be that as it may, we should always be on the lookout for the kind of blood in our breeding animals which will do the most good. For many years to come the importations of high-class individuals can not but be of untold value to our live-stock industry, but the time has long since been at hand when much more discrimination than is too often observed should be used in the purchase of animals from across the sea for breeding purposes.

While it is true that the majority of our breeds of animals have been greatly improved through the importation of high-class sires and dams, in far too many instances our people have over-estimated the significance of the term "imported;" thus many an inferior sire has been selected over an American-bred animal of much more merit, simply because the first-named animal was bred in a country which has produced a considerable number of real high-class animals. So long as our American importers make their selections with the view of improving our animals, thus selecting nothing but the very best, they will be public benefactors in the fullest meaning of the word; but when an importer goes across the water for the purpose of purchasing the greatest number of animals possible, without much regard for merit, with a given amount of money with the intention of peddling them off at the largest possible prices to our American people simply because these animals are "imported," he should be classed with the seller of mining stock and lightning-rods, because he has no

useful place in the breeding business.

The European breeders, like those of other countries, are trying to produce those types of animals which best answer the needs of the respective countries. This seems to be the general rule. Some countries, however, are catering in a measure to the demands of America and other countries which furnish an outlet for a considerable number of their surplus animals. In this respect it is very largely confined to the matter of color, and in some instances the question of size. To the persistent and careful work of the individual must be attributed the major portion of the credit for the formation and development of the various breeds. This is especially true of the work in Great Britain. In several of the countries in continental Europe, Government aid has done and is doing a great deal in building up and maintaining the qualities which have made the breeds famous. This is also true of Ireland at the present time. The Irish Department of Agriculture is annually expanding very large sums of money for the purpose of animal improvement. One of the very first things which impresses you in every one of the countries where good animals are produced is the strong love for good animals on the part of the breeders and farmers. What could be of more importance? This love for animals prevails on every hand. From the King or Emperor down to the very humblest laborer there is a strong and striking love for real high-class stock. These people are not merely owners of animals but they are students of animal form, of animal-breeding, and of animal-feeding, and they are familiar with the history of practically every animal on the place, a factor which stands them well in hand during mating season.

A factor which has done a great deal for these people in this respect is their excellent system of breeding and their fat-stock shows. These people get a great deal more good out of these shows, as a class, than do our own people. It is a sight never to be forgotten, to witness the throngs of people at one of these shows, who, with catalogue in hand, make a critical examination of each animal in regular order throughout the entire show. The shows are exceptionally well managed, from the standpoint of affording the greatest possible amount of educational advantage. The animals are stabled not only according to breeds, but according to classes. All bulls of a certain age of one breed are to be found in consecutive order in the same row of stalls. The judging is always completed early the opening day, and the awards hung up in a conspicuous place at the head of each animal, so that there is not the slightest difficulty in finding all of the prize-winning animals. This sensible system of stabling, combined with an equally good system of cataloging, renders the inspection of the animals a very simple and highly instructive task. This systematic inspection of the animals commences immediately after completion of the judging work and continues with ever-increasing interest until the close of the show. It is here that the young men learn the lessons and receive the inspiration which leads them on to become the breeders of their day and age. Those of more mature age, and oftentimes having had long years of successful breeding work, are as eager for a chance to make a critical examination of the prize-winners as are the younger men, for these men of experience have long since learned that a string of good young things are not the result of chance or accident, but are the never-failing indication that a good sire will be found on the farm from whence the youngsters came. It is in this manner that many a successful sire has been located.

These stock shows have had a wonderful influence in the training of the young men in becoming experts of animal form, and thus better and more successful breeders of pure-bred stock, as a clear-cut knowledge of animal form is indispensable in this work.

Another feature of European stock-breeding operation which has been of untold value to her people is the well-defined aim or purpose which every successful breeder has in mind at all times. These men are not breeding at random, with the hope of getting an occasional good animal. Each successful man has a very clear idea of the type of animal which he wishes to produce, and he never stops short of getting the same. Even when he has reached his original ideal he is not satisfied but seeks to do even better work in the future. By a large and successful breeder of live stock, the European people do not mean a man who owns a large number of animals, but the man who succeeds in annually pro-

ducing a high percentage of meritorious animals. On many of the most successful stock-farms in Europe the breeding females in the herd do not number more than thirty. These men have learned that a medium-sized herd of high-class animals is much more remunerative than a large number of mediocre quality. It is not policy to breed from several families or various types with the hope of pleasing the buyer. These people aim rather to breed one, or possibly two, types or families and to have them of such high excellence as to attract the buyers. On every hand there is, to be seen unmistakable evidence of breeding being conducted along definite lines for the set purpose of producing a desired type of animal. It has been through the persistency of this work that the majority of men have reaped success in their breeding operations.

One of the most striking features of all European stock-breeding operations is the permanency of the work. Practically all of the most successful present-day breeders exemplify the advantages of the son pursuing the work which has been carefully planned and commenced by the father, or perchance, his grandfather. It is on such farms as these that the best animals are invariably produced. Good herds or flocks of breeding animals, whether it be horses, cattle, sheep, or swine, can not be built up in a year, nor in ten years, but are the labor of a lifetime, or much better, that of two or three generations. The work of the father is taken up by the son, who, if a careful and observant man, will reap the results of his father's labors. No better illustration of this fact can be cited than the instance of the Marr family. The foundation of the famous Short-horn herd, which made such an enviable reputation for the late William Marr, was laid by his father. The son lived long enough to achieve a lasting name for himself, but had he been spared another twenty years to carry out the plans in hand, much greater would have been the reputation of Uppermill. As the writer carefully examined each animal in the herd, a few days previous to that wonderful sale, he could not but feel that the world at large had suffered an untold loss in the death of the late Mr. Marr. With a new set of farm-buildings almost completed, thus better accommodations, a select lot of herd-bulls, and the very choicest bunch of Misses, Princess, Royals, and Roan Ladies that ever set foot on Uppermill, the conditions were ripe for wonderful results. It is doubtful if any other feature of the European breeding work has been more productive of good results than the permanency of work as exemplified by the son following in the footsteps of his father, and thereby achieving results which are well-nigh impossible under any other system of management. These people are exceedingly careful in the selection and use of their sires, a point which has had a most wonderful influence. Much stress and attention is given to the importance of using a mature or proven sire. It is the exception to find a successful breeder who will use an untried sire. Many of the most careful men, rather than to use a young sire no matter how good the individual or how fancy his breeding may be, prefer letting him to some other breeder for a couple of years until they are sure of his stock, or to retain him in their own herd or flock and use him on a few females until he has proven himself worthy of a place at the head of the breeding herd or flock. By the adoption of this method much time is saved and no small amount of disappointment is avoided. Another interesting feature of their work is the fact that each breeder keeps two or three different sires at the same time for the purpose of mating the various females with the sire best suited to their needs. In this manner the general average excellence of the young stock is very much improved. Some females breed well to one kind of a sire and give very disappointing results when mated with another sire which may suit a large percentage of the females in the herd or flock. When several sires are used in the herd, it is not so difficult to use an occasional home-bred animal for breeding purposes.

While fads, such as pertain to the preference for certain strains or families and also as regards color, exist in a measure, the influences of the same have not been so detrimental as in America. This is especially true of the work of the younger generation of breeders. Some of the older men are rather slow to introduce fresh blood, even though it would be more than likely to have a beneficial influence on the herd or flock. In Shorthorn breeding circles the color fad, except to supply the North and South American

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Sanitary Hog Troughs

Will not rust or rot out and will last a life time. Every breeder should use them. Prices furnished on application.

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Cure the lameness and remove the bunch without scarring the horse—have the part looking just as it did before the blemish came.

Fleming's Spavin Cure (Liquid)

is a special remedy for soft and semi-solid blemishes—Boo Spavin, Thoroughpin, Splint, Curb, Capped Hock, etc. It is neither a liniment nor a simple blister, but a remedy unlike any other—doesn't irritate and can't be limited. Easy to use, only a little required, and your money back if it ever fails.

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describes and illustrates all kinds of blemishes, and gives you the information you ought to have before ordering or buying any kind of a remedy. Mailed free if you write.

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Every farmer should dip his stock in DIP-OLENE—promotes health, Prevents Disease

It kills sheep ticks, lice on hogs, horses and cattle, fleas on dogs. Cures scab, eczema, mange and all skin diseases on domestic animals; lice on chickens. DIP-OLENE DOES IT IN A MINUTE without injury. One gallon makes 100 gallons of dip ready for use. Write today for price and FREE booklet, "DIPPING FOR DOLLARS." learn how easy it is to dip.

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trade, has not received much attention. On every hand you will find roan bulls at the head of the very best herds, and the pure white bull is by no means uncommon in such a capacity. Taking the country as a whole, individual merit and performance are given preference over fancy breeding or color in the selection of sires or females in the strengthening or founding of a flock or herd.

The climatic conditions of Europe and especially that of Great Britain, in the estimation of its people, are admirably suited to the production of first-class live stock. Being a comparatively small country and totally surrounded by water, the conditions are fairly favorable for a rather uniform temperature. This is especially true of the greater part of England. In Scotland, especially in the northern part, the winters are cold but the summers are also cool, thus excellent for grazing purposes as the animals are neither troubled with a hot sun nor with insect pests. The atmosphere, as a rule, contains a great deal of moisture, which is claimed to have a very beneficial influence on the coat of hair, inducing a heavy growth of fine, mossy hair which adds to the general appearance of certain breeds of animals.

Animal-breeding in Ireland is making very rapid progress, due largely to the very helpful influence of the Irish Department of Agriculture, which annually expends several hundred thousand dollars through a system of premiums, loans, and nomination fees. A great deal of good work has resulted from their scheme of awarding liberal premiums to specially selected sires representing the best-suited breeds of horses, cattle, and swine. These animals are very carefully examined and they are awarded premiums amounting to as high as five hundred dollars in the case of stallions, one hundred dollars in bulls, and twenty-five dollars in swine, provided that the animals are retained in certain specified districts. It also provides that the small tenant farmers may have the use of the same at specified fees, which are always very small. In this way good blood has been distributed throughout the entire country.

Provision is also made for the granting of loans at very low rates of interest to farmers who wish to introduce good sires into a new district. As a result of this scheme many small farmers are now using good sires, who of their own accord could never have purchased the same. For the purpose of improving the horse industry of the country, special fairs are held during the winter season in the various counties, and the small tenant farmers are encouraged to bring in their best brood mares for inspection. The best are selected and granted nomination fees of ten or fifteen dollars each, and are recommended to be bred to certain sires within the county. This method has also given very satisfactory results, as it enables the farmers who have but little means to secure the services of the very best sires in the country.

In several of the continental countries, Government aid has been done and is doing a great deal to build up and maintain the horse industry of the respective countries. The methods pursued in the kingdom of Belgium are especially good, and will be sufficient to exemplify this kind of work. As Belgium is a small country, containing as it does but some eleven thousand square miles and supporting a population of more than six millions of people, we can readily appreciate the importance of Government aid in the maintenance of any industry which proves remunerative to her people. For hundreds of years Belgium has been an important breeding ground for heavy draft horses. Importers from various other countries have been annually coming to Belgium for draft sires, and to some extent for draft dams. With the hope of maintaining their horse-breeding industry on a solid basis, the Belgium Government has annually spent thousands of dollars in the awarding of liberal cash prizes to sires of approved conformation and soundness. No horse can be used for breeding purposes which fails to pass the Government examination on conformation and soundness. All 3-year-old stallions which pass this examination are awarded a prize of two hundred and fifty dollars, providing that they are retained in the country. This amount is increased one hundred dollars the following year. When these horses are 5 years old they come forward to some leading point to contest for the conservation prizes, which are worth six hundred dollars per horse per year for a period of five years, providing that the horse remains a useful sire and is retained in the kingdom of Belgium for breeding purposes.

In this way practically all of the best sires are retained in their native country for the purpose of perpetuating the present high standard of the breed. Were it not for these conservation prizes the owners might be tempted to part with their good horses for a liberal consideration. This scheme has worked wonderful results in Belgium.

And lastly, there is another feature which must be considered in this connection. The farmers in all parts of Europe are almost obliged to follow some phase of live-stock farming as a means of livelihood, thus with their small farms and high rent to pay the pure-bred animals, especially those of high individual merit, have invariably proven to be the most profitable.

In recapitulation, it may be said that the leading features which underlie successful animal-breeding in Europe are: a genuine liking for good animals, a keen judgment of animal form, a clear-cut and well-defined aim or purpose, permanency of work, good judgment and care in the selection of sires, impartiality towards fads and fashions, the beneficial influences of Government aid, the favorable climatic influences in certain districts, and the pecuniary advantages accruing from live-stock farming.

"We always use THE KANSAS FARMER when advertising because we believe it to be one of the best agricultural papers published."—McLaughlin Bros., Kansas City, Columbus, and St. Paul, America's greatest importers of Percheron and Coach stallions.

Gossip About Stock.

That veteran breeder of Duroc-Jerseys, N. B. Sawyer, who owns the East Side Gas Farm Herd, at Cherryvale, Kans., reports that the early pig-crop is short in all breeds in his section. Mr. Sawyer will have a show-herd, as usual, this year, and will make the circuit of the larger fairs, including the Kansas State Fair at Hutchinson and the American Royal at Kansas City.

At Galesburg, Ill., is an institution of great value to farmers. This is a horse sales company which holds weekly sales of all classes of horses, but more especially of farm horses. At this place there are sold each week from 200 to 500 head, and the farmer who is in need of horses or who has them for sale may here meet the parties in whom he is most interested. Would not an institution of this kind be useful in Kansas?

R. H. Weir, who owns the Decatur County Herd of Poland-Chinas, at Oberlin, Kans., writes as follows: "Our pig-crop is coming along nicely. Alfalfa made a good crop and corn is growing nicely." Like some other localities in Kansas this one would enjoy another good rain, but things generally are in good shape. Keep your eye on these Poland-China pigs. Any good pigs that are highly bred and that have plenty of alfalfa pasture, as do these of Mr. Weir's, will give a good account of themselves. Write Mr. Weir for prices, and be sure you will be pleased.

Just a postal card sent to the Belle City Manufacturing Co., Racine, Wis., will bring, free of charge, if you mention THE KANSAS FARMER, a beautifully printed and illustrated booklet on the "Pine Corners Debatin' Society," and their discussion of the all-important thrashing-machine question. The Belle City Manufacturing Company make some mighty fine thrashing-machines, particularly the small thrasher with wind-stacker, weigher, and self-feeder that is built especially for individual farmers' use. With this machine the farmer can do his own thrashing at any time, save money, and be independent of the thrashing crew. Several neighboring farmers could own one of these small machines and work together. This matter is worth investigating. Send that postal card and see.

The Tebo Lawn Dispersion.

The greatest sale of Shorthorn cattle of modern times is announced to take place at the Kansas City Fine Stock Pavilion on June 19, 20, and 21, 1906. This sale will be dispersion of the famous Tebo Lawn Herd, than which there is none more famous in the United States. The sale will include the great champion, Imp. Choice Goods 186802, Prince of Tebo Lawn 172598, The Conqueror 216051, and Golden Goods 253393, with the entire show-herd which has made Tebo Lawn famous. About 260 head will be catalogued, 60 of which will be cows with calves at foot. Not only will the show-herd, which was never stronger, be sold, but all their sires and dams will be included in the sale. Truly, this will be the sale of the century.

The foundations upon which this famous herd were built, consisted of Floras, originally obtained from Capt. C. E. Leonard's herd, at Ballin, Mo., in 1879. Then came the Henriettas, originally obtained from some of the best Illinois herds, and from which has sprung some of the best show material ever produced at Tebo Lawn. The "Duchess" family is well represented. This is one of the best of the Bates families, and springs from the same original source as the Cruickshank Seacrests. There are others, but all of the best. Perhaps the most conspicuous is the "Casey Mixture," of which about 50 head will appear in the sale-ring. If there has ever been a finer lot of pedigrees brought together in one catalog, the writer has never seen it. It is ideal. Think of a sale when in-

cludes Choice Goods, Prince of Tebo Lawn, Ruberts, Cicely. It reads like a romance, and yet it is very real. This sale will afford the opportunity of a lifetime to Western breeders. Write E. B. Mitchell, manager, Clinton, Mo., for a catalogue. It is a work of art, and a symposium of the best in Shorthorn families and individuals.

Hubbard's Hummers.

Hon. T. A. Hubbard, of Wellington, Kans., than whom there is no better man nor better breeder of Poland-China swine in Kansas, now has a few wonderfully good boars for sale. They are ready for vigorous service and are exceedingly good. They are Lamplighter, Chief Perfection, Lads, and Simply O. K. pigs and are large, mellow fellows. He also has some sows bred to Meddler, Lamplighter, Perfection, Simply O. K. Jr., and other choice boars. All are as fine as silk and are worth a whole lot of money to the lucky purchaser.

Poland-Chinas, such as these, with alfalfa will make you cash and plenty of it. Drop a line to Mr. Hubbard and see if you can get some of these pigs before they are all gone. There are not many of this kind to be had.

A Blood Laboratory

Has been established in Chicago, where you can get the kind your own individual case demands. Science combined with medical experience is what we offer you. Is it a tonic, a blood purifier, a nerve food that you need? Let us know. Explain your case and get what you need. Two weeks' treatment for \$1.00.

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BLOCKS OF TWO.

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

The New Silo.

Mr. Geo. S. Redhead, Des Moines, Iowa, who is one of the best-known and most progressive Hereford breeders in the West, writes to The Farmers' Handy Wagon Co., Saginaw, Mich., about their silo, as follows: "Your name should be 'Farmers' Handy Silo Co.' for a more handy silo I could not imagine. The steel frame makes the silo complete, and the door fastenings are so handy and secure that there is absolutely no spoilage around the doors. All material is the very best quality. Men who know lumber say that my silo will last twenty years and setting it on a concrete foundation should increase its life further."

"I decided to buy a silo from reading of the cheapness of the feed produced, its succulency, and the results from feeding it. I am not the least disappointed; my cattle are ravenous for silage, are in good condition, and give a good flow of milk. I think the silo will cut my feed bill one-half."

If you will write the Farmers' Handy Wagon Co., Saginaw, Mich., and mention THE KANSAS FARMER, they will send you a handsome book on "The Modern Way of Saving Money on the Farm." Better get one. It is worth reading.

Arkansas State Fair.

Hot Springs, (Ark.) June . . (Special).—The Arkansas State Fair Association will hold its first annual meeting October 1 to 10 in the \$500,000 racing plant of the Oaklawn Jockey Club, Hot Springs, Ark.

The fair will embrace all exposition features and a complete racing program of harness and running events.

Denver, Colorado Springs, Pueblo and Return, \$17.50. Santa Fe.

Tickets on sale daily, good returning as late as October 31, liberal stop-over privileges allowed. Fast Colorado Flyer from Topeka 10.35 p. m. arrives Colorado early next morning. Rock ballast track and Harvey eating houses. T. L. KING, C. P. & T. A., Topeka, Kans.

\$18.00 to New Haven, Conn., and Return.

Plus \$1 from Chicago, via Nickel Plate Road, June 2, 3, 4, and 5; also via New York City at excursion rates. Return limit June 30, by arranging for extension. Nickel Plate office, Room 298, 113 Adams St., Chicago. (5)

The Des Moines Wagon Works, Des Moines, Iowa, is now advertising "the handiest thing on the farm." This is the Ideal Hay and Stock Rack and Handy Wagon ox. This is a hay-rack that will hold two tons or more of hay and that may be folded into hog or calf crate or into a farm-wagon bed. When not in use it can be folded compactly for storage in a small space. This rack is made of selected white oak and yellow pine, thoroughly riveted and bolted. The iron parts are thoroughly annealed wrought iron, which makes



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Kendall's Spavin Cure



has never had an equal in the world for curing common horse ailments, such as Spavin, Ringbone, Curbs, Splints and Lameness. A Cure for Spavin. Washington Quick, Mont., June 3, 1906. Dr. B. J. Kendall Co., Dear Sirs:—Enclosed find a 5 cent stamp for your book, "A Treatise on the Horse and his Diseases." I have used your Spavin Cure and found it a sure cure for Spavin. Yours respectfully, W. James Fitzpatrick.

Price \$1; 6 for \$5. Greatest known liniment for family use. All druggists. Accept no substitute. "Treatise on the Horse," free from druggists or

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(The old reliable absolute cure for Lump Jaw is

BARTLETT'S LUMP JAW CURE

It has stood the test and has cured thousands of cases. Don't fool with untried remedies. No matter how bad or how long standing Bartlett's Lump Jaw Cure will do the work. A positive and thorough cure easily accomplished. Latest scientific treatment. Unexpensive and harmless.

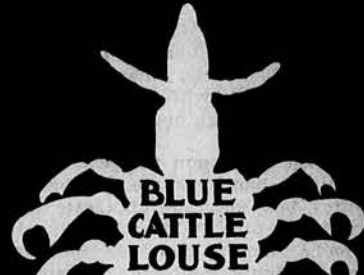
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them very tough. It is well painted and well worth twice what it costs on any farm. Notice the advertisement and write for descriptive booklet. Mention THE KANSAS FARMER and you will get it free.

Growing Old.

A little more gray in the lessening hair Each day as the years go by; A little more stooping of the form, A little more dim the eye. A little more faltering of the step As we tread life's pathway o'er, But a little nearer every day To the ones that have gone before. —Selected.

Home Departments

CONDUCTED BY RUTH COWGILL.

A Child's Laughter.

All the bells of heaven may ring,
All the birds of heaven may sing,
All the wells on earth may spring,
All the winds on earth may bring
All sweet sounds together;
Sweeter far than all things heard,
Hand of harper, tone of bird,
Sound of woods at sundown stirred,
Welling water's winsome word,
Wind in warm, wan weather.

One thing yet there is that none
Hearing, ere its chime be done,
Knows not well the sweetest one
Heard of man beneath the sun.
Hoped in heaven hereafter;
Soft and strong and loud and light,
Very sound of very light,
Heard from morning's rosiest height,
When the soul of all delight
Fills a child's clear laughter.

Golden bells of welcome rolled
Never forth such note, nor told
Hours so blithe in tones so bold,
As the radiant month of gold.
Here that rings forth heaven.
If the golden-crested wren
Were a nightingale—why, then
Something seen and heard of men
Might be half as sweet as when
Laughs a child of seven.

—Algernon C. Swinburne.

Boys on the Farm.

Upon first thought the country seems to be ideal for bringing up children, away from the many temptations of the city. Conditions are certainly much better. The very air of the city is saturated with the smoke of tobacco, and the fumes of whisky—even in Kansas—greet the nostrils in some localities. The ever-present slot-machine and other devices to tempt the boy to get something for nothing are found without seeking for them. The cheap vaudeville charms the lad and entices him from home and school, and fills his mind with foolish notions and often impure thoughts and makes the simple joys of life seem insipid and undesirable. And then there is the idle "bad boy" whose home is the street, who is ever ready to suggest whatever these other influences have not.

The whirl and bustle of city life enervate and fill the heart with unrest and discontent, while the pure, invigorating air of the country is calm and peaceful.

But we find upon investigation that not all the bad boys are city-bred. The country boy gets the cigarette habit—or the cob-pipe habit which is almost as bad. Young men in the country learn to drink, and come home crazy with the vile stuff. Bad literature somehow finds its way into the hands of the country lad and vitiates his thoughts and plants wrong ideas in his mind, and too often he tires of his country home and seeks what seem to him fairer fields.

Why is this so? Surely the natural environments of the country are better. Perhaps too much dependence is placed on these good environments and too little care is exercised for the moral and mental welfare of the child. Perhaps not enough thought is given to making the home attractive, and the parents disregard the social side of their children's natures. Sometimes parents are too far separated from youth—not by years, but in their way of thinking. They forget the longings of childhood—that longing for companionship and for recreation. Monotony and sameness are not compatible with youth. Perhaps the absence of good and attractive literature causes them to seek books of a questionable character in order to fill the cravings of the mind. The mind must be fed as surely as the body. If that which is wholesome can not be had, it naturally turns to what it can find.

Boys are boys the world over whether in city or country. President Roosevelt told his son that there are only two kinds of boys in the world—good boys and bad boys. It requires the same care and thought to make a good boy in the country as in the city. In an article in the *Indiana Farmer*, which was awarded the second prize as an article of merit, are so many good suggestions along this line of thought that I quote it as follows:

"While the farm and city home differ essentially in many points, yet both are needful to the country's welfare, and both have their own distinct comforts and pleasures. In the first place, I would say the farmhouse should be well arranged to permit thorough ventilation during the winter. In the summer it is not so absolutely necessary, for people are naturally more in the air then, but when winter comes

the houses should be so arranged as to admit plenty of God's free, fresh air. Why is it statistics show that almost as large a percentage of consumptives live on farms as in the crowded city? Simply because in many farmhomes the inmates have never learned to claim their birthright that abounds in plenty about them—good air. Many farmhomes are not opened for an airing, except on sweeping day, and the only pure air that enters has to steal its way in at cracks and crevices around transoms and windows. The transoms should stand open the year through, besides a thorough change of air at least once a day.

"The cellar and larder should be well supplied for winter use. Rows of canned fruit, jars of mince meat, and dozens of golden pumpkins help to fill the table with a bounteous plenty. Apples, popcorn, and nuts stored away for long winter evenings, when the family is gathered around the blazing fire, or when a neighbor happens in, help to cheer the heart and make one rejoice in being alive to enjoy the winter pleasures in an old farmhouse.

"Good, warm clothing, both for indoor and outdoor wear, rubbers, boots, and mittens, to keep out the wet and cold, should be provided against a 'rainy day.' If a furnace is possible for heating, it ventilates as well as heats, but if stoves have to be used, a plentiful supply of fuel should be stored away to insure warmth and comfort.

"In the pleasures, our friends should not be forgotten. Some neighborhood gatherings, family parties—or bob-sled rides for the young folks should be remembered, for it is such pleasures that make life worth the living, and the giving of such enjoyments to those about us is what endears us to them and makes us a benefit and a necessity in the community.

"While thinking of the material comforts, the mental needs should not be forgotten. Good books and some good periodicals help to pass the winter months pleasantly and profitably. In a neighborhood of congenial spirits, an exchange of reading matter makes it go a long way, and the expense is not heavy on any one family.

"While planning for outside pleasure, remember the best and dearest memories to the boy and girl should cluster around the farmhouse, and endeavor to make that home so attractive, so comfortable, so cheerful that when the boy grows to young manhood he will not say like so many, 'I am going to the city,' but rather the cry of his heart will be, 'I want to be a farmer like father.'"

Wild-Turkey Hunting.

I have been a wing shot and fond of hunting for more than forty years. I have hunted all kinds of the smaller game-birds, yet very few wild turkeys ever fell before my gun. My experience with them has not been very extensive, but enough to know that they are the most elusive, wary, and wild of all the feathered tribe, and have always held the title of king of all the game-birds. I shall never forget the last turkey hunt I ever engaged in, directly after the close of the Civil War, in the eastern part of Jackson County, Missouri, about twenty-five miles east of Kansas City. A few years afterwards I related the circumstance to old Mr. McGrew, living on Slough Creek, Jefferson County, Kansas, telling him of the great number of wild turkeys I saw in one drove.

He told me that in the early settlement of Western Indiana about the year 1838, while deer-hunting late in the fall one day, he ran on to an immense drove of wild turkeys that thickly covered as much as ten acres of ground, and since then I have not been so timid about telling of the great numbers of wild turkeys I saw at one sight.

This locality was originally settled up mostly with the F. F. V.'s from Kentucky and Virginia, who were well-to-do, bringing their money and slaves with them. Some horses and cattle of the best grades were also brought along early in the war. This locality, covering quite a section of the richest and most fertile portion of the State, developed into a veritable hot-bed of secession, and the young sons of these Southerners were not only intelligent, but were brave, full of vim, fire, mettle, and patriotism bordering on madness for the "lost cause." They

were trained to the use of the rifle from the start, and their frequent practice at squirrel-shooting, when it was disgraceful to shoot a squirrel other than through the head, or clip a bob-white's head off sitting on the fence forty yards away, besides knowing every short cut and cow-path in the country made them a dangerous foe to Uncle Sam, who got the worst of it every time he undertook to chastise his rebellious nephews. Finally, as Uncle Sam could not lick his nephews, so they would stay licked, he had General Ewing issue his famous order No. 11. The sum and substance of this order was that everybody was ordered to vacate and move out, which was done, and the country made vacant for some three years. This was done so the bushwhacker could not get subsistence. In the meantime, the country was devastated, fine buildings were burned, and fences destroyed, and many things of great value, such as pianos and furniture, were carted off to Kansas in the name of Uncle Sam. He never saw but very little, and perhaps none of it. It was in revenge for such work as this, it is said, that Lawrence was burned and many of her citizens massacred on that September morning in the long ago. Many of the things done in those troublesome times were no credit to either side, but all parties now agree and have long since shaken hands over the bloody past, and now fraternize as brothers closer than ever.

But I am digressing largely. This country which was depopulated for some three years had become full of small game, such as squirrels, prairie chickens, rabbits, quail, wild turkeys, and quite a few deer. A cousin of mine from Platte County came down and bought one of those devastated plantations, and I came along to help him restore it and farm on the shares. At this one period of my life I did not own a gun. In fact, just then guns of all kinds were scarce, but I soon borrowed one, a double-barreled muzzle-loading shot-gun, a good looking one or had been when new, but it was then about the poorest piece of shooting machinery I ever saw, besides about half the time the cap would snap and miss fire. I did not have time to hunt much until late in the fall.

One day when there was about an inch of snow on the ground, I cleaned up the old fuser, put a charge of No. 6 shot in each barrel, and hid me off to the woods half a mile away, bent on getting a mess of squirrels, then fat and juicy from the abundant nuts. When nearing the timber I heard a great racket, flapping, and crashing. I knew at once that the noise came from wild turkeys in a big row. I carefully crawled up, unobserved, to within a short distance of the main bunch, and I saw a sight I never saw before or since and a sight few men now living ever saw; a whole hillside covered with wild turkeys. It appeared to me that all the wild turkeys from that Congressional district had assembled there for some purpose, either political or otherwise, and that there were a great many factions there; that the leader of one faction had said something to the leader of another faction which he did not like which brought on a mild scrap, then a fight which terminated in a grand free-for-all. The whole proceedings very much reminded me of a very turbulent Democratic Congressional Convention held at Platte City a short time before. I came there when every one seemed to be on the rampage. So crawling a little nearer, I raised up and took deliberate aim at about fifty of their heads where they were as thick as stubble after the binder, and with a silent prayer that the old gun would not miss fire, I let drive. At the sound of the gun the woods roared with flying turkeys—turkeys to the east, turkeys to the west, and five or six flew directly over me. I pulled on the largest looking one with the other barrel and down he came, hitting the ground too dead to skin I thought as I turned to see what execution I had done with the first barrel. It flashed through my mind that I would need a team to haul in the game, but great was my surprise to find the ground bare and never a turkey was there. I then thought one turkey was enough for any ordinary family. I knew I had killed the big fat one that flew over me, for he fell like a chunk not thirty yards away, but again great was my surprise to see the ground bare and no turkey there. Presently I saw him about 100 yards away. He was on one foot and hiking out for tall timber at a two-minute gait.

I had only winged him. I thought to myself, as I crammed powder and shot in the old gun, you are not like Ten-

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nyson's brook with that broken wing. You can't go on forever. The first time you hide under some low bush I will get you with a shot at close range. So I took his tracks which were easily followed in the snow. I could tell it from other tracks which were all over the woods by the flecks of blood in the snow. Thus I kept on his trail, winding around through brush, thickets, and woods for several hours, getting fresh courage about once an hour. Out of range and heeling it through the timber like a blue streak, I kept up my gait a great deal longer, until completely fagged out I sat down on a log to rest a while before continuing the chase. The rest was so nice I commenced to soliloquize. What was the use of killing myself for that old turkey? I knew he was old and tough or he could never have given me the chase he did. He was no good and not fit for anybody to eat, let alone carrying him home. I was all played out, and if I could get there I was going home. Stiff and sore I arose from the log and took a bee-line for home, but after going a long time I seemed to be no nearer home than before. It seemed to me a long way out of these woods which I knew to be less than one mile square. After taking a fresh start and going a long time again, I began to get angry. I knew every side of those woods and I could not get out on any side. The size of it was that I was lost, and it seemed hopelessly lost, and what mortified me was the idea of a full-grown young man who was supposed to have average horse sense getting into such a predicament, so I kept on my weary wandering way, and at last I came to an opening in the woods and through it in the distance I saw a farmhouse, sheds, and lots that were exact counterparts of those at the place I was trying to find, but I would not have it, because it was exactly in the wrong direction.

Then I struck out again, and after some more tramping I came to another opening where I could see this same place. It was strange, I thought, for I knew this locality fairly well, and if there were two farmhouses with lots and sheds alike, except that everything was reversed, I had never heard of them. It was getting late, and I made up my mind to go to this house, stay all night, and inquire the way home in the morning. When I arrived at the lot fence, I saw my saddle mare, Nelly, standing quietly in the lot. At the same time the world seemed to whirl on its axis and I found myself at home. Completely fagged out, I declared this hunting business was a fraud, and that I had had enough to last me many a day. Yet the very next morning I was ready for another hunt. This time I took the dog, and with his help and the aid of the old gun succeeded in bagging a fine lot of squirrels.

Rossville, Kans.

Recipes.

Liver and bacon cooked in a saucepan or casserole is much richer and more delicate in quality than when fried. Slice liver about half an inch thick, and put in a buttered saucepan, peppering lightly. Over the liver lay a dozen thin slices of bacon, and strew these with chopped onion and parsley. Cover closely and cook slowly for about two hours. The cooking must not be hurried. When ready to serve the liver, let the gravy, with the bacon in it, boil hard for two minutes, then pour it over the liver in the serving dish.

Texas Soup.—For an excellent and quickly prepared soup for which the contents of almost any larder will furnish the materials, put over the fire one cup each of cold mashed potatoes, spinach, and canned or green peas with a pint of water, a bit of sliced onion, and a few sprigs of parsley; simmer for ten minutes, stirring to prevent sticking, and press through a sieve; in another saucepan blend over the fire a tablespoonful each of butter and flour, both well rounded, and when smooth add the puree of vegetables, seasoning to taste and thinning to the consistency of thin cream with hot milk or cream. Pass with this a dish of croutons made by slicing stale bread half an inch thick, buttering, cutting in small dice, and crisping in a quick oven.

An Economical Meat Pie.—Cut up about one and one-half pounds of beef-steak in thin strips, put a layer at the bottom of a pie dish, then a layer of sliced onions and sliced potatoes. Fill the dish in this way, putting seasoning between each layer; nearly fill the dish with water to make gravy. Cover the top with an ordinary crust and bake for two hours and a half.

The Young Folks

Now.

If you have hard work to do,
Do it now.
To-day the skies are clear and blue,
To-morrow clouds may come in view,
Yesterday is not for you;
Do it now.

If you have a song to sing,
Sing it now.
Let the notes of gladness ring
Clear as song of bird in spring,
Let every day some music bring;
Sing it now.

If you have kind words to say,
Say them now.
To-morrow may not come your way.
Do a kindness while you may,
Loved ones will not always stay;
Say them now.

If you have a smile to show,
Show it now.
Make hearts happy, roses grow,
Let the friends around you know
The love you have before they go.
Show it now.

—Charles R. Skinner, in New York Sun.

Fleetfoot; the Autobiography of a Pony.

MARION SEWELL.

CHAPTER XVI.—THE COMING OF DON Q.

Winter arrived rather suddenly that year. We had been droning along, half expecting the lovely autumn weather to last forever, when one morning we awoke to be confronted by a white world. Everything looked strange and fantastic under the uniform spreading of soft snow, as I stood at my window viewing the scenery. And fine scenery it was, too, if you were well-fed and warmly housed, but those same innocent-looking, downy flakes brought misery and torment to the unsheltered stock that were expected to find a livelihood in stalk-fields and meadows.

I have hinted before that Mr. Dearcot was quite ignorant of farming and stock-raising from a scientific standpoint, but he did know when things suffered.

Therefore, prompted by his keenly sympathetic feeling, he lost no time, but commenced preparations for the home-bringing of his scattered flocks. He kept away from his office in the city until a couple of large buildings were erected for the wanderers. The whole of the work was personally superintended, and no interruption took place, excepting the one incurred by the visit of a traveling salesman, who was selling rubber bridle-bits, "warranted not to stick to the tongue." This man understood his business perfectly, and dwelt upon the cruelty of using in winter, steel or wire bits which were "so apt to stick to the tongue." He seemed to consider this the greatest misfortune that could befall man or beast, and put the case so plainly to Mr. Dearcot that the latter humanely purchased three dozen, and, paying for the same, politely dismissed the agent.

That evening Lyall inserted one of the new bits in my bridle by way of an experiment, and the arrangement was so comfortable that I have often since on cold, frosty mornings blessed the talkative agent from the bottom of my heart.

After the new barns were completed and the order given for all the stock to be brought home, Mr. Dearcot, his conscience at rest, went back to his law-office. But there were still new troubles to face. When the four-footed delegation were brought together, it was found that only a portion of the animals could be sheltered, while the balance were necessarily left outside to bleat, neigh, or moo, according to their different natures and temperaments.

Mr. Dearcot was decidedly surprised and taken aback to find himself in possession of so much stock, but, after consulting with his workmen, arranged for a public sale of "surplus stock," and this affair came off in a short time.

Although a great many people came to the sale in search of bargains, and quite a cleaning-out was accomplished, our everyday life was affected but little, for none of my four-footed friends went to the block. So when the darkness of the bitterly cold night came on, and the snow and sleet blew against the barn windows, Big Jake and the rest of us stood in our accustomed places and munched happily our clover hay. I was thankful for my good home, and felt heartily sorry for any poor creature that might be out in the storm.

Some time in the night I was half awakened by an icy object crawling along beside me. I would have imagined I was lying near a snow-bank, but the thing moved, and I heard it breathing in a queer, gasping way. I intend-

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ed to get up and investigate, but I was very sleepy, and before I could stir myself I was in the land of dreams. The next morning it was clear daylight when I awoke, and it did not take long to discover the cause of last night's slight disturbance. Stretched across my stall, near the manger, was a big, black, short-haired dog, and an uglier brute I have never seen. He was so wanting in flesh that his whole body was actually composed of ups and downs, and his wide ears lay dejectedly close to his enormous head. Filled with amazement, I touched him with the edge of my hoof. As lightly as the blow fell, it was sufficient to arouse his wrath, and, sitting up suddenly, he uttered a loud snarl, at the same time displaying an endless row of white teeth. I sprang backward as far as my halter rope would allow me, and almost collided with Lyall, who was coming in as usual to make my toilet and give me my breakfast. My young master uttered an astonished "Oh" and then bent forward for a closer inspection of the strange dog. The brute growled fiercely again and gnashed his teeth at Lyall, who accomplished a hasty and undignified retreat. Just then one of the stablemen chanced to be passing, and Lyall called to him for advice. The man's name was Elmer, and, although he was a great lover of horses, he had no use whatever for dogs of any kind or color, so, of course, the one in question was not likely to be received with favor.

"Just look here," said Lyall in an injured tone, "that dog snapped at me." Elmer made an indignant advance,

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but was instantly routed by the unwelcome visitor, whose eyes, by this time, were lit up by an unholy fire.

"Be still a minute," commanded Elmer to Lyall, "and I'll fix him. My gun's on the loft, and I'll show him who's boss here," and before any protest could be made he was clattering up the step-ladder leading to the loft.

In a moment he returned, bringing with him a dangerous looking weapon, and in spite of Lyall's protest, knelt and was taking aim when Mr. Dearcot entered from another door, and his surprised, "Why, what have we here?" was the first announcement of his presence.

Elmer stood up in some confusion, and explained lamely, "A mad dog, or at least, I think he is mad. He has been snapping on all sides, and I fear for the safety of the horses."

"Ah, I see! And you were going to dispatch him." Even while Mr. Dearcot smiled I could feel that he was annoyed. After a moment's silence he went on, "Don't you think, my dear fellow, that a report such as your firearm calls forth would alarm the horses much more than this dog, which has no visible sign of madness. Please lay the gun aside."

Elmer, without making any further observations, remounted the steps, and in a moment I could hear him emphatically tramping about on the bare boards over my head.

Mr. Dearcot walked over to the trembling dog, and with a few gentle words began patting the rough head. Then he found that the shabby leather collar which bound the intruder's neck was chokingly tight, and when it was quickly loosened, the poor brute looked up with eyes that no longer glowed with angry lights, but were soft and grateful. The next objects that came under Mr. Dearcot's notice were the torn and bruised feet.

"Lyall," he said suddenly, "will you, like a good boy, bring me that long-necked bottle of liniment from Jake's bench. Why, I'm thinking we will have to take this fellow to a hospital."

Lyall, laughed and brought the liniment, and when it was applied to the swollen members, the strange dog was almost beside himself with joy. Just then the girls, who had heard of the newly arrived, came in for an interview, and while Marcella pitied him from a safe distance, chubby Doris advanced bravely and made friends at once.

"We'll keep him, won't we, papa?" she cried in an ecstasy. "I've wanted a dog for a long time."

Mr. Dearcot smiled as he brushed the scattered straws from his overcoat. After a moment's thought he said, "I suppose so, Baby, if he wishes to stay. I, too, have wanted a dog for a long time, but somehow I never imagined myself the owner of a caricature like this."

"Mama don't like dogs, and he might bite Pony," put in Marcella apprehensively.

"I think Pony is quite safe, and we can keep our treasure hidden if mama objects to him," responded her father soothingly, as he prepared to leave.

"What will we call him?" Doris asked as she fondled one of the dog's ungainly ears.

"Apollo," suggested Mr. Dearcot, as he made for the door.

"Don would be much better, I think," Lyall remarked seriously.

"That's the name!" exclaimed Mr. Dearcot. "We will call him Don Q."

"Does Q. stand for quarrel?" asked my little mistress.

"Yes, and B. stands for breakfast. I'll venture to say our new friend would be more pleased with a meal than a name at the present moment. And, Lyall, when you ask Cook for breakfast for one; you may hint that your guest will prefer quantity to quality. No such notions as fruit cake and coffee for Don Q." And finishing this speech, Mr. Dearcot, who was already late, made his escape.

Lyall was gone but a short time, and when he returned he brought with him a large pan containing table-scraps and thick milk. Placing this appetizing dish before Don Q., the three children stood back to watch developments. In a moment the new dog had licked the platter clean. By this time he had arrived at an advanced state of sociability, wagging his tail and looking from one to another with a happy expression on his ugly face. Doris presented him with a whisp of straw, which was for her a large armful, and urged him to "make himself a nice, soft bed." Then she and Lyall started for the house.

Marcella remained for some parting words with me, and while she was whispering in my ear not to be afraid of that "horrid dog," she accidentally

stepped on an outstretched paw, but Don Q., instead of displaying resentment, as he would have an hour before, lifted the injured member and whined piteously. This was too much for the kind heart of my little mistress, and instantly dropping beside the sufferer, she took the feverish paw between her small palms, and told him over and over again how very sorry she was. Don Q. graciously licked her hand, and I was sure from his happy looks that he was glad to exchange his pain for Marcella's tender sympathy.

The Little Ones

Little Workmen.

"I fetch the water from the well,
Says sturdy little Joe,
I like to peep and see how deep
The chains a-rattling go,
And hear splash, splash!
The bucket dash
Way down so far below."

"I wipe the dishes for mama,"
Cries Tommy with delight,
"So nice and neat, so clean and sweet,
At morning, noon, and night;
The spoons I rub,
The knives I scrub,
And make the glasses bright."

"I bring the cows home to the yard,"
Says little tiny Paul;
"Their horns look awful big and hard,
But I don't care at all.
I drive 'em straight
Right to the gate,
Though I am sort of small."

"So now," these little workers say,
Their bright eyes full of zest,
"Why can't we march on Labor day
Along with all the rest?
For we can work,
And never shirk,
And always do our best."

The Ruby-Throat and Its Nest.

The humming-birds do not arrive as early in the season as many other species. They wait till nature has provided the kind of food they need. Before the habits of these birds were well known, it was supposed that they lived solely on honey; but it is now known that they enjoy a diet of insects along with the sweets. They have been seen to snatch insects from spiders' webs as they darted by, and no doubt the large swarms of gnats contribute to their bill of fare.

The extremely long, slender bills and extensible tongues are well adapted to obtain food from the flowers they like best to visit, their preference being for the long tube-like blossoms, such as the white day lily, petunia, nicotiana, honeysuckle, and canna among cultivated flowers. Among our native plants none seem to suit his royal highness better than the trumpet-creeper, and from observation, I am led to believe he relishes the ants with which these flowers are nearly always infested, quite as much as any honey he may secure.

It is funny to see a humming-bird when he flies to a trumpet-flower and finds a bumble-bee in possession. He

is first astonished, then plainly indignant, and, with a squeal of resentment, flies to another flower. Naturally he is a quarrelsome little mite, and will attack birds much larger than himself; but no doubt he has found out by experience, or in some other way, that it is better to give the humble-bee a wide berth.

The nest of the ruby-throat is a marvel of neatness and daintiness. The lining is of the silken fibers of the milk-weed pods and thistle-down, so compactly woven together that, although very frail, it is quite tough and elastic. The outside of the nest is carefully covered with lichens of the same color as those growing on the tree in which the nest is built. When finished, the nest presents the appearance of a lichen-covered knot, and it takes sharp eyes to distinguish that it is really a nest. The dimensions of this fairy-like structure are one inch in diameter, inside measurement, and three-fourths of an inch in depth. Two, never more, tiny, pearl-white eggs are laid in the nest.—M. E. S. Charles, in *Pets and Animals*.

"A commonplace life" we say, and we sigh;
But why should we sigh as we say!
The commonplace sun in the commonplace sky
Makes up the commonplace day.
The moon and the stars are commonplace things,
The flower that blooms and the bird that sings;
But sad were the world and dark our lot,
If the flowers failed and the sun shone not;
And God, who sees each separate soul,
Out of commonplace lives makes his beautiful whole.
—Susan Coolidge.

It is the mind that maketh good or ill,
That maketh wretch or happy, rich or poor;
For some, that hath abundance at his will
Hath not enough, but wants in greatest store;
And other that hath little asks no more,
But in that little is both rich and wise,
For Wisdom is most riches; fools therefore
They are which fortunes do by vows devise,
Sith each unto himself his life may fortu-
nize.
—Spencer.

The child must be a child, the man a man;
And surely He who metes as we should mete,
Could we His insight use, shall most approve,
Not that which fills most space in earthly eyes,
But what—though Time scarce note it as he flies—
Fills, like this little daisy at my feet,
Its function best of diligence in love.
—Thomas Burbidge.

Child Knowledge.

Philosophy may boast of many a mind
Worthy the admiration of mankind;
A mind well-stored with reasons and with laws,
To show the why, the wherefore, or the cause;
But in the highest realm of human thought,
The wise philosopher is wise for naught;
The child, in worship at his mother's knee,
May know and love a God as well as he.
—Charles M. Sheldon.

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Club Department

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Our Club Roll.

Women's Literary Club, Osborne, Osborne County (1902).
Women's Club, Logan, Phillips County (1902).
Domestic Science Club, Osage, Osage County (1888).
Ladies' Crescent Club, Tully, Rawlins County, (1902).
Ladies' Social Society No. 1, Minneapolis, Ottawa County (1888).
Chalisco Club, Highland Park, Shawnee County (1902).
Cultus Club, Phillipsburg, Phillips County (1902).
Literature Club, Ford, Ford County (1902).
Saban Club, Mission Center, Shawnee County Route 2 (1899).
Star Valley Women's Club, Iola, Allen County (1902).
West Side Forestry Club, Topeka, Shawnee County, Route 8 (1902).
Fortnight Club, Grant Township, Reno County, (1902).
Progressive Society, Rosalia, Butler County (1902).
Pleasant Hour Club, Wakarusa Township, Douglas County (1899).
The Lady Farmer's Institute, Marysville, Marshall County (1902).
Women's Country Club, Anthony, Harper County.
Taka Embroidery Club, Madison, Greenwood County (1902).
Prentiss Reading Club, Cawker City, Mitchell County (1902).
Cosmos Club, Russell, Kans.
The Sunflower Club, Perry, Jefferson County (1902).
Chaldean Club, Sterling, Rice County (1904).
Jewel Reading Club, Osage County.
The Mutual Helpers, Madison, Kans. (1906).
West Side Study Club, Delphos (1906).
Domestic Science Club, Berryton, Shawnee County (1906).
Mutual Improvement Club, Vermillion, Marshall County (1906).
(All communications for the Club Department should be directed to Miss Ruth Cowgill, Editor Club Department.)

Programs from The Domestic Science Club, Near Osage City.

KANSAS DAY.

"We all believe in Kansas, she's our State,
With all the elements that make her great."

Responses—Quotations from Kansas poets.

Prominent Kansans—men.
Prominent Kansans—women.
The Border War.
Walls of corn.

DOMESTIC SCIENCE.

"Would the cook were of my mind."
Responses—Favorite recipes.
Picnic lunches.
What to do at picnics.
Select reading.

FOURTH OF JULY.

"My country 'tis of thee, sweet land of liberty,
Of thee I sing."
Responses—Soldier sketches.
Patriotic songs.
History declaration.
Causes of the Revolution.
The Philippines.

Mutual Improvement Club.

Our year-book calls for meetings from October till April. Then for business' sake, pertaining to club and library, we meet monthly during the intervening time, arrange a short program, and have a social time. I enjoy the club column and have taken several copies to the club meetings. There are several clubs in this county not on your club roll. I particularly enjoy hearing through the club column what other clubs are doing. I will try to send you our year-book and possibly a paper or two. We have had a very, very successful year. We did a nice lot of real good, progressive work and raised the volumes in our library to over 500. Our club was organized in 1903. Thanks for carrying us on your club roll.

Our yearly election of officers was held in April, and the following officers elected: Mrs. Viva E. McWilliams, president; Mrs. Tressie Hybksmann, secretary; Mrs. Lena Granger, treasurer; and Mrs. Rosa P. Cook, vice-president. MRS. ELLA C. ACKER, Vermillion, Kans.

Unhealthful Food.

The American people are just beginning to realize the fact that in our free-and-easy way with reference to all matters, except the pursuit of the dollar, we have left to the unscrupulous, many matters pertaining to food and health which will require immediate attention. Just now, the reports of special investigations of packing-house conditions are attracting widespread attention. Some of the points of vital interest with reference to this

matter are brought vividly to light in recent statements of Dr. W. P. Cutler, the official food-inspector of Kansas City, Mo. Dr. Cutler said:

"Government inspection of meat is a farce, so far as the home consumer is concerned. I have taken diseased meats bearing the Government stamp from wagons. The small independent packers have to be watched more closely than others. In order to make it pay, they deal in 'crips' and 'downers.' If an independent butcher will start on the Missouri side of the line, I will give him a local inspection that will insure good meat. But the solution of the meat problem is the municipal abattoir where butchers can do their own killing.

"I have stood six hours alongside one carcass in a Kansas City packing-house when that plant was running here. I did so to make sure that the carcass reached the tank.

"One day in another packing-house, I and one of my 'taggers' were going through a line of hogs in the 'export side.' We found a trichinae carcass. 'Put it over on the American side,' said the tagger, and over it went. There is no law requiring trichinae inspection for the home trade.

"That's how Government inspection works. And what does a plumber or steam-fitter know about tuberculosis? You'll find them inspecting cattle and meat. The men are few and every impediment is thrown in their way."

Dr. Cutler said that, under the present system and the bill now before Congress, the meat of animals killed and sold within the same State does not have to have Government inspection. It applies only to meat for interstate and foreign commerce.

AS TO INDEPENDENT PACKERS.

"They say it will drive the small independent packers out of business," said Dr. Cutler. "It would not hurt if it did—some of them. They can't make it pay against the big packers except by killing inferior cattle—'crips,' or those with broken limbs; and 'downers,' those that fall from exhaustion or are trampled in transportation. There is regular speculation in that class of stock.

"So far as local inspection goes we have no law, any more than a general measure of food inspection. Under that I will provide inspection for meat killed within this State. But the independent butcher can not compete with the packers. If he could save the expense of a plant and kill his cattle in a municipal abattoir, he could then compete with the beef interests, and the municipality would have supervision of the inspection."

Dr. Cutler said he had frequently found meat bearing the Government stamp that was purple and black, and some showing blood-clotted veins. He said that was evidence that the animal was in fever when killed, and the meat should not be sold.

"One day," said Dr. Cutler, "I met a meat-wagon driver carrying a side of meat out of a butcher's shop. It was miserably thin and had an unnatural color. The driver told me the dealer would not take it even to make sausage. And that side of meat had a Government stamp. Perhaps some 'tagger' had sorted it out of the export side and put it on the 'American' side for home use."

Pacific Coast Conditions.

EDITOR KANSAS FARMER:—The Southern Pacific Company has already undertaken the work, in behalf of the entire Pacific Coast, of dispelling erroneous and damaging impressions that effect the entire Pacific Coast, growing out of the recent disaster at San Francisco. Announcement is made that in this public service the cooperation of public men and of the press is assured.

While San Francisco was burning, when it was impossible to verify rumors or to substantiate facts, stories were circulated that found their way into print that, if uncontradicted, will injure not only California, but also the other States of the Pacific Coast.

Nothing but the truth is necessary to point out that no material industry—agriculture, horticulture, viticulture, mining, manufacturing, commerce—has suffered serious interruption or permanent injury. A series of articles, prepared by men whose reputations command respect and inspire confidence, is required at this time. Such will be arranged for and will be circulated all over the world by the Southern Pacific Company. The entire American newspaper and magazine press will, in sympathy and in justice to the stricken State of California, give them all possible publicity. Their educational value will be great. CHAS. S. FEE, San Francisco, Cal.



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Colorado	Denver, Colorado Springs, or Pueblo and return. Two trains daily, leaving Kansas City 9.50 a. m. and 9.40 p. m.	\$17.50
Yellowstone Park	Via the Black Hills, Custer battle field and the Yellowstone Valley route, returning via Colorado if you wish (no extra charge), including hotels and staging in Park for 5½ days. Two through trains daily, 9.50 a. m. and 6.05 p. m.	\$75.00
Pacific Northwest	Including all the new wonder cities of the new Northwest and Puget Sound country—via Billings (Yellowstone Park side trip \$49.50 extra), Helena, Butte, Spokane, Tacoma, Seattle, and Portland, returning via Colorado. A trip of great educational value, which every American should make. Two through trains daily, 9.50 a. m. and 6.05 p. m.	\$60.00
California	Via a great variety of routes, all of which should include Denver, Colorado Springs, Pueblo, and Salt Lake—going one and returning a different route—via Portland and Puget Sound in one direction, \$12.50 extra. Two trains via Denver daily, 9.50 a. m. and 9.40 p. m.	\$60.00
Minnesota Wisconsin Michigan	To St. Paul and Minneapolis and return for \$15, and to many other Lake and river resorts in Minnesota, Wisconsin, and Michigan at correspondingly low rates. Two through trains daily, 11.35 a. m. and 9.40 p. m.	\$15.00

These are first class tickets and good on all the Burlington's famous fast trains, all of which carry Standard Pullman Sleepers and most of them Tourist Sleepers in which berths are half the price of berths in Standard Cars. Tickets are good for the season and permit stopovers practically everywhere.

On certain dates even lower rates will be in effect to certain points, for example, \$15 to Colorado and return, July 10 to 15, and \$10 to St. Paul and Minneapolis and return, August 11 to 13, and \$50 to Puget Sound and Return, June 18 to 22. No matter where you are going it will pay you to find out what the Burlington will be glad to do for you.

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TO PREVENT FRAUD ON SHIPPERS OF PERISHABLE PRODUCTS.

(Continued from page 602.)

willfully fail to report the same for inspection, or who, having caused the same to be inspected, shall fail to transmit a copy of the inspection furnished him by the inspector to said consignor as herein required, shall be guilty of a misdemeanor, and upon conviction shall be fined not less than one hundred dollars and not more than three hundred dollars, or imprisoned not less than two months nor more than six months, or both, at the discretion of the court; and any consignee of such cargoes having failed to report same for inspection, or having reported same for inspection shall fail to transmit to his consignor the certificate of inspection, as provided in this Act, shall represent to his consignor that said cargo was received in bad and unmarketable condition shall, in any indictment under this Act for such failure, be presumed to have made such representation falsely and for the purpose of defrauding his said consignor.

"Sec. 2. That it shall be the duty of all commission merchants or other persons receiving by consignment for sale fruits, berries, vegetables, potatoes, or melons shipped from one State or Territory of the United States to the District of Columbia or to any other State or Territory of the United States, to keep a book or books, wherein shall be recorded a truthful account of the receipt, sale, amount realized from sale of such products, and to whom sold, which said book or books shall be at all times open for the inspection and examination of the inspectors provided in this Act; and any such commission merchant or consignee who shall make a false entry in said book or books, for the purpose of cheating or defrauding the consignor of said products or misleading or deceiving said inspectors, shall be guilty of a misdemeanor and upon conviction shall be fined not less than one hundred dollars nor more than three hundred dollars, or imprisoned not less than two months nor more than six months, or both, at the discretion of the court.

"Sec. 3. That if the consignee of any fruit, berries, vegetables, potatoes, or melons shipped from one State or Territory of the United States to the District of Columbia or to any other State or Territory of the United States, shall willfully make a false report to his consignor as to the condition of said consignment when received by him and the price at which the same was sold by him, or shall fail to account for and pay to the said consignor the amount at which the same was sold less actual charges and commissions for selling and handling the same, or if he shall falsely and fraudulently misrepresent any fact concerning the condition and sale of said consignment, he shall be guilty of a misdemeanor and upon conviction shall be fined not less than two hundred dollars nor more than one thousand dollars, or imprisoned not less than six months nor more than two years, or both, at the discretion of the court.

"Sec. 4. That there is hereby appropriated, out of any money in the Treasury not otherwise appropriated, the sum of twenty-five thousand dollars, to be expended for all necessary expenses to comply with the provisions of this Act under the direction of the Secretary of Agriculture."

The enactment of this bill into a law will provide against a class of flagrant frauds as to such consignments as cross State lines, but will afford no relief on shipments which are entirely within one State. Such a law as well as meat-inspection laws of Congress—both those now in force and those proposed—tend to make it safer and more desirable that commerce in these products be "between the States" rather than within one State. True, it is competent for any State Legislature to provide similar laws for transactions wholly within its own borders, but this causes a duplication of officers and expenses that will possibly, some day, be avoided. If an amendment of the constitution is necessary to enable Uncle Sam to protect people within a State from being defrauded or imposed upon by swindlers who reside in the same State as well as by swindlers who reside across a State line, the need of such amendment will become apparent to all except those who favor the multiplication of official positions in the possible hope of presently landing in one of them.

Senator Simmons' bill ought to pass.

Now a small job and reap a great harvest.

Miscellany

Earthquake Damage Comparatively Small.

Executive Department, Sacramento, State of California.

To the Governors of Our Sister States: California with one hundred millions of acres is greater in area than New England, New York, and Pennsylvania. On the Eastern sea-board its coast-line would extend from Boston on the north to Charleston on the south.

In some localities the notion is prevalent that all this great State was shaken by the recent earthquake. Such is not the fact. The earthquake was severe in only about 2 per cent of the area of the State, and as a disturbing factor was confined to a district seventy-five miles north, one hundred and twenty-five miles south, and fifty miles eastward from San Francisco. Even in this narrow strip of California's expanse, the damage from the earthquake was small in comparison with that of the fire in San Francisco. Indeed the Charleston earthquake in 1886 was proportionately much more destructive to life and property than was the shock of April 18 in San Francisco. The buildings destroyed in San Francisco were not many. None of the "skyscrapers" and very few of the other buildings suffered material damage.

The fire which followed the earthquake, however, destroyed the business section of the city. The fault along the San Francisco peninsula, which slipped coincident to the earthquake shock, was unfortunately in the immediate vicinity of the water-mains which supplied the city. These were broken, rendering the fire department helpless. Undoubtedly the city will provide against any such contingency hereafter.

It is unnecessary to compare the San Francisco disaster with the great fire in Chicago, the Galveston flood, and other calamities, but it is well, perhaps, to note that scores of American cities have suffered more proportionately and actually from flood, fire, pestilence, and cyclones than has San Francisco from the earthquake. The foregoing statement is made to you not to minimize nor gloss over San Francisco's calamity, for that was very great, but to remove the erroneous impression wherever it may exist that the destruction of our metropolis was due in any large degree to the earthquake. Though California's chief city is momentarily in distress, her people are undaunted by the great misfortune, and San Francisco will arise, as other cities have arisen, from the ashes of her former greatness.

So far as California is concerned, it is needful only to note that Illinois was not ruined by Chicago's fire, that South Carolina did not suffer permanently from Charleston's troubles, and that Texas, the only State larger in area than California, did not even pause in her marvelous progress because of the Galveston flood. So California's two million people are not bankrupt nor seriously affected in their courage or resources as a result of the damage to her principal city.

California's mountains, river-beds, and ancient gravel channels are still rich in gold. Her great valleys, two of which are larger than many Eastern States, are all of unmeasured fertility. On their ten million acres can be raised anything from oranges to potatoes. The semi-tropical fruits can be grown from San Diego on the south to Redding on the north—a stretch of six hundred miles of California soil and California climate.

Thirty or more thriving cities, of five thousand or more people each, are centers of rich localities finding their markets in the world, and in their prosperity independent of any local affliction elsewhere.

Our forests of redwood, fir, and pine along the coast and clothing the Sierra Nevada Mountains never represented greater potential wealth than at the present.

Our oil-fields are yearly furnishing millions of barrels of oil, and immense electric power is being generated by the streams of the Sierra. Each of these industries has solved the problem of cheap power for California, and yet neither has passed the first stage of development. Add to these our winters of gentle spring and our summers without enervating heat, making possible a maximum production per employee, and one may read the future of California among manufacturing States.

The great harbor of San Francisco is still open to the commerce of the world, and this connecting link between America and the expanding interests of

the Orient, Alaska, and the islands of the Pacific has no less value than before the day of the disaster. The great steamship wharves of San Francisco are intact and so are the two great trans-continental railways, the Southern Pacific and the Santa Fe. The three lines of the Southern Pacific report no diminution in freight or passenger business, not even around the Bay of San Francisco, and equally cheering are the advices from the Santa Fe. The third trans-continental line to San Francisco, now building, the Western Pacific, is unaffected by the recent trouble and is going steadily on with its work.

California's markets are all the continents and islands of the earth. Our thirty-five thousand cars of apples, peaches, prunes, pears, plums, walnuts, olives, grapes, raisins, and wines; our thirty thousand car-loads of lumber, shipped by land and sea, our train-loads of sugar, vegetables, and all the multitude of products of our favored soil command that same world-wide market that they have in past years.

Our universities at Berkeley and Palo Alto are not crippled; our schools, from primary schools to high schools, in their buildings, their equipment, and the high class of instructors the salaries paid command, offer now as heretofore, the greatest possible inducement to homeseekers desiring the freest avenues for their children towards highest citizenship. California remains, as California always has been, "The Land of Opportunity."

While in our disaster the sympathy and material aid of all the world has been showered upon us, yet there have been those who by their lurid and wild accounts of the events of April 18 and subsequent days have added to our misfortunes, unwittingly or otherwise, and endeavored to prejudice us in the minds of those who will listen. The wild accounts, totally without reason, of thousands of dead and dying in the streets; half the city shaken down by earthquakes; the tales of wanton murder and plunder by the California National Guards; stories of stretches of the water-front engulfed in the sea, and of deep subsidences of valleys and sea-shore; of buildings toppling into the ocean, and of yawning chasms swallowing countryside—such untrue yarns as these have added to our burden. Under ordinary circumstances the people of California smile at the stories related of the State, but this is not an hour of ease, but one of dark misfortune which should not be painted blacker. Let me again say the city of San Francisco is burned, but not shaken down by the earthquake shock. Above all other misfortunes, this story of San Francisco destroyed by earthquake is the one most deeply resented by our people, and the one most apt to injure us.

Permit me to convey to the people of your State through you the heartfelt thanks of San Francisco's stricken people, and of all California for the prompt and generous aid extended to us, and to this I wish to add my official and personal thanks. Should occasion occur, which God forbid, California will show in actions far better than any one may in words, its immeasurable appreciation of the generous gifts your citizens, unasked, have showered upon us.

GEORGE C. PARDEE,
Governor of California.

The Salton Sink.

A map representing parts of California and Mexico has recently been published by the United States Geological Survey, which is of unusual interest at this time. The area covered is widely known as the Salton Sink, a great depression in the Colorado Desert which has been much discussed lately, owing to the threatened formation of a large inland sea where there is now a thriving community.

About 8,000 people have settled in that part of the basin known as the Imperial Valley, and are raising excellent crops of barley and alfalfa. Stock-farms are numerous and experiments in raising the date palm are in progress. The freight shipments from Imperial, a town only four years old, rival those of Los Angeles in value, and are said to exceed those of any other town in Southern California.

The existence of this peaceful community is, however, seriously endangered by the Colorado River, which strangely enough is also the source of all its prosperity, as it is this stream which furnishes water for the irrigation system. The absence of any controlling works at the head of the main canal has resulted in diverting the river from its old channel and permitting the entire flood-flow to enter the irrigation system. This is causing great damage to the dike and

crops, and is forming a large lake, which now covers about 250 square miles, at the lowest part of the Sink. The Southern Pacific Railroad has been obliged to rebuild many miles of tracks.

The map of this region, which is called the Salton Sink Special, shows on a scale of about 8 miles to an inch, all the principal towns, roads, canals, and drainage lines. Contour lines also indicate what the future sea may cover at different altitudes. The usual price of 5 cents a copy will be charged for this map, which was made by Mr. W. Carvel Hall, under the direction of Mr. R. B. Marshall, of the U. S. Geological Survey.

The Kansas Wheat-Crop Estimated.

James R. Koontz, general freight agent of the Atchison, Topeka, and Santa Fe Railroad Company, has prepared an estimate of the Kansas wheat-crop for this year, giving the probable yield for the entire State as 80,021,500 bushels. The estimate is made for the benefit to J. E. Gorman, freight traffic manager, and George F. Nicholson, vice president, of the Santa Fe, and since Mr. Koontz has been freight agent of the company, it has been prepared each year and used for guidance of the operating department of the company in distributing cars over the wheat-belt of the State.

The reports tabulated by Mr. Koontz give Summer County the largest yield for the year. It is estimated that this county with 265,000 acres will yield 4,500,000 bushels. Barton County, with 250,000 acres, is second with 3,850,000 bushels. For a number of years there has been a contest between these two counties for the first place in the wheat-yield contest. The acreage of each county with the probable yield, as estimated by Mr. Koontz, is as follows:

County.	Acreage.	Estimated Yield.
Allen	22,000	350,000
Anderson	10,000	140,000
Atchison	25,000	400,000
Barber	68,000	1,088,000
Barton	250,000	3,850,000
Bourbon	12,900	180,000
Brown	30,000	540,000
Butler	14,000	150,000
Chase	5,000	80,000
Chautauqua	4,500	72,000
Cherokee	25,000	475,000
Cheyenne	14,000	104,000
Clark	14,000	210,000
Clay	62,000	1,000,000
Cloud	78,000	1,300,000
Coffey	16,000	325,000
Comanche	23,000	368,000
Cowley	70,000	1,125,000
Crawford	25,000	400,000
Decatur	50,000	500,000
Dickinson	103,000	1,800,000
Doniphan	24,000	400,000
Douglas	30,000	600,000
Edwards	110,000	1,650,000
Elk	8,000	108,000
Ellis	100,000	1,110,000
Ellsworth	125,000	1,375,000
Finney	7,500	70,000
Ford	90,000	1,260,000
Franklin	7,000	105,000
Geary	18,000	300,000
Gove	30,000	330,000
Graham	40,000	420,000
Grant	200	1,600
Gray	17,000	175,000
Greeley	200	1,600
Greenwood	5,000	80,000
Hamilton	250	2,000
Harper	160,000	2,750,000
Harvey	77,000	1,275,000
Haskell	5,000	40,000
Hodgeman	40,000	440,000
Jackson	5,500	80,000
Jefferson	18,000	308,000
Jewell	39,000	575,000
Johnson	30,000	540,000
Kearny	800	7,500
Kingman	134,000	2,000,000
Kiowa	70,000	1,140,000
Labette	30,000	450,000
Lane	45,000	500,000
Leavenworth	35,000	500,000
Lincoln	93,000	1,300,000
Linn	10,000	150,000
Logan	20,000	200,000
Lyon	13,000	225,000
Marion	75,000	1,250,000
Marshall	36,000	500,000
McPherson	165,000	2,800,000
Meade	28,000	425,000
Miami	17,000	300,000
Mitchell	106,000	1,625,000
Montgomery	30,000	480,000
Morris	6,000	90,000
Morton	150	1,000
Nemaha	6,500	117,000
Neosho	23,000	375,000
Ness	95,000	1,045,000
Norton	38,000	500,000
Osage	12,000	166,000
Osborne	9,000	990,000
Ottawa	95,000	1,300,000
Pawnee	185,000	2,750,000
Phillips	60,000	800,000
Pottawatomie	8,500	150,000
Pratt	170,000	2,650,000
Rawlins	80,000	890,000
Reno	225,000	3,550,000
Republic	28,000	390,000
Rice	160,000	2,525,000
Riley	9,500	175,000
Rooks	75,000	825,000
Rush	99,000	1,090,000
Russell	105,000	1,115,000
Saline	99,000	1,450,000
Scott	15,000	185,000
Sedgwick	155,000	2,450,000
Seward	2,000	16,000
Shawnee	7,000	128,000
Sheridan	35,000	350,000
Sherman	60,000	680,000
Smith	64,000	840,000
Stafford	190,000	2,950,000
Stanton	200	1,600
Stevens	700	1,600
Sumner	265,000	4,500,000
Thomas	80,000	800,000
Trego	40,000	400,000
Wagoner	12,000	800,000

Wallace.....	700	5,600
Washington.....	50,000	700,000
Wichita.....	12,000	120,000
Wilson.....	19,000	275,000
Woodson.....	5,500	70,000
Wyandotte.....	10,000	180,000
Total.....	5,498,700	80,021,500

Progress in Western Kansas.

The first returns of agricultural statistics of Kansas for the year 1906 are being received at the office of the State Board of Agriculture. Ten abstracts have so far come to hand, all from Western counties, and the compilation of the statistics now being made by Secretary Coburn discloses some suggestive and interesting facts as to the growth and prosperity of that section of the State.

Four of the counties which have made returns, Cheyenne, Logan, Sherman, and Sheridan, are in the Northwest; Lane and Trego are in the Central West; and Clark, Kearny, Kiowa, and Haskell in the Southwest.

During the year ending March 1, 1906, the population of Kiowa County has increased over 10 per cent, Lane and Trego over 13 per cent each, Cheyenne about 15, Sheridan nearly 17, Kearny over 19, Clark 21, Sherman over 30, Logan over 34, and Haskell over 67 per cent. The average per cent of increase in population of the ten counties named is over 19 per cent.

The acreages planted to field-crops in these ten counties this year have in most instances been considerably increased. Some of the less important crops show a slight falling off, which is much more than accounted for by the additional acres devoted to crops which have made Kansas favorably known agriculturally.

For instance: The average increase in winter wheat in the ten counties named is over 22 per cent; spring wheat shows the remarkable gain in acres of 96 per cent; about 8 per cent more land has been planted to corn; 24 per cent more devoted to oats, 12 per cent more to broom-corn, and 12 per cent more to kafir-corn.

The dairy-products make a very good showing for the year, as do poultry and eggs sold, which show over 14 per cent increase. Animals slaughtered or sold for slaughter show an increase in value of over 60 per cent, and the wool clip has increased 16 per cent. The number of horses on hand is 10 per cent more than in 1905, and mules and asses 24 per cent. Sheep and milch cows show decreases; other cattle have increased over 11 per cent, and swine have increased 36 per cent in numbers.

According to the returns, the crop of dogs is in a lamentably flourishing condition, the reports indicating that their numbers have been augmented by over 16 per cent during the past year; but the reports also suggest that the sheep are either being better protected or that the curs of Western Kansas are losing their lust for mutton, as the number of sheep reported killed by dogs is only nine.

According to the returns, the value of farms, including improvements, has increased remarkably in the ten counties named. In 1905 the valuation was \$20,492,911, and this year's reports show it to be \$27,838,312, or a gain of nearly 31 per cent.

The figures as a whole indicate that there is abundant truth in the tales of healthy growth and real prosperity in the Western counties of Kansas. The figures convey, too, the information that real-estate boomers, or the men who have land to sell, are not the only ones who profit by the progress shown, but that the men who are fortunate enough to have under their control, and to properly develop a portion of this territory are among those whom fortune favors.

White's "Round-Up."

On the evening of May 22 there assembled a very notable gathering in the dining-room of the Auditorium Hotel, Chicago. On invitation of Mr. Frank B. White, president of White's Class Advertising Co., and publisher of "White's Class Advertising," more than 500 manufacturers, dealers, and representatives of agricultural papers sat down to an elaborate banquet which was the opening number of White's annual "Round-Up." The tables were spread with a bountiful hand, the orchestral music was of the finest, and the toasts were in every way fitting. The speakers represented States from Connecticut to Colorado. Our own representative was Hon. F. D. Coburn, than whom no one can represent agricultural Kansas better. Mr. Coburn's subject was "The Lay of a Layman," and his speech will appear in THE KANSAS FARMER in the near future.

On Wednesday five large trolley-coaches carried the out-of-town guests on a sight-seeing trip about the city.

On this trip a visit was made to the house of Crofts & Reed, manufacturers of soaps, grocers' specialties, etc., who have a "factory to family" plan of doing business, and who have won conspicuous success through advertising.

The trip also included a visit to the monster establishment of Sears, Roebuck & Co., where a splendid dinner was served. Sears, Roebuck & Co. have the largest mail-order house in the world, and it is a wonder that has been built entirely upon the foundation of good advertising. A visit here is an object lesson in modern business methods.

Beginning with nothing, the Frank B. White Advertising Agency has been built up to its present place in the front rank by sheer energy and pluck. It now stands among the best of its kind, and the annual "round-up" was the culmination of another year of successful effort, and afforded the opportunity to lay plans for future successes.

Two Classes of Scientists.

W. S. Harwood, in the introduction to his book, "The New Earth," uses the following expressions:

"Now and then, out of those explorations which scientific men of the severer type make into the realm of the unknown, there may come something of direct practical aid to the race, something that makes the world move a little more easily in its grooves, though very many of the discoveries are of scientific value alone, of interest chiefly to isolated circles of great specialists.

"There is another class of scientists, not large but steadily growing, whose work in the various bureaus of the Department of Agriculture in Washington, and preeminently on the staffs of the experiment stations of the United States, is not only admirably scientific in character and scope, but of commanding economic importance."

Prevention of Wheat-Smut by Seed Treatment.

WALTER T. SWINGLE, PHYSIOLOGIST IN CHARGE OF PLANT-LIFE HISTORY INVESTIGATIONS, UNITED STATES BUREAU OF PLANT INDUSTRY.

Grain-smuts cause an enormous loss to the farmers in this country, and one which could be entirely prevented with but a very slight outlay and with a minimum of trouble. The stinking-smut, sometimes known as bunt, of wheat causes the kernel to swell up slightly and become filled with a powdery mass of black smut-spores having a very disagreeable odor. The whole head, if smutted, contains no sound grain, only smutted kernels. These smutty kernels go through the thrashing-machine with the sound grain, and it is difficult to separate them unless the grain be washed, although a powerful fanning-mill will take out part of it. The "smut-balls" contain the infected material, and a few of them are able to contaminate a mass of sound seed-grain.

One of the treatments to prevent wheat-smut is the Sar solution, made by mixing 15 pounds of flowers of sulfur with one-half pound of powdered resin, wetting with about 6 1/4 quarts of water to a thick paste, then adding 10 pounds of dry powdered caustic soda (concentrated lye), stirring vigorously while the whole mass turns reddish brown and boils violently. Enough hot water is added to bring the solution up to six gallons. This stock solution is preserved in tightly corked jugs and must be shaken well before using. The seed-wheat is treated as follows: Either one quart of solution is diluted with 50 gallons of water and the grain soaked therein for about 12 hours, or else a stronger solution of one gallon of stock to 50 gallons of water is used and the grain soaked only two hours. In either case the grain must be stirred several times and spread out to dry afterwards. If the grain contains much smut, it should first be washed with water in order to skim off the smut-balls.

All seed-wheat treated for stinking-smut must be dried out somewhat after treatment unless it is sowed broadcast. It can be drilled as soon as the grain falls apart readily, even though it still contains a good deal of water. The seed-wheat will absorb about 10 per cent of moisture, so that, if drilled when still moist, about 65 pounds should be counted to the bushel. If carefully dried, the seed-wheat can be kept for some time before it is planted, but if put away in sacks, or left in the pile while still moist, the seed is liable to heat and spoil. It is important to keep seed in smut-free sacks or bins. Sacks can easily be disinfected by dipping them in boiling water, and bins

FARMERS!

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ITS DEATH RATE IS THE LOWEST IN THE WORLD.

Government land is obtainable on easy terms, perpetual leasehold or freehold. Government assistance to new settlers. State loans to farmers at low rate of interest.

New Zealand is a magnificent dairy, meat-raising, lumber and wool-growing country. Last year the produce of the farms of New Zealand totaled a value of one hundred million dollars. New Zealand's butter, wool and frozen mutton fetch the highest prices in the world's markets.

New Zealand Railways are owned by the Government. Cheap freight and passenger rates. Government and Municipal ownership of public utilities. Government Trust Offices, Insurance, Savings Banks, etc.; Government Sanatoria and Hot Mineral Water Spas.

New Zealand is a region of grand and novel scenery. It is largely visited by American tourists who escape the rigors of winter.

A land of splendid sport. Trout-fishing and Deer-stalking. Thousands of miles of angling waters carrying the biggest trout in the world.

It is SUMMER in New Zealand when WINTER in America. New Zealand's summer is cool and enjoyable for traveling. Comfortable hotels. Good Transportation. Cheap rates.

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or barn floors can be disinfected by mopping them off with boiling water.

The drill should be disinfected before seed-wheat is sown. This usually can be done by blowing and brushing it out thoroughly and then running some air-slaked lime through the drill. If there is no danger of the parts rusting, boiling water or a solution of formalin can be run through the drill and accomplish the same result more quickly.

Sar solution is the easiest treatment, in which the grain is soaked. The solution is easily prepared, cheap, can be kept any length of time, and if properly applied is thoroughly effective.

BLUESTONE AND LIME TREATMENT.

This treatment is even cheaper than the Sar solution, but it requires that the grain be dipped in lime-water after it has been soaked in the bluestone solution. While the farmer is already familiar with the bluestone treatment, it should be improved by dipping the seed in lime-water. It is a thoroughly effective treatment for wheat-smut, but is dangerous for oats.

FORMALIN SOLUTION.

The formalin solution is, as far as is now known, the best treatment for grain in bulk by sprinkling. This is by all odds the easiest treatment to apply on a large scale, but the smut is not so thoroughly prevented as when the grain is soaked or treated with hot water. The principal drawback to this treatment is the difficulty of getting formalin of guaranteed strength, and the fact that the bottles are often short in weight. On account of the expense of the solution, it should not be used for soaking the grain, but only used where the grain is treated in bulk by sprinkling.

HOT-WATER TREATMENT.

The hot-water treatment requires no outlay for material, but necessitates a considerable amount of labor, and must be carefully done or the seed-wheat will be injured. If carried out properly, however, it is the most effective treatment known for all smuts. It can be recommended in practice, even where large quantities of wheat are to be treated, wherever steam is available for quickly heating the water.

There is no longer any excuse for an up-to-date farmer having smut in his wheat- or oat-fields. It is now possible to prevent these diseases so cheaply and so easily that every farmer should treat his seed-grain if there is the slightest indication that it is infected with smut. The expense is small and the result sure. He will harvest more wheat and better wheat, and have the satisfaction of knowing that he is getting the full return from the crop, and that his grain is not subject to any discount on account of smut.

Denver, Colorado Springs, Pueblo and Return, \$17.50. Santa Fe.

Tickets on sale daily, good returning as late as October 31, liberal stop-over privileges allowed. Fast Colorado Flyer from Topeka 10.35 p. m. arrives Colorado early next morning. Rock bal-last track and Harvey eating houses. T. L. KING, C. P. & T. A., Topeka, Kans.

Chicago to Buffalo, N. Y., and return, via Nickel Plate Road, at one fare plus twenty-five cents for the round-trip. Tickets will be sold from Chicago June 9, 10, and 11, with return limit of June 25. Particulars at Nickel Plate Office, 115 Adams St., Room 228, Chicago, Ill.

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Confidence in Their Goods.

There is one hay-press manufacturer in Kansas City who has enough confidence in the working qualities of his baler to meet the buyer more than half way, by offering to ship a press by freight prepaid and on 30 days' trial, in order that the purchasers may try a press on their own ground and in their own way. The manufacturer we have reference to is the I-M-ITT Hay-Press Company, of Kansas City, whose advertisement appears elsewhere in these columns.

We call special attention to the new advertisement concerning lump-jaw by Chas. W. Bartlett, Columbus, Kans. He has had wonderful success with his cure. THE KANSAS FARMER representatives who have been in different portions of the State have often run across cases that have been cured by this remedy, and we have no hesitation in recommending our readers to order the Bartlett Lump Jaw Cure.

Dairy Interests

Dairy Milk-Records.

W. F. RAY, MISSISSQUOI COUNTY, QUEBEC.

"Does it pay to keep daily milk-records?" I say decidedly, yes! In support of this declaration, I will mention a few of the very many reasons which appeal to me. Firstly and lastly, it increases a man's interest in his herd, and in his individual cows, without which he had best give up dairying; this interest brings better care to the cows and better feed. These two, care and feed, are the foundation stones upon which all successful dairy-herds must be built. How are you to feed intelligently or economically without a knowledge of what every cow is doing at the pail? I can think of no more certain way of bringing about better feeding than through the keeping of a daily record and the use of the Babcock test for butter-fat. If our watch-words are, Breed, Feed, Weed, the scales and the test are an absolute necessity for the successful accomplishment of any one of them.

I am at present milking 23 cows, Ayrshire and Ayrshire grades, have kept a daily milk-record for four years, and try to take a Babcock test once a month.

I use a blank, ruled for one month, supplied by Professor Grisdale, of the Central Experimental Farm, who sends them free of charge on request. This hangs on a board in the stable, beside the small spring scales, close to the can into which each pail of milk is emptied. Ten seconds per cow at each milking is the average time consumed in weighing and recording the weight. In order to avoid errors and to save time, we put down the gross weight, deducting the tare of the pail at the end of the month.

Samples are taken for a composite test from both milkings, three days a month, a tablet of corrosive sublimate being used as a preservative. It takes about two hours to make the Babcock test for the herd, with a ten-bottle machine. At the end of the month the old sheet is taken down, and an hour or so devoted to adding up the totals and deducting the weight of pail, and the result is inscribed in a monthly summary sheet, giving the number of days milked that month, pounds of milk, pounds of butter-fat and test; from which it is a very easy matter at the end of the year to arrive at each cow's record for twelve months. Believing, as I do, in the importance of weighing and testing, I have assisted in organizing a cow-testing association for this district, under the offer of the Dominion Government, with a membership of 27 dairymen with over 600 cows. I will continue keeping my daily record, and let the Government do the testing.

I am convinced that whoever has tried it will prefer to keep a daily record, rather than one or three days a month, as it quickly becomes a habit, is rapidly done, owing to constant practice, and is not thought any trouble at all, but where only attempted occasionally, it will be looked upon as a very hard task, will take longer, and will very likely be put off in any busy time.

However, this plan of the Government is the thin edge of the wedge, and will, without doubt, be productive of immense good; but it is simply amazing to find how many apparently intelligent farmers there are who will have nothing to do with testing and weighing, even when offered to them free of cost. In conclusion, I would say that by itself, keeping a daily record will not result in a greatly increased yield from a given herd, but if used as a basis of feeding, breeding, weeding, it must very soon treble the total yield from the average herd.

The Dry Cow.

The Rev. J. J. Dietrich, who has made himself famous by successfully keeping fifteen cows on fifteen acres of land, tells an exchange how to care

for the dry cow. He says: "A heifer that is coming in soon should have the same feeding as the cow that is dry. No bag, no cow. Feed as you get an udder—the eye makes the dairyman. Keep a strict gestation table and read it over every week. Group your cows coming in at different times, and count 285 days for a cow to drop her calf. The right way to dry a cow is to put her on timothy hay and water only, and milk her dry by skipping teats, and never let her dry up herself, for that is likely to cause a bad udder. I know the carelessness of cow-keepers—they don't deserve the name of dairymen. After the cow is dry (and all my cows must be dry four weeks, not more nor less) we feed her for health and a good calf, and give the cow plenty of exercise by having a boy lead her and making her walk. Her hind legs in walking rub her udder better than any man's hand can, and if she is fat and you are afraid of milk-fever, walk her for exercise. Even if it takes two or three miles, give it to her, and I will guarantee no milk-fever if you walk her six or seven miles.

"Bran is the safest feed that goes down a cow's throat; give her hay and bran when she is dry. In ten days or two weeks before calving she ought to begin to make a bag. If she does not on four to six quarts of bran and all the hay she can eat, and her bowels are right, commence to give her a handful of cake-meal; increase it to two handfuls and on up to a pint if necessary. At every feed keep your eye on the cow and her udder. The udder should not be a big, red, inflamed, ulcerous looking thing, as hard as a brick and out of shape, but a splendid pendant receptacle for milk, dignified for maternity.

"During the dry period our eye is always on that dry cow. If she is handled by exercise and fed for the day the calf is to come, your eye will tell you just the progress she is making, as your ear can tell when a violin is in tune. If her manure is hard and knotty, and she is fat, a dose of salts, ginger, and molasses is given her, and always at the time of calving is given to every cow, and if the cow is inclined to swollen udder, a half pound more of salts is given her thirty-six hours after calving. The bran and water is given the cow little and often; that is, one quart of bran is given the cow five to six times a day in three to four quarts of cold water, and if she will drink more water, offer three or four quarts in between the bran and water, and feed hay sparingly for two days. The cow will refuse the bran and water after two days. Then you can commence to give her a light mess of cut hay and bran and about the same amount of linseed as you fed her before she was fresh. The next meal give her a little more cut hay and silage, bran, a little more linseed, and on the fourth day a little, and on the fourth day a little more, and on the fifth day about the same as the fourth day, depending on the cow, her udder, her manure, and her general looks; but never increase her feed at any one time more than one-half pound at a feed. After all danger is over and her udder in good shape, you can feed the full ration that your cow can digest profitably, and she will be all right for 330 days' milk if you treat her right."

About Pasteurization.

Pasteurization will improve hand-separator cream of second- and third-grade, but occasionally the cream is first-grade and then, of course, it can not be improved by pasteurization or any other treatment. The ordinary hand-separator cream is so often second- or third-grade, because farmers in general do not clean their separators thoroughly each time after milking.

Pasteurization merely kills most of the bacteria in milk, and this rids it of the greater part of the undesirable species that cause trouble. If it is then treated with pure culture lactic-acid bacteria in the form of "starter," all bad flavors will be largely overcome.

Although pasteurization is done in almost every up-to-date creamery in

TRY THE DE LAVAL BEFORE YOU BUY A SEPARATOR

Surely there is no reasonable excuse why every one who thinks of buying a cream-separator should not try a DE LAVAL machine before buying. By simply making the request you may have a DE LAVAL machine set up at your home without any trouble or expense whatever. If, after you have tried and tested the machine, you do not wish to keep it, you need not feel under obligations to us nor think that you have asked a favor. We won't expect you to buy unless you choose. Furthermore, should you wish to buy a separator at once but do not feel able to spare the ready cash, you may buy a DE LAVAL machine upon such liberal terms that it will earn its cost while you are paying for it. In view of these facts, and considering that the DE LAVAL is to-day the standard by which all separator manufacturers gauge the value of their machines, it would seem that every intending buyer of a separator is doing himself an injustice if he does not at least ask for a free trial of a DE LAVAL before buying. By so doing he can lose nothing, and he may save a great deal. A DE LAVAL catalogue, sent free upon request, helps to make separator differences plain. Write for it to-day.

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force, which is thousands of times stronger than the force of gravity that makes cream rise in pans. (2). One-half to twice as much for butter, because Tubulars remove dirt and bacteria, thus making gilt-edge butter possible. (3). Half the work saved, because you finish skimming five minutes after milking, feed warm skimmed milk at barn, and have only the can of cream to care for. Write today for catalog W-165. It tells all plainly.

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TUBULAR
CREAM SEPARATORS

the United States, on account of the undesirable contamination of the average milk, it is not to be recommended where milk is properly handled. It is more or less detrimental to the digestibility of milk. For instance, (1) the germicidal power possessed by perfectly fresh milk is destroyed. It is the belief that this power affords some protection against pathogenic bacteria which obtain entrance into milk. (2) The albumen is coagulated and made less digestible. (3) The starch-fermenting power is lost. The ferment in the saliva of adults which converts starch into sugar is lacking in that of infants, but the same ferment is present in fresh milk. It is especially necessary that milk given to infants should not be treated thus to destroy this ferment. (4) Long-continued heating has a marked effect on milk-sugar, which is caramelized, forming brown specks in milk. This, however, rarely appears in pasteurized milk. (5) The condition of fat is altered by melting and the globules tend to unite. Thus the fat is made less digestible and it must again be emulsified before it can be digested. (6) The casein is also affected, as is shown by the fact that it requires a larger amount of rennet for its precipitation and is less readily

acted upon by the pepsin and pancreatin than the casein of raw milk.

Thus we see that pasteurized or sterilized milk is somewhat abnormal, and in many cases, when fed to infants or feeble persons, is more or less detrimental. Milk, when pasteurized, is only heated to a temperature of from 140° to 185° F., and the changes produced on the different constituents are not as great as those of sterilized milk. The most numerous forms of bacteria are killed; but this affords a chance for some of the more dangerous forms, which have been restricted by the growth of more desirable forms, to multiply rapidly, and with serious results. But if cream for churning be inoculated with a pure culture of bacteria immediately after pasteurizing, the best results are obtained.

The new bacteria from the pure culture develop rapidly after pasteurization, when they have practically a clear field to work in. They produce the desired flavor in butter and the normal souring of cream. Pasteurization need not be done where absolute cleanliness prevails in dairy-barn, milk-wagons, and creamery. It is merely done to rid the milk of bacterial contamination from filthy sources. It is the lesser of two evils.

The ordinary hand-separator cream is improved to such an extent that the butter made from it will score from one to five points higher, and will bring one to three cents more per pound than if left unpasteurized. There is practically no difference in the yield of butter from pasteurized and unpasteurized cream, although it has been claimed that unpasteurized cream gives a slightly larger yield. The keeping quality of butter is materially aided by pasteurizing the cream, for the putrefactive bacteria coming from unclean sources, if left in the cream, naturally get into the butter and prevent its keeping as long as it otherwise would.—C. W. Melick, in answer to a correspondent in The Industrialist.

Horticulture

Spraying for Potato Blight.

The Michigan Experiment Station, in its Bulletin 236, gives account of its experiments in "Spraying for Potato Blight in 1905." Following are excerpts from this bulletin:

The disease is prevalent in nearly all, if not all, parts of the State where late potatoes are grown. The history of the disease in other States seems to indicate that the trouble is here to stay and that we may look for it in every favorable season. It has been known for nearly two score years that spraying with Bordeaux mixture would prevent the blight to a greater or less extent, but it has been only within the last few years that the knowledge of this fact has been applied to commercial potato-growing; and then only in a few localities. The practice is by no means common. In Michigan it is hard to find a grower who systematically sprays his potatoes for blight every year. The reason for this is not that the grower is careless and neglects the crop, but rather that he is ignorant of the cause of the trouble and is at a loss to know what to do to stop it. In the correspondence carried on by the author with a large number (100) of potato-growers in the State, it was astonishing to find the large number of growers who did not even know what Bordeaux mixture was; and the majority of them believed the blight to be incurable. The reasons why potato spraying has not been more generally practiced in the State might be stated as follows:

1. The grower is ignorant of the cause of the disease.
2. He is not aware that there is anything that will prevent it.
3. He does not believe that the results obtained would pay for the time and trouble of spraying.

THE CAUSE OF THE BLIGHT.

Late blight is caused by a fungus disease that works upon the tops of the potato-plant and which also causes rotting of the tubers.

The disease is very energetic and spreads with great rapidity, sometimes ruining a crop within a few days. It usually makes its presence known soon after August 15 in this State, and thrives best when the temperature is about 70° F. and the air is full of moisture. It is worse in wet than in dry seasons and the general opinion is that it causes more rotting of the tubers in clayey than in sandy soils. The fact that the disease flourishes best in wet seasons has caused many farmers to believe that "blight is caused by wet weather." This is true in part, in that the wet weather furnishes the ideal conditions for the rapid development of the fungus; but the real cause is the presence of the disease upon the plant when the wet weather comes along. We can have wet weather without having blight; and, vice versa, we can have blight without having wet weather. The two are not inseparable.

The disease usually appears on the lower leaves of the plant in the form of a yellowish-brown spot that rapidly turns brown and dies. The trouble rapidly spreads upon the plant until soon nothing green remains to be seen but the extreme top leaves. These, too, soon succumb, and the whole top dies and rots. If we examine one of these yellowish-brown spots on the leaves, early in the morning when the dew is on, we shall probably find a white milky-like substance on the lower side of the leaf. If this is examined with a microscope it will be found to consist of a large number of egg-like spore-bodies on minute stalks projecting out of the leaf tissue. These spores, which correspond to seeds, soon fall off the parent stalk and either fall to the ground or are blown to a neighboring

plant. If the spore finds lodgment on a potato leaf, and if moisture is present, it starts to germinate and sends out a slender, thread-like branch (mycelium). It is believed that this mycelium has no power in itself to penetrate the tissues of the leaf, so it grows on until it reaches some opening in the leaf. This opening may be one of the numerous breathing pores (stomata) of the leaf, or it may be a hole made by some insect. On reaching such an opening, the little branch enters and pushes its way between the cell walls of the leaf, robbing them of their nourishments. Once in the plant this mycelium grows very rapidly, branching again and again and finally penetrating every part of the plant tissues, robbing them of their juices and causing them to decay. Occasionally a branch of the mycelium comes to the surface and sends out many fruiting stalks that bear myriads of new spores. These mature, fall off, and go on their mission of destruction.

If the spore falls to the ground and rains follow, it may be washed downward through the soil until it finds lodgment upon the tuber. Here it finds warmth and moisture and begins to grow, sending its mycelium into the tuber, robbing it of its starch, breaking down its tissues, and causing rot. Here its action may or may not be rapid; the spore may sprout, enter the tuber, and make only a slow growth, not manifesting itself until the potato is dug and stored, or perhaps not until the tuber has been planted for the next crop. So the disease may be passed on from generation to generation of potatoes by means of infested seed-potatoes.

We have seen that the disease passes a greater part of its life history within the plant tissues where it is safe from harm. To fight it successfully, it must be attacked at some time when it comes to the surface, during the spore stage, or when the spore is germinating. So we see that any remedy used must be a preventive one.

EXPERIMENT AT THE COLLEGE IN 1905.

In the spring about 10 bushels of Rural New Yorker potatoes were procured. These were badly infected by scab (*Oospora scabies*), and in many cases nearly the entire starch content of the tuber had been exhausted by the parasite. The potatoes were treated with formalin for 90 minutes and planted. The ground selected was a flat, low piece of ground where an old plum-orchard had been pulled out in the spring, and the land was unsuitable for potatoes. The tubers were planted on June 16, in rows 3 feet apart and the seed 15 inches apart in the row. Owing to the late planting, the unsuitable soil, and the devitalized condition of the seed, the plants were nearly two weeks in appearing above the ground, and at first only a feeble growth was made and the outlook was very poor for any kind of a crop.

The field was divided into sections of six rows each.

Rows 1-6 were to be sprayed every four days with Bordeaux mixture.

Rows 7-12 were to be sprayed every 4 days with the milk of lime alone, at the rate of 4 pounds of stone lime to 50 gallons of water.

Rows 13-18 were to be sprayed every 10 days with Bordeaux mixture.

Rows 19-24 were to be sprayed every 15 days with Bordeaux mixture.

Rows 25-30 were to be sprayed every 20 days with Bordeaux mixture.

Rows 31-34 were to be sprayed every 14 days with Paris green at the rate of 1 pound to 75 gallons of water.

Rows 35-41 were to be left unsprayed as a check.

The plan outlined was carried out to the letter. The first spraying on every plot was given on July 22. The Bordeaux mixture used was composed of 4 pounds copper sulfate, 4 pounds lime, and 50 gallons of water.

When the tops were thoroughly dead, the different plots were dug. The four center rows only of each section were used in computing results in order that there might be no overlapping of spraying material. The tubers on each plot were graded into merchantable and small, and carefully weighed.

The table below shows the relative time of dying of the tops and digging of the different plots:

Manner of Treatment.	Pronounced dead.	Dug.
Unsprayed.	Sept. 13	Sept. 23
Sprayed with Bordeaux mixture every 20 days.	Sept. 26	Sept. 30
Sprayed with Bordeaux mixture every 15 days.	Sept. 29	Sept. 30
Sprayed with Bordeaux mixture every 10 days.	Sept. 29	Sept. 30
Sprayed with Bordeaux mixture every 4 days.	Oct. 4	Oct. 7
Sprayed with lime every 4 days.	Sept. 17	Sept. 23

The blight was first noticed on the unsprayed rows about August 10, and was very conspicuous by the 15th. The 6 rows sprayed with Bordeaux every 4

days were but very little affected by the blight.

On digging the different plots, a great difference in the yield was noted. The results were computed for an acre in each case and the cost of spraying was also kept. There was no need of spraying with an arsenite for bugs as only a few old ones were found on the vines, and they were picked off by hand in order that absolutely pure data might be obtained for each plot.

CONDENSED RESULTS OF POTATO SPRAYING IN 1905.

Manner of spraying.	Gain in yield per acre, bu.	Gross gain in dollars per acre.	Net gain in dollars per acre.	Cost per acre.	No. of sprayings.	Crop insured for ins. y'rs.
With Bordeaux mixture every 4 days.	40.5	20.25	11.90	10.19	14	1
With Bordeaux mixture every 10 days.	39.5	19.75	15.44	4.31	6	3.5
With Bordeaux mixture every 15 days.	32.5	16.25	13.38	2.87	4	4.7
With Bordeaux mixture every 20 days.	27.8	13.90	11.03	2.87	4	3.8
With lime every 4 days.	11.5	5.75	*1.76	7.61	14	...

*Loss.

DIRECTIONS FOR SPRAYING.

Spraying for late blight should commence when the plants are about 12 inches high and should be repeated at intervals of 10 to 20 days, depending greatly upon the season. If the season should happen to be a wet one, a greater number of sprayings are necessary than if the season is an ordinary one. Advantage can be taken of the fact that the poison used in combating the potato-bugs can be mixed with the Bordeaux mixture without impairing the value of either, so that when spraying with Bordeaux we can spray for bugs at the same time.

The Bordeaux mixture should contain at least 5 pounds of copper sulfate to 50 gallons of the mixture. The writer recommends the following formula for the Bordeaux mixture for use on potatoes: Five pounds copper sulfate, 6 pounds stone lime to 50 gallons of water. These quantities are not arbitrary, and doubtless many other combinations of the lime and copper sulfate can be used with success.

In order to get results, the Bordeaux mixture must be well applied and strike every part of the plant. If a crop-sprayer is used, one should be selected that will throw the material up against the under side of the leaf, and also give a mist-like spray.

A single spraying will be of benefit, but one must remember that in order to get control of the blight and make potato spraying pay, the Bordeaux mixture must be on the foliage before the disease makes its appearance and that the supply must be kept up during the growing season.

WHEN SHALL WE DIG BLIGHTED POTATOES?

The rotting of the stored tubers is one of the most serious phases of the devastations wrought by the blight, and the question is often asked "Does it make any difference in the rotting if the digging is done before the tops are read and dry, or will it pay to wait until they are?"

This subject has been investigated by Stewart and Eustace, of the New York Experiment Station, who say: "If the tubers are to be stored they should not be dug until the tops are dead and thoroughly dry, in order that the fungus spores may be given a chance to dry up and die. As long as the tops remain even partially green, the spores of the blight fungus continue to live. In the process of digging, the tubers become covered with these live spores, and if conditions are at all favorable more or less rot results. This explains why sprayed potatoes sometimes rot more in storage than unsprayed ones."

Precautions should be taken after digging not to cover the piles over night with tops that have been blighted as this would only result in additional infection with blight spores.

Damage to Ripening Strawberries Probably Caused by Ground-Beetles.

ELBERT S. TUCKER, MUSEUM ASSISTANT IN SYSTEMATIC ENTOMOLOGY, UNIVERSITY OF KANSAS, LAWRENCE.

The following letter, written several years ago, may present a subject of interest to growers of strawberries now while the crop is ripening:

"In our patch of strawberries of about four acres, many of the berries as they ripen are being eaten by some

side of a berry is scooped out, leaving only the outside part as thin as a shell. The damage is supposed to be done at night, as the bites are fresh in the morning, and nothing has been found at work on the berries during daylight. After the first week of ripening the ravages are mostly stopped, and late pickings are free from bites.

"Last year over 2,000 quarts of berries, worth in the market about \$100, were destroyed on the vines, and, for

the first few pickings this year, over one-half of the ripe berries were destroyed by bites. On an average, about one-tenth of each crop has been lost for three years.

"This evening after examining closely some berries that were bitten, I found in one berry a small red ant and in another a small fly, but it seems impossible that such small insects and so few in number could do such great damage. They probably follow after the real invader and during the daytime. No other insects except a few moths of different species were seen flying about among the vines. But as dusk approached, a few buzzing sounds were heard which were made by an insect flying among the leaves. These insects which proved to be June-bugs, after finding a way out, arose above the leaves and flew away. As darkness increased, they became more abundant, and just at dark there was a loud buzzing to be heard all over the patch and among the surrounding fruit-trees. The beetles first thumped among the vines in arising from the ground, and afterwards seemed to hover in the air in such numbers that a person hearing their buzzing would naturally think that millions had come forth. Half an hour later, all was nearly quiet again. Specimens will accompany this letter.

"Wichita, Kans., June 3, 1892."

The presence of the June-bug did not prove that they injured the strawberries, although they have been reported as vegetable feeders, but as such their attacks have been confined to buds or leaves of trees. However, their larvae, called "white grubs," are injurious to the roots of strawberry plants, but this is another matter. Not until Prof. F. M. Webster's account of his investigation of similar damage in Ohio, in 1901, came to my notice, there was no hint of what the real culprit might be. He discovered that a certain ground-beetle, known as *Harpalus caliginosus*, was to blame. The same kind of beetle and another related species, *Harpalus pennsylvanicus*, were later reported by Prof. M. V. Slingerland as causing injury in the same manner to strawberries grown in Pennsylvania.

Both kinds of these beetles are common in Kansas. They are generally regarded as beneficial insects since they prey upon injurious caterpillars and young grasshoppers, yet, being fond of some kinds of seeds, their attack on strawberries is not surprising. Probably they are first attracted by the seeds of the strawberry, and then acquire a taste for the pulp. Any grower who has suffered loss in the manner described will confer a favor by reporting the facts, and if the beetles can be found in hiding or at work among strawberries, please send specimens for identification.

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PLYMOUTH ROCKS

BARRED PLYMOUTH ROCK EGGS—From free range stock, no other fowls kept on the farm. Price \$1 for 15; \$5 for 100. Mrs. C. F. Brown, Box 61, Manchester, Oklahoma.

BLUE BIRDS—Barred to the skin. Hawkins Ringlet strain. Eggs, \$1 per 15; \$5 per 100. Minnie K. Clark, Lyndon, Kansas.

BARRED PLYMOUTH ROCKS—Bradley strain prize winners; won 1st on okl. last three years at Harvey county poultry show. Eggs from pen \$2, yard \$1 per 15. R. Harston, R. R. 6, Newton, Kan.

EGGS FROM MAMMOTH BARRED PLYMOUTH ROCK CHICKENS \$1.50 per 15. A. D. Wyncoop, Bendena, Kans.

B. P. ROCKS AND BUFF ORPINGTONS—Eight grand matings. Send for price list on eggs and Colie pups. W. B. Williams, Stella, Neb.

Eggs for Hatching

Send for my special Barred Rock circular; also ten other varieties of choice standard leaders. All free. Write me your wants.

A. H. DUFF,

Larned, : : : Kansas

White Plymouth Rocks
EXCLUSIVELY.

Good for Eggs, Good to Eat and Good to look at. W. P. Rocks hold the record for egg-laying over every other variety of fowls; eight pullets averaging 289 eggs each in one year. I have bred them exclusively for twelve years and have them scoring 94 to 96%, and as good as can be found anywhere. Eggs only \$2 per 15; \$5 per 45, and I prepay expressage to any express office in the United States. Yards at residence, adjoining Washburn College. Address **THOMAS OWEN, Sta. B, Topeka, Kans.**

WYANDOTTES

FOR SALE—White Wyandottes, one pen high scoring; also eggs \$1 per 15. A. R. Gage, Minneapolis, Kans.

WHITE WYANDOTTE COCKERELS, (Stay White), \$1 to \$5 each. Eggs, \$1.50 per 15. S. W. Arts, Larned, Kansas.

WHITE WYANDOTTES—the lay all winter kind. Bred to high score, large egg record cockerels. Dustin strain. Eggs 5 cents each. \$4 per 100. J. L. Moore Eureka, Kans.

PURE BRED White Wyandotte eggs for sale \$1.00 for 15. Mrs. C. E. Williams, Irving, Kans.

EGGS, EGGS—All kinds of fancy pigeons, also Toulouse geese eggs at \$1 per sitting. Pekin and Rouen duck eggs, 15 for \$1. Muscovy duck eggs, 10 for \$1. Turkeys, Peacocks, Barred Rocks, Buff Cochins, Houdans, S. S. Hamburgs, Rhode Island Reds, Orpingtons, White, Buff and brown Leghorns, White, Buff and Silver-Laced Wyandottes, Games, Golden Sea-bright Bantams, Pearl and White guineas, hunting dogs. Poultry eggs 15 for \$1. Write D. L. Bruen, Platte Center, Neb.

SILVER LACED WYANDOTTES—Thorough bred cockerels, \$2; pullets, \$1.50. Jewett Bros., Dighton, Kansas.

SILVER LACED AND WHITE WYANDOTTES \$1 per sitting of 15. Eggs guaranteed. Circular free. R. C. Macaulay, Route 1, Frederick, Kans.

White Wyandottes Exclusively

Pen 1 headed by 1st prize cockerel, Topeka; hens scoring 93% to 95%; eggs, \$2 for 15. Pen 2, cockerel scoring 93%; hens, 92 to 94%; eggs, \$1 for 15. All stock for sale after June 1. F. H. Sutton, Minneapolis, Kans.

S. L. Wyandottes

Indian "Runner ducks. Our Wyandottes" have been line bred for 20 years and never fall in any company. Our yards are headed by Silver Prince, the 1st cock at the Kansas State Show, and three of his cockerels. Stock for sale. Eggs, \$2 per sitting. Incubator eggs, \$5 per hundred. Duck eggs, \$1.50 per sitting.

M. B. CALDWELL, Broughton, Kansas

LANGSHANS

BLACK LANGSHAN EGGS—From main stock, 15 for \$1.00; 100 for \$5.00; from pen \$2.00 for 15. Mrs. Geo. W. King, Route 1, Solomon, Kansas.

BLACK LANGSHANS—Hens scoring 92 and upward—headed by 2d and 4th prize cockerels from Kansas City 1905 show. Eggs, \$2 for 15; \$3.50 for thirty; special price by hundred. Can fill orders at once. Mrs. C. S. Cross, Fair Acres Farm, Emporia, Kansas.

BUFF LANGSHANS \$4.00 per 15 eggs.

White \$2, Black \$2, \$1 and \$5 per 100; Buff Leghorns, Orpingtons, Cochins, S. & D. C. B. and White Leghorns, B. and W. Rocks, W. and S. L. Wyandottes, L. Brahmas, \$1.50 to \$2.00 per 15. Toulouse Geese eggs 20c each. M. B. turkeys, \$1.50 and \$2 per 9. Imported and native high-scoring blood in our yards. Mention Kansas Farmer when writing. America's Central Poultry Plant, J. A. Lovette Mullinville, Kans.

RHODE ISLAND REDS

NEOSHO POULTRY YARDS—Rose Comb R. I. Reds. Eggs after the first of June; \$1 per sitting. A few of this year's breeders for sale. Prices reasonable. J. W. Swartz, Americus, Kans.

RHODE ISLAND REDS EXCLUSIVELY—Cockerels \$1. Eggs, sitting \$1.50; for incubators \$5 per 100. Address Ben Warren, Maple Hill, Kans.

ONE DOLLAR buys 15 eggs of either Rose Comb R. I. Reds or Barred Rocks from prize-winning stock at the college show. Mrs. A. J. Nicholson, Manhattan, Kans.

IN ALL THEIR BRILLIANCY—Rhode Island Reds, Rose-Comb and Single-Comb. Write for circular describing origin, prices of eggs, etc.; it is free. H. A. Sibley, Lawrence, Kansas.

RHODE ISLAND RED EGGS for sale at \$1.25 per 15 eggs, or \$5 per 100. Mrs. G. F. Keller, "Viewed Farm," Mount City, Kans.

The Poultry Yard

Conducted by Thomas Owen.

'Tis Now a Man's Business.

BY THE EDITOR OF THE RELIABLE POULTRY JOURNAL.

No person who is at all well informed will dispute the claim that the poultry business in the United States is now an important national industry. As a matter of fact, it is one of the most important, not alone in this, but in every other civilized country, for poultry and eggs are much esteemed the world around as a highly nutritious and palatable human food. These articles are admitted to have only one rival as a natural, complete, and nutritious food, namely, milk and milk-products. The entire industry rests solidly upon the actual value of poultry and eggs as food and will endure, therefore, as long as mankind exists. Its future will be identical, in a true sense, with that of the human race. Increase of population will mean a corresponding increase in the production of these well-nigh indispensable food-products.

The United States Census returns for 1880, 1890, and 1900 show a truly wonderful increase in the number of fowls kept and in the thousands of dozens of eggs annually produced and consumed. Previous to 1880 the Census Bureau paid practically no attention to domestic fowls. The showing for 1880 and 1890, while of large proportions, were rendered insignificant by the great development which occurred during the decade that closed the century. To-day, more than four times as many fowls are kept and more than eight times as many eggs are produced and used than was the case twenty-three years ago. The increase in poultry and egg-production has been, therefore, far in excess of the increase in population.

The growth of the modern "market," as an institution, is an interesting study. It has been identical with the development of the great centers of population called cities. During the past quarter of a century, there has been a somewhat alarming concentration of population in these centers, for we are confronted with a serious social problem when we contemplate the helplessness of these collections of thousands, tens of thousands, and hundreds of thousands of people within an area that could not possibly feed a few hundred of them if they were to become dependent solely on the corporate limits of the different cities. Shut off the food-supply from their numerous markets only forty-eight to ninety-six hours and they would become panic-stricken. To deny them coal is bad enough, but if they were deprived of their food-supply, even for a few hours, distress would be common, bringing terror to the hearts of millions.

Nothing now in sight gives any promise of retarding the concentration of the people into cities, either in this hemisphere or in the old world. Increase of population and its concentration in cities involves the future and indicates the possibilities of the poultry business on practical lines. To conclude that population will increase and that cities will grow in size is to concede that the market for poultry and eggs is to be a permanent affair that will increase with the population and grow with the cities.

AN AGE OF SPECIALIZING.

Naturally, as poultry-production became a distinct and important industry, it was divided into branches representing special lines of effort. Mankind has entered upon an age of specialties, and the poultry industry did not prove an exception. First, the growers of poultry were merely poultry-keepers; now we have fanciers, duck-growers, egg-farmers, broiler-raisers, etc. The development of these branches has been rapid, but not unnaturally so. It was natural that this development should result from special attention, special effort, and singleness of purpose. The practical result has been that we now have thousands of fanciers, including hundreds of specialty breeders, and where, at the beginning, there was only one variety of fowl, a black and brown wild bird of the jungle, to-day we have more than one hundred separate and distinct varieties; where twenty-five and thirty years ago the common puddle-duck, weighing three to four pounds, was the best this country produced, we now have the Imperial Pekin, weighing ten pounds to the pair at ten weeks old, and ten to fourteen pounds each as

adults, and have numerous "ranchers," who produce from five to fifty thousand ducklings annually and find for them a ready and profitable market; where three or four decades ago a flock of one hundred or more hens was a curiosity and the egg-basket was seldom larger than a man's hat, we now have egg-farms that each carry five, six, and seven thousand laying hens, and the eggs are gathered in bushel baskets, five to ten baskets being required to gather the average daily yield, and when only a few years ago broilers, squab-broilers, roasters, winter chickens, and capons were strange words because seldom used, they are now common expressions, while tons upon tons of expertly produced poultry meat are consumed daily, and we have made only a fair start.

The fancier, first and last, despite his "fuss and feathers," has been our good friend. What we have wanted, and asked for, he has supplied. We asked for a "general purpose" fowl, and he gave us the Plymouth Rock. We asked for more eggs, and he has given us the "200-eggs per year hen" of several varieties. We asked for better squab-broilers, broilers, and roasters, and he gave us the Wyandotte. We asked for more meat and this demand was soon supplied by increasing the weights of the Asiatics, by deepening the keels of Pekin ducks, and the production of Mammoth Bronze turkeys and Toulouse geese that tip the scales at twenty to forty pounds each—too large, by half, for the average family or bake-oven.

AS AN INDEPENDENT BUSINESS.

Admittedly, our equipment of tools at present is by no means complete, and we have mastered only the first principles of the production of poultry and eggs in large quantities as an independent enterprise. The improvement of the utility breeds, the invention of popular-sized, portable incubators and brooders, and the designing of suitable brooding-houses have given us a fair start, and we may look forward with confidence that great progress will be made during the next few years. No man can safely set a limit to what will be accomplished in this direction within the next decade. Ten years ago the poultry business in this country, as an independent business, was insignificant as compared with present achievements, but there is good reason to believe that the next ten years will show still greater progress. It can not well be otherwise. Where one man was interested in the problem and trying to achieve results ten years ago, one hundred or more are now employed at the same task. These later comers include the men with years of experience who now are profiting by their reverses and successes, and the outcome can not fail to be desirable. To-day, America leads the world in the knowledge and employment of successful methods of poultry-production on a large scale, and probably it will maintain this position. Other countries are adopting our methods, but we have secured a lead that will be hard to overcome. The financial risk is being eliminated from the business until it is not greater now than that involved in other business enterprises, and men of means and brains are taking up the work in rapidly increasing numbers. Nevertheless, it still remains a fact that nine out of ten, if not nineteen out of twenty, of the average well-informed men of this and other foremost poultry-growing countries have but slight conception of what actually is taking place in the poultry world. So much the better for those of us who have become interested in the subject, who have a correct idea of its importance and recognize the unmistakable signs of its rapid development and splendid possibilities. Snug fortunes are being made at the present time in different branches of the poultry business where ten and twenty years ago this would have been utterly impossible—and to-day is but a promise of the superior conditions that will exist five, ten, and twenty years hence.

GOVERNMENT HAS BECOME INTERESTED.

No one realizes the truth of the foregoing more than the United States Government and the various State Governments. This came about largely as a result of the facts disclosed by the census returns of 1880 and 1890. The Bureau of Animal Industry took up the question eight or ten years ago and now regularly issues valuable bulletins for free distribution, giving detailed instructions and advice for use in the production of an increased amount of better poultry, and the obtaining of a larger egg-yield per hen.

LEGHORNS

ROSE COMB BROWN LEGHORN EGGS, 15 for \$1.50 for \$2.50, 100 for \$4. Mrs. John Holzhay, Bendena, Kans.

BUFF LEGHORNS AND BUFF ORPINGTONS. Catalogue free. W. H. Maxwell, 1240 Quincy St., Topeka, Kans.

STANDARD-BRED SINGLE-COMB BUFF LEGHORNS—Headed by first prize pen Chicago show 1903 and took six first prizes and first pen at Newton 1904. Eggs \$3 for 15. S. Perkins, 301 East First street, Newton, Kansas.

STAY WHITE—S. C. W. Leghorns and Buff Rocks. Winners at State Fairs. Eggs, \$1 per sitting. J. W. Cook, Route 3, Hutchinson, Kans.

SINGLE-COMB WHITE LEGHORN cockerels, \$1 each; two or more, 80 cents each. Fine white, pure, thoroughbred birds. Also a few Barred Plymouth Rocks, barred to the skin—fine, pure and vigorous; hens, cocks and pullets, \$1 each; two or more, 80 cents each. All of our customers are very well pleased. We will make reductions on large lots. Meadow Poultry Farm, Coulterville, Illinois.

EGGS FOR SALE—S. C. W. Leghorns, W. Wyandottes, \$1 per 15. W. H. turkeys, \$1.50 per 9. Mendon geese, 20c each. W. African guineas, \$1 per 17. All guaranteed pure-bred. A. F. Rutley, Route 2, Maple Hill, Kansas.

FOR SALE—Exhibition S. C. Black Minorca cockerels, \$2. I guarantee them. Address George Kern, 317 Osage street, Leavenworth, Kans.

Pure Single Comb Brown Leghorn Eggs—30 for \$1; 100 for \$3. F. P. Flower, Wakefield, Kans.

Buff Leghorns S. C. Eggs, 30 for \$1.25, 100 for \$3. John A. Reed, Route 2, Wakefield, Kans.

Johnnie Chase, Glasco, Kas.

Breeds Black Minorcas, S. C. Brown Leghorns and Barred Rocks. Second to none in the state. Eggs, \$2 per sitting.



Notice To those who have bought eggs of me this season and have failed to get satisfactory hatch, please advise me and I will make it right.

W. S. Young Breeder of R. C. and S. C. White Leghorns and White Wyandottes. McPherson, - Kansas

MAMMOTH BRONZE TURKEYS

EGGS FOR HATCHING from large high-scoring M. B. turkeys, \$2 per 9; S. C. and R. C. Brown and S. C. White Leghorns, S. Spangled Hamburgs, S. C. Black Minorcas. Prize-winners in every pen. Eggs, \$1 per 15. Vira Bailey, Kinsley, Kans.

Eggs for Hatching

M. B. turkeys, \$3 per 10. Golden Wyandottes, \$2, \$1.50 and \$1.25 per 15. Satisfaction guaranteed. Mrs. A. B. Grest, Emporia, Kansas.

Eggs For Hatching

WHITE HOLLAND TURKEYS, MAMMOTH, PEKIN DUCKS AND BARRED PLYMOUTH ROCKS. \$1 per setting for any of the above, fresh eggs carefully packed and safe arrival guaranteed. A. F. Huse, Manhattan, Kans.

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LIGHT BRAHMAS

More prices than any breeder in the state; 10 firsts this season. Eggs, \$1.50. Cockerels, \$2 to \$4. T. F. Weaver. - Blue/Mound, Kansas

Light Brahma Chickens

Choice pure bred cockerels for sale. Write or call on Chas. Foster & Son, Eldorado, Kan. Route 4

SILVER SPANGLED HAMBURGS.

MY SILVER SPANGLED HAMBURGS led their class at the last three State Shows; also have Worlds Fair Premium. Eggs \$1.25 to \$2.00. Mrs. Fay Finkle, Galva, Kans.

BUFF COCHINS

BUFF COCHIN EGGS—From high scoring prize-winning stock, \$1.25 per 15; \$5 per 100. Stock for sale. A. R. Gage, Minneapolis, Kans.

INDIAN RUNNER DUCKS.

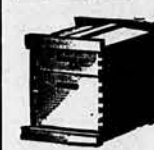
Indian Runner Ducks and White Wyandottes Eggs

Fresh, fertile and from high-class stock. Price reduced to \$1 per sitting. L. D. Arnold, Enterprise, Kans.

GEESSE

BROWN CHINA GEESSE, Indian Runner Ducks, also Barred Rock cockerels. Prize winners at State Poultry Show. O. C. Sechrist, Meriden, Kansas.

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We can furnish you bees and all kinds of bee-keepers' supplies cheaper than you can get elsewhere, and save you freight. Send for our catalogue with discount sheet for early orders.

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SAVE YOUR CHICKS.

Use the Itumar Mite and Lice Killer, a mite and lice destroyer. Guaranteed to kill mites and lice if properly used. If not satisfied return bottle and label and money will be refunded.

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Glendale Park, Hutchinson, Kans.

CHICK FEED

The cleanest, purest feed for baby chicks on the market. Every day egg producer on alfalfa or clover starts the hens to laying and keeps them laying. Wholesale poultry supplies. Send for circular.

The Otto Weiss Alfalfa Stock Feed Co. Wichita, - Kansas

Probably twenty States of the Union are now conducting poultry-plants on their State experiment stations or in connection with the State agricultural colleges. At half a dozen or more of these colleges, regular poultry-classes have been instituted, the members ranging from twenty to thirty each term and including, as students, men and women who are above the average in intelligence, some of them being well educated. These students, as graduates, are finding positions as managers of poultry-plants, as lecturers at farmers' institutes, or are entering the business themselves. Numerous other public and semi-public institutions, including farm-schools and various charitable institutions, are conducting poultry-plants and instructing the students or inmates in practical poultry work, with a view to qualifying them for earning their living and taking up poultry-production as a business, either in the employ of others, or independently. All this is "something new under the sun," and clearly points to a bright future for the poultry industry in its several branches.

Where thirty or forty years ago poultry exhibitions were seldom heard of, now they are common. In the neighborhood of three hundred winter shows are held annually at the present time, while thoroughbred, or standard-bred, poultry is exhibited every summer and fall at not less than a thousand State, district, and county fairs, the exhibits ranging from a few specimens in an open shed to three or four thousand choice birds shown in uniform coops and housed in buildings, each costing \$10,000 to \$25,000, that have been built by the fair associations, often at State expense, expressly for poultry. Long lists of cash premiums are offered, some of the State fair associations appropriating one, two, and three thousand dollars each for this purpose, while of late years the great winter-poultry exhibitions, like those held regularly in Boston, New York, Philadelphia, and Chicago, have offered as much as five and six thousand dollars in cash premiums at a single show, besides nearly equal amounts in medals, prize-cups, and other valuable trophies.

Not one whit less remarkable and important than the foregoing has been the development of the poultry press. To-day, more papers in the United States are devoted exclusively to poultry than to any other branch of live stock; in fact, we believe there are more poultry papers than there are horse, cattle, sheep, and swine papers taken together. We may be mistaken in this, but we do not believe we are. There are between sixty and seventy poultry papers, and we doubt if there are as many other exclusively live-stock papers all told. Furthermore, nearly every farm paper, in fact, practically every one of them that has a large circulation, now conducts a regular poultry department, giving it, as a rule, as much space and attention as are given to cattle, horses, sheep, or swine. There is no need to apologize, at this time, and under present conditions, for being interested in poultry, or for being in the poultry business.

DEVELOPMENT OF LARGE PLANTS.

Visible signs of the rapid development and present importance of the poultry business are to be met on every hand, especially in the States east of the Mississippi River, where the population is greatest. The farther east one goes the more numerous become the poultry-plants, small and large. New England has been called "the cradle of the poultry business" in this country, and for good reason. Massachusetts and Rhode Island probably lead the Union in the production of poultry, area considered, but New York, New Jersey, Connecticut, Eastern Pennsylvania, and Ohio are following closely, while the great agricultural States of the Mississippi Valley, notably Illinois, Iowa, Missouri, and Eastern Kansas and Nebraska, are producing vast quantities of poultry and eggs, as shown by the census returns of 1890 and 1900. These large and fertile agricultural States have the credit of producing more poultry and eggs than the Eastern States, but this is not true in proportion to area. Furthermore, in the Mississippi basin the immense quantities of poultry and eggs are produced mostly in the old-fashioned way, on the ordinary farm by the farmer's wife and children, while farther east numerous poultry-plants have sprung up whereon the production of poultry and eggs is steadily being reduced to a science.

Ten and fifteen years ago one had to

travel far to find half a dozen successful poultry-plants that were being conducted on independent lines, while now two or three dozen of them can be visited in a week's journey if one knows where to go. Travelers riding by train or electric car through the New England States are prone to remark that about every fourth farmer or villager seems to be in the poultry business, for on either side of the "right of way" are to be seen poultry-plants varying from two to three small houses to a dozen long ones built on the continuous-house plan, each house being one, two, or three hundred feet long, with attractive parts filled with hundreds of standard-bred White Wyandottes, White Leghorns, Plymouth Rocks, Brahmas, or first crosses.

Even persons who consider themselves well posted are frequently surprised to learn of some extra large plant that has sprung up unheralded and become an established success before its existence was discovered by the poultry papers or the writers on poultry topics. Men of perseverance started them on a small scale and added to them little by little, thus building up large and profitable businesses on a safe and solid basis.

With the specializing of the work of poultry-production, the dividing of the business into branches, and the development of large specialty plants, there has come a natural and highly important improvement in the quality of the product. Twenty to thirty years ago no one had heard of "green ducks," meaning ducklings eight to twelve weeks old that have been specially fed, producing a most toothsome morsel, while now thousands of tons of them are marketed in the Eastern cities every spring and summer. On Long Island and upwards of a hundred thousand of these ducklings are produced within a radius of ten miles of the little village of Speonk. The Spring Lake Poultry Co., C. A. Stouffer, president, Harrisburg, Pa., produces forty-five to sixty thousand ducklings each season, besides several thousand broilers, and Messrs. Weber Bros., of Wrentham, Mass., now have an annual output of over forty-five thousand ducklings. Broiler plants are in successful operation, with capacities ranging from ten to twenty-five thousand broilers per season; "winter chickens," or roasters, are produced by the ton in different sections of New England, New York, New Jersey, Eastern Pennsylvania, and Maryland, and capons, or "Philadelphia chickens," as they were originally called, are being produced in rapidly increasing quantities in New Jersey, New England, and the Middle West. Chicago is now a reliable capon market, and the poultrymen and farmers of Illinois, Michigan, Wisconsin, Iowa, and Missouri are turning their attention more and more to the production of capons.

NOW WE HAVE BETTER TOOLS.

While we are giving credit to the fancier for increasing the number of varieties and developing the utility as well as the beauty points of the more popular breeds, while we are praising the poultry press and acknowledging the importance of poultry exhibitions, let us not overlook the fact that the improvement in the tools used by the poultryman has been invaluable to him in his work and progress. Poultry on a large scale, while not impossible without the use of popular-sized incubators and reliable brooding apparatus, is, nevertheless, impracticable, for if the hen has to be relied on to do the hatching she will not sit until she gets ready, and then not in sufficient numbers to give the business the necessary elements of certainty and proper management. Worse still, if the hen had to be relied on to brood the chicks or ducklings, her instinctive habits and erratic conduct would soon limit the ambitious poultryman to a comparatively small plant and would make his life a burden to him on account of numerous uncertainties. The great duck ranches are proof positive of this general statement. None of them uses so much as one hen for incubating. They use incubators exclusively for hatching. Nor do they use a hen for brooding—not one. Their incubator cellars and brooding-houses are built on the latest patterns and are as reliable, generally speaking, as an eight-day clock. They have far less trouble with their incubators and brooding apparatus than they do to make sure that the vigor and stamina of their stock are maintained. Inbreeding and close confinement are decidedly more threatening than any dangers that arise from the incubating and brooding apparatus. Much credit is due the incubator inventors and manufacturers of the country (this is

especially true of America) for keeping pace with the demands of the progressive poultrymen who desired to establish large plants and could not have done so were it not for the improvement in the apparatus they must use.

Practically all of the large egg-farms and broiler-plants now use incubators and employ brooding-houses for rearing the chicks. Hen's eggs hatch in incubators even better than duck's eggs, and numerous plants are in operation that require ten to twenty-five thousand eggs, including hen's and duck's eggs, every thirty days, in order to fill the machines. There are more than fifty poultry-plants doing business in this country at the present time that use enough incubators to require five to thirty thousand eggs every three or four weeks. These plants could not exist if they had to depend on the hen-method of hatching and raising chicks. An incubator is ready for work whenever fertile eggs can be obtained. It is far easier to induce hens to lay out of season than to persuade them to sit before they want to. They will lay long before they become broody, and by breeding in line for egg-production, we now have flocks of hens that average one hundred and fifty to two hundred eggs per year, where, according to the census returns of 1890 and 1900, the average American hen lays less than one hundred eggs per year. Estimate for yourself the great addition there will be to the National wealth of this and other countries when the average egg-yield of all hens that are kept for laying purposes is increased fifty to seventy-five eggs per annum. Millions of dozens of eggs are now produced and sold so readily that they are like wheat in the granary or cash in the bank; once the work of the methodical poultryman becomes the common property of the poultry-keepers of the farm and village, then the annual egg-production of the Nation will be increased 25 to 75 per cent and the National wealth will be increased to this important extent. The real importance of this National opportunity lies beyond our comprehension, for figures, when they mount into millions, are baffling, and this increase of the egg-yield is a problem of that kind.

IMPROVED POULTRY PRODUCTS IN DEMAND.

Increase of wealth and population has resulted in a steadily increasing demand for the finest products of the poultryman's art. Wealthy families, fashionable clubs, leading hotels, and high-class restaurants now compete for the guaranteed strictly fresh eggs and gilt-edged dressed poultry of the expert and dependable poultryman almost regardless of price, in fact, they will pay what they have to pay in order to get what they want, and they want the very best that can be produced, so that now we have not only broilers weighing one pound to two pounds each, but "squab" broilers weighing only three-fourths of a pound to a pound, and have roasters weighing five pounds each, that readily bring twenty to thirty cents per pound; also green ducklings that start early in April at thirty to thirty-five cents per pound and range down to twelve cents late in August when the season closes. Strictly fresh eggs guaranteed bring a premium of five to ten cents per dozen above current prices. Expert poultrymen tag or stamp their specially choice products, wrap them neatly in tissue paper, tie them with dainty ribbons and get "a price and a half" for them, as compared with the ordinary grade of stock placed on sale; and the "professional" egg-farmer stamps his eggs with the dates on which they were laid, with the name of his farm, or with his initials, puts these eggs in one-dozen or two-dozen pasteboard boxes, guarantees them "strictly fresh" and obtains a satisfactory reward for his enterprise.

Despite the greatly increased production, the prices of poultry and eggs have been higher the last year or two than ever before in the history of the industry. Increased wealth and population account for this, for it is a fact that in the Eastern States where the production of poultry and eggs is greatest, the prices invariably range from 50 to 100 per cent higher than they do in the great agricultural districts, where the population is much less per square mile and the cities are smaller.

Only a few years ago the man who went into the poultry business, or talked of going into it, was considered a crank, while incubators were looked on as fakes, or as a fad. Every year, recently, has seen the business of poultry-production steadily improve, reaching a higher plane and resting on a more substantial basis, while the manufacture of goods for poultrymen, including practical, reliable incubators and brooders, handy time, labor, and

A CRITICAL PERIOD

INTELLIGENT WOMEN PREPARE

Dangers and Pain of This Critical Period Avoided by the Use of Lydia E. Pinkham's Vegetable Compound.



How many women realize that the most critical period in a woman's existence is the change of life, and that the anxiety felt by women as this time draws near is not without reason?

If her system is in a deranged condition, or she is predisposed to apoplexy or congestion of any organ, it is at this time likely to become active and, with a host of nervous irritations, make life a burden.

At this time, also, cancers and tumors are more liable to begin their destructive work. Such warning symptoms as a sense of suffocation, hot flashes, dizziness, headache, dread of impending evil, sounds in the ears, timidity, palpitation of the heart, sparks before the eyes, irregularities, constipation, variable appetite, weakness and inquietude are promptly heeded by intelligent women who are approaching the period of life when woman's great change may be expected.

We believe Lydia E. Pinkham's Vegetable Compound is the world's greatest remedy for women at this trying period.

Lydia E. Pinkham's Vegetable Compound invigorates and strengthens the female organism, and builds up the weakened nervous system as no other medicine can.

Mrs. A. E. G. Hyland, of Chestertown, Md., in a letter to Mrs. Pinkham, says:

Dear Mrs. Pinkham:—

"I had been suffering with a displacement for years and was passing through the change of life. I had a good deal of soreness, dizzy spells, headaches, and was very nervous. I wrote you for advice and commenced treatment with Lydia E. Pinkham's Vegetable Compound as you directed, and I am happy to say that all those distressing symptoms left me, and I have passed safely through the change of life a well woman."

For special advice regarding this important period women are invited to write to Mrs. Pinkham, Lynn, Mass. She is daughter-in-law of Lydia E. Pinkham and for twenty-five years has been advising sick women free of charge. Her advice is free and always helpful to ailing women.



Subscription, 25 Cents a Year.

"OUT THERE IN KANSAS"

All about the chicken industry in Kansas, the bees and pigeons. Full of information illustrated and made plain for the people. Practical, by and for practical people. The paper that reaches the chicken folks. If you are interested in poultry, bees or pigeons, THE HEN will interest you. Address THE HELPFUL HEN, Topeka, Kansas.



THE FAMOUS OLD TRUSTY

More than your money's worth in incubators during the summer. We have them all built, 40, 50 or 90 days to prove it. 5 year Guarantee. Now is the time to write to M. M. JOHNSON, The Incubator Man, Clay Center, Neb.

Farmer's Account Book and Ledger

Saves time and labor—a few minutes each day will keep it; systematizes farm accounts in every department; shows in the simplest manner how to increase profits and decrease losses; endorsed by farmers everywhere. We stand ready to refund the purchase price on every book not found satisfactory. We deliver this book postpaid, including the KANSAS FARMER one year, both for only \$2.50. Address,

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More Money Made as Local Agent

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Also Five Year Diaries. Address

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money-saving appliances and helpful poultry supplies of various kinds, has become a permanent and substantial business. The men who are in the poultry business to-day, or who contemplate taking it up as a means of livelihood, unquestionably have before them opportunities that will tax their enterprise and call in play all the ability and energy at their command. The poultry business, in all its important branches, is at present "a man's business," and we are pleased to observe that men of ability and of means are "taking hold" in sufficient numbers. If these words should chance to be read ten or twenty years hence, the middle-aged reader, if endowed with a good memory, will give us credit for being a wise prophet, when as a matter of fact we merely have noted a few of the plain "signs of the times" that point out the direction of future achievement and rapid progress.

The Grange

"For the good of our Order,
our Country and Mankind."

Conducted by George Black, Olathe, Secretary
Kansas State Grange, to whom all correspondence
for this department should be addressed.
News from Kansas Granges is especially solicited.

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Lecturer.....Geo. W. F. Gaunt, Mullica Hill, N. J.
Secretary.....C. M. Freeman, Tippecanoe City, Ohio

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Master.....E. W. Westgate, Manhattan
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Steward.....R. C. Post, Spring Hill
Assistant Steward.....Frank Wiswell Ochiltree
Chaplain.....Mrs. M. J. Ramage, Arkansas City
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Clerk.....Mrs. M. L. Allison, Lyndon
Pomona.....Mrs. S. M. Finney, McLouth
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L. A. S.....Mrs. Lola Radcliffe, Overbrook

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Henry Rhodes.....Gardner
J. O. Lovett.....Bucyrus

STATE ORGANIZER.

W. B. Obryhim.....Overbrook

Report of Legislative Committee.

To the Patrons of Husbandry of the United States:—The legislative committee of the National Grange met in Washington January 18 in the interest of several measures pending in Congress, directly affecting agriculture, upon which the National Grange has taken unanimous favorable action. We were received by President Roosevelt at the White House and given a private conference, notwithstanding the great pressure for his attention to other matters. The President inquired with interest in regard to the position of the Grange upon several legislative matters affecting agriculture, seeming to recognize the right of the Grange to speak for this great industry. He expressed in emphatic terms what he considered the public sentiment against any modification of the present effective oleomargarine law, and predicted the establishment of the parcels post. The President said he would investigate the proposition for the removal of the revenue tax on alcohol, made unfit for beverage purposes for use in the industries, with a disposition to favor the measure.

The legislative committee of the National Grange has frequently called upon the Interstate Commerce Commission, and upon this occasion was met with the usual cordial greeting. Perhaps no measures pending in Congress are of greater importance to the farmers than those representing what is termed rate-regulation. We assured the Interstate Commerce Commission of the continued firm position of the Grange upon this matter, and that the organization as a whole was ready to exert its whole influence in favor of conferring upon it the power to regulate transportation rates and to prevent unjust discriminations in the matter of transportation charges and rebates. The Grange stood for this principle when it had but little help from other influential sources, and now that great and powerful influences are joining with us in demanding remedial legislation, the Grange will continue to act with renewed vigor and enthusiasm. Your committee, after such study of the bills introduced upon this matter as we were able to make, request the members of the Grange throughout the country to write their Representatives and Senators in Congress to support H. R. No. 10099, known as the Hepburn bill.

*Your committee interviewed Chairman Payne of the Committee on Ways and Means in regard to a hearing upon the bill to remove the internal revenue tax upon alcohol rendered unfit for

beverage purposes for use in the industries, and as a result of this conference, the Committee on Ways and Means unanimously voted to give a hearing upon this important measure February 7, when the Grange will be represented. Members of the Grange are to forward petitions to Representatives and Senators as early as possible, as the matter is of tremendous importance to the agricultural interests of the country.

We interviewed the chairman of the Committee on Agriculture upon the pending legislation providing National aid for highways, and also had conferences with other influential members of Congress upon the matter. The principles of the bill prepared by this committee and introduced by Congressman Currier, of New Hampshire, known as the Currier bill, have received the endorsement of the most enthusiastic friends of such legislation, and every possible influence should be brought to bear upon Congress to further this legislation as soon as practicable, although we are convinced of the impossibility of enacting a law at this session.

We were cordially received by Postmaster-General Cortelyou and given a courteous hearing. The great value of rural mail service to the country was emphatically stated by the Postmaster-General, and he also said there would be no restriction of the present service, except in such instances as there seemed to be a lack of appreciation on the part of the patrons to cooperate with the Department in making it a success. In fact, he said there would be still further extension of that service in general. The Postmaster-General was also enthusiastic in speaking of the advantages of the parcels post, especially to the rural people, and predicted its establishment in some form in the near future. The advisability of experimental adoption of the system in specified sections of the country, as was done in the initial establishment of rural mail delivery, was discussed, and your committee heartily endorsed such action and request the members of the Grange to take immediate action in having their influence exerted in favor of legislation that will enable the Postmaster-General to inaugurate such experimental parcels post service.

The Committee on Agriculture was visited, where we were assured that the bill reducing the tax on colored oleomargarine from 10 to 2 cents a pound would not be pressed this session. The chairman of the committee said he was opposed to the 10-cent tax when the bill was under consideration, but would not urge the pending bill to reduce it. There seems to be little danger that such legislation will be pressed by any one during this session of Congress, yet it will be well to be on guard against any



Extraordinary Low Rates to Boston Santa Fe

Dedication of the First Church of Scientists at Boston, June 10; also annual meeting American Medical Association. For these occasions the Santa Fe has made the extremely low rate of one fare plus \$2.00 for the round trip, tickets on sale May 31 to June 9, final limit of June 18, but by depositing ticket and payment of \$1.00 can be extended to leave Boston as late as July 15. Stop-over allowed at New York on return at slight additional cost.

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Dear Sir: Please tell me about Colorado.

Name.....

P. O.

State.....

tactics that the oleomargarine combine may introduce at any time.

The committee called upon Secretary Wilson at the Department of Agriculture, and were received with the cordiality always manifested by the general Secretary towards the representatives of the National Grange. We were assured of the earnest desire of the Secretary to know the wishes of the Grange in regard to the work of the Department over which he presides, which would be granted so far as possible. The Secretary stated that he was in favor of all the legislation endorsed by the National Grange, some of which was discussed in detail with him. We assured the Secretary of the earnest desire of the Grange to cooperate with the Department of Agriculture in all matters for the promotion of American agriculture.

The committee also called upon the Committee on Interstate Commerce and the Committee on Post-offices and Post-roads in the furtherance of the matters upon which we represented the National Grange. In the performance of our duties we were accompanied by Governor Bell, of Vermont, who was in Washington, and rendered valuable assistance in various ways.

NAHUM J. BACHELDER,
E. B. NORRIS,
AARON JONES,

Legislative Committee National Grange.
*This report was made prior to the late action of Congress in passing the denatured alcohol bill.

Grange Extension.

Grange extension does not necessarily imply extension to new States, but extension in the States where the organization is already represented, but comparatively weak in numbers. Such work can only be done to advantage during the less busy season upon the farm. In strong Grange States, where the influence from existing granges is so great as to overcome all obstacles in the path of organization, it makes

but little difference what season of the year work is performed. Granges can be organized in such States at any season of the year. In States where the organization is relatively weak and receives no impetus on account of its own inertia, the most leisure season on the farm must be selected, and this runs from November 1 to May 1. Of course there are very busy months in this period in some sections of the country, but, as a rule, the pioneer work in comparatively new fields will need to be done during this period.

The work of extension in Wisconsin, Minnesota, and Iowa has been pushed with reasonable earnestness during the latter part of the winter, and good results have been secured. It was January in all these States, and February in Minnesota, before any work was actually done, so that only about one-half of the organizing season was available. In Kentucky the work was begun about the first of January and will continue during the entire summer. It is expected that the work in the other States named, and perhaps in one or two other States, will be taken up November 1, or earlier, and pushed during the entire winter. The great lack in the work is a sufficient number of efficient organizers to take up the work. In fact, this is true in all the States, and it would be surprising to the average member to know the number of new granges that would be organized in half a dozen of the strong Grange States if half a dozen organizers should devote their entire time to this work during a single winter. There is an unlimited field for successful organizers, although grand results are being obtained in some States at the present time.—National Grange Bulletin.

\$12.25 to Buffalo, N. Y., and return, from Chicago, via Nickel Plate Road, June 9, 10, and 11, with return limit of June 26. Nickel Plate Office, Room 208, 118 Adams St., Chicago.

Weather Bulletin.

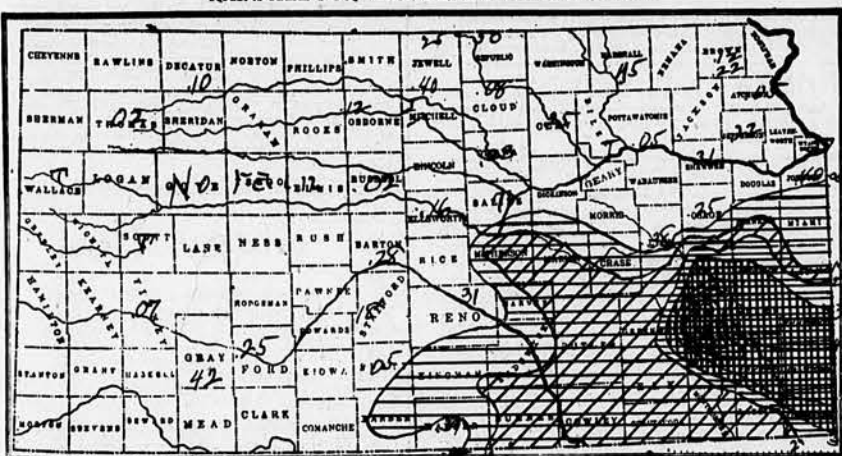
Following is the weekly weather bulletin for the Kansas Weather Service for the week ending June 5, 1906, prepared by T. B. Jennings, station director.

CLIMATOLOGICAL DATA FOR THE WEEK.

	Temperature.				Precipitation	
	Maximum.	Minimum.	Mean.	Departure from normal.	Total.	Departure from normal.
WESTERN DIVISION.						
Cimarron.	84	46	62	...	0.42	...
Colby.	86	36	59	...	0.02	...
Dodge City.	81	40	64	...	0.25	...
Dresden.	89	37	60	...	0.10	...
Englewood.	87	45	63	...	...	...
Farmington.	82	37	62	...	0.07	...
Garden City.	82	38	65	...	...	...
Norton.	90	41	62	...	T	...
Scott.	83	39	60	...	...	...
Wamego.	85	33	59	...	T	...
Wallace.	85	33	59	...	...	...
Division.	87	33	62	...	0.09	...
MIDDLE DIVISION.						
Anthony.	85	43	63	...	0.39	...
Clay Center.	85	43	63	...	0.25	...
Concordia.	84	42	62	...	0.08	...
Eldorado.	88	44	65	...	1.11	...
Ellinwood.	83	43	64	...	0.28	...
Hanover.	84	42	62	...	...	...
Harrison.	86	38	60	...	0.72	...
Hays.	86	38	61	...	...	...
Hutchinson.	83	43	65	...	0.31	...
Jewell.	86	40	60	...	0.40	...
Lebanon.	88	40	...	...	0.15	...
Macksville.	83	40	64	...	1.28	...
McPherson.	86	42	66	...	0.74	...
Medicine Lodge.	86	42	66	...	0.68	...
Newton.	82	41	65	...	0.88	...
Norwich.	80	42	67	...	0.05	...
Pratt.	80	42	67	...	0.50	...
Republic.	77	40	60	...	T	...
Salina.	87	45	66	...	T	...
Wichita.	91	44	66	...	0.52	...
Winfield.	89	49	68	...	1.60	...
Division.	86	38	64	...	0.49	...
EASTERN DIVISION.						
Atchison.	88	45	66	...	0.05	...
Burlington.	86	43	65	...	0.06	...
Emporia.	85	45	66	...	0.38	...
Eureka.	...	...	...	...	1.71	...
Fall River.	91	42	67	...	0.45	...
Frankfort.	85	43	63	...	0.56	...
Fredonia.	83	43	63	...	2.12	...
Garnett.	83	43	63	...	0.98	...
Grenola.	86	45	64	...	0.22	...
Horton.	87	47	66	...	3.24	...
Iola.	87	47	66	...	0.27	...
Kansas City.	85	47	66	...	1.70	...
Lebo.	82	47	64	...	0.11	...
Moran.	87	46	66	...	0.25	...
Osage City.	87	46	66	...	1.97	...
Oswego.	85	46	68	...	0.70	...
Pleasanton.	84	47	67	...	0.31	...
Topeka.	86	46	66	...	0.20	...
Toronto.	87	49	67	...	4.38	...
Wadsworth.	88	46	67	...	7.46	...
Yates Center.	83	42	66	...	1.91	...
Division.	87	33	64	...	0.83	...
State.	87	33	64	...	...	...

GENERAL CONDITIONS.
The week was cool, the temperature ranging about 2° below normal in the southern counties and about 5° below in the northern counties. In the western division the highest temperatures occurred on the 29th, and the lowest generally on the 30th. In the middle division the highest temperatures occurred on the 29th or 31st, and the lowest generally on the 27th. In the eastern division the highest temperatures occurred on the 30th and 31st while the lowest occurred on the 27th in the northern counties and on the 28th in the southern. Light scattered showers fell in the

RAINFALL FOR WEEK ENDING JUNE 2, 1906.



SCALE IN INCHES:

Less than .50. .50 to 1. 1 to 2. 2 to 3. Over 3. T, trace.

western and northern counties. In the south-eastern counties the precipitation was ample, while in Coffey, Woodson, Allen, and Crawford Counties it was decidedly above normal. Hailstorms caused damage in some central counties, and in Anderson County.

CONDITIONS BY COUNTIES.

EASTERN DIVISION.

Allen.—The fore part of the week was cool but the temperature for the week was about normal. Thunderstorms occurred on the 29th, 30th, and 31st. On the 30th, 2.10 inches of rain fell, and on the 31st, 1.14 inches fell.
Anderson.—Good showers fell on the 30th and 31st of May and the 1st of June, making a total rainfall for the week of 2.12 inches. The week was mostly cloudy.
Atchison.—The week has been very dry. There has been less than an inch of rain fallen since the 1st of May.
Brown.—A light rain of 0.22 of an inch fell on the 30th but failed to relieve the drought prevailing in this vicinity, which is becoming quite serious. There were four days clear, two partly cloudy, and one cloudy. There was a high wind on the 29th.
Coffey.—Good rains fell on the last two days of May, the total rainfall for the week being 1.70 inches. Seasonable temperatures and partly cloudy weather prevailed.
Crawford.—The first of the week was clear and dry. Good showers fell the middle part of the week. The last two days were cool and cloudy.
Elk.—The mean maximum temperature was 77° and the mean minimum was 56°. Good showers fell the last three days.
Greenwood.—Showery weather prevailed all

week. The rainfall for the week was 1.71 inches.
Labette.—The weather was partly cloudy and very pleasant all week. Good rains fell the last two days making the total precipitation for the week 1.97 inches.
Linn.—Seasonable weather prevailed this week, the temperature and rainfall being about normal and the days partly cloudy.
Lyon.—Welcome showers fell on the last two days of May but more is needed. Temperatures were seasonable.
Marshall.—The first of the week was quite cool but Tuesday the weather became warmer and continued so till the close of the week. Dry weather continued although nearly a half of an inch of rain fell on the 28th.
Osage.—Temperatures were considerably below normal the first two days of the week, but the rest of the week enjoyed seasonable temperatures. Light showers fell the last two days of May and the first of June, but more would be welcome.
Shawnee.—Partly cloudy and very pleasant weather prevailed all week. The first of the week was rather cool, but the middle part was warm, and the mean weekly temperature was a little below normal. Light showers fell on four days, but rain is badly needed as less than an inch and a half has fallen since the first of May.
Wilson.—The weather has been damp and threatening every day this week but only about a half of an inch of precipitation has fallen. The highest temperature was 91° on the 31st and the lowest 45° on the 28th.
Woodson.—The week has been cloudy, and from six to seven and a half inches of rain have fallen over the county. Temperatures were seasonable.
Wyandotte.—The week was cool throughout with frequent light and unimportant showers and a thunderstorm with 0.22 of an inch of rain on the last day of May.
MIDDLE DIVISION.
Barber.—The total precipitation this week was 0.74 of an inch which fell on the last of May and the first of June. This rain was badly needed. The highest temperature was 96° on the 31st and the lowest 47° on the 27th.
Barton.—Light local showers fell on four days and thunderstorms occurred on three days. Hail on the 28th and 31st did some damage. The highest temperature was 93° on the 29th and the lowest 43° on the 27th and 28th. High winds occurred on the 27th and 28th and a dust storm on the 29th.
Butler.—The weekly rainfall was 1.11 inches. The highest temperature was 88° on the 31st and the lowest 44° on the 28th.
Clay.—A quarter of an inch of rain fell on the 30th of May but the other days were dry. The first of the week was a little cool but the rest was warmer and very pleasant. The prevailing wind was from the north.
Cloud.—The week was cool, generally partly cloudy and very pleasant. The only rain during the week was 0.08 of an inch on May 28th. Rain would be very welcome.
Coville.—This has been a fine growing week, the weather being seasonable and showery. The total rainfall for the week was 1.50 inches most of which fell the last day of May.
Ellis.—No rain fell during the week. The nights were cool, the lowest temperature being 41° on the 27th. The highest temperature was 96° on the 29th.
Harper.—The week was cool and partly cloudy with plenty of breeze and 0.39 of an inch of rain which fell the last of May and the first of June.
Harvey.—The first of the week was quite cool and the middle part very warm with a rainfall of 0.68 of an inch on Thursday. The latter part was cool. Cloudy weather prevailed.
Jewell.—The week was cool and partly cloudy. Showers fell on the 28th and 29th and a trace of rain on the 30th. Hail on the 29th did some damage. The wind has been very light.
Kingman.—Cool weather was experienced the first of the week but the middle part was warmer with a maximum temperature of 92° on May 31. The weekly temperature was about seasonable. Cloudy, showery weather prevailed the last four days making the total precipitation for the week 0.68 of an inch.
McPherson.—The temperature was moderate, a little warmer weather would be more beneficial. The rainfall for the week was 1.28 inches, sufficient for present needs. Some damage was done by hail.
Pratt.—Seasonable temperatures prevailed. The highest temperature was 90° on May 29 and the lowest 42° on May 28th. Only 0.05 of an inch of rain fell. High winds blew on the 29th and 31st of May.
Reno.—The week began very cool with a minimum temperature of 44° on the 27th but warmed up rapidly on the 29th and reached a maximum of 92° on that date. On the evening of the 29th there was a high south wind and hail which was locally damaging. Only 0.31 of an inch of precipitation fell during the week.
Republic.—The weather during the week was cool, the lowest temperature being 40° on the 27th and the highest 77° on several days. On the 29th there was a high wind and dust storm followed by a rain in which about a half an inch of rain fell.
Saline.—Only a trace of rain fell this week and the ground is getting dry. The first of the week was cool with a minimum temperature of 45° on the morning of the 28th but the middle and latter part were warm, the maximum temperatures ranging in the eighties each day.
Sedgwick.—Showers and thunderstorms prevailed on the last three days of May with 0.51 of an inch of rain on the last day. The first days of the week were considerably below normal, but it was very warm and sultry on the 30th and 31st of May. Partly cloudy to cloudy weather prevailed.
Smith.—The week has been dry and cool

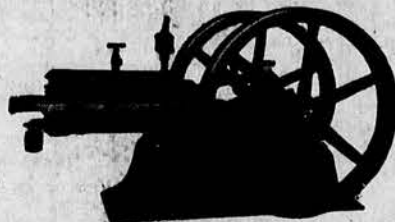


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GARDEN CITY, KANSAS

with northerly winds. The highest temperature was 88° on the 29th, and the lowest 40° on the 27th.

Stafford.—The week began cool, but it became very warm on the last of May, the maximum temperature reaching 93° on that day. Light showers fell the last two days of the week, making a total of 0.18 of an inch of precipitation for the week.
Washington.—The first of the week was cool, but on the 29th of May there was a small tornado which blew down trees, chicken houses, and windmills. Hail fell, damaging some wheat-fields so that they had to be plowed up. During the latter part of the week the temperature was seasonable.

WESTERN DIVISION.

Clark.—There was no rain this week, but the ground contains sufficient moisture. The weather was rather cool the morning of the 28th, when the minimum thermometer registered 45°, but on the 29th the temperature rose rapidly and a maximum of 97° was observed.
Decatur.—The rainfall was light, only 0.10 of an inch being recorded. Temperatures were seasonable. There was a very rapid rise in temperature on the 29th.
Finney.—The week was pleasant but rather cool. The lowest temperature was 42° on the 27th, but by the 29th it had risen to a maximum of 92°. The only rainfall was a light shower on June 2d.
Ford.—The first two days of the week were 12° and 16° respectively below normal, but the middle part of the week was seasonable. The week ended rather cool. Clear weather prevailed. Only a quarter of an inch of rainfall occurred.
Gray.—The week opened cool, but the temperature rose rapidly after the 28th, the lowest temperature, 43°, being recorded on the morning of the 28th, and the highest temperature, 94°, occurring on the 29th. Showers fell on three days, making a little less than a half of an inch of rain for the week.
Lane.—The dry weather continued through the week. There was no rainfall reported. Excepting the 29th, when the maximum temperature was 92°, the week has been moderately cool with light winds. Five days were clear, one partly cloudy, and one cloudy.
Morton.—The temperature has fluctuated greatly this week. A minimum of 40° occurred on the 28th and a maximum of 92° on the next day. No rain has fallen and the weather has been generally clear.
Scott.—Cool weather was experienced the first of the week when a minimum of 42° was recorded on the 28th. The middle part of the week was warm, with a maximum temperature of 90° on the 29th, and the latter part was seasonable. Only a trace of rainfall is reported.
Thomas.—The week was cool and pleasant but only 0.02 of an inch of rain fell. The highest temperature was 86° on May 30 and the lowest 37° on May 27.
Trego.—No rainfall this week. The first two days were cool, the middle of the week warm, and the latter part about seasonable. The highest temperature was 83° on the 29th and 30th of May and the lowest 39° on the 27th.
Wallace.—This has been a dry week although there was much threatening weather. There was quite a range in temperature. The highest temperature was 85° on the 29th and the lowest 33° on the 30th with a light frost.

Waterloo, Iowa, has become famous for its factories and their products. Many valuable implements and machines are made there, but among the most important, because the most useful, is the gasoline-engine made by the Cascaden-Vaughan Co. Many gasoline-engines are on the market which do not give power enough. Many there are, too, that are too high in price for the service they give. The Cascaden-Vaughan engine is open to neither of these objections. It develops 5 horsepower at least and only costs \$150. It is just the thing for the farmer. It will run the feed-grinder, the ensilage-cutter, the milk-separator, the churn, corn-sheller, and pump the water whether the wind blows or not. It is thoroughly tested, made of the best material, and is fully guaranteed.

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Dear Sirs:—I have been using your Spavin Cure all winter, and find it is the best liniment I have ever used; I use it on all kinds of bad legs, and it does the work, and I would like you to send me a book to direct me how to use the Spavin Cure.
Yours very truly,
J. H. BUSCHER.

Grain in Kansas City.

Receipts of wheat in Kansas City yesterday were 184 cars; Saturday's inspections were 83 cars. The offerings were large and the demand was poor. Prices declined 1@3c, the lower grades showing the greatest weakness. The sales were: No. 2 hard, 3 cars 78 1/2c, 3 cars 78c, 2 cars 77 1/2c, 2 cars 77 1/4c, 19 cars 77c, 2 cars 76 1/2c; No. 3 hard, 1 car 76c, 1 car 75c, 17 cars 74c, 6 cars 73 1/2c, 7 cars 73c; No. 4 hard, 1 car 72c, 1 car 71 1/2c, 1 car 71c, 1 car 70 1/2c, 10 cars 70c, 8 cars 69c, 1 car 68c, 1 car 66c; rejected hard, 1 car 62 1/2c, 1 car 61c; No. 2 spring, 1 car 83c; No. 2 red, nominally 81@82c; No. 3 red, nominally 84@87c; No. 4 red, nominally 70@83c.

Receipts of corn were 117 cars; Saturday's inspections were 50 cars. The demand was moderate. Prices were 1/2c lower, as follows: No. 2 white, 1 car 48c, 8 cars 47 1/2c; No. 3 white, 8 cars 47 1/2c; No. 2 yellow, 3 cars 46 1/2c; No. 3 yellow, 3 cars 46 1/2c, 1 car 46c; No. 2 mixed, 1 car 47c, 1 car 46 1/2c, 3 cars 46 1/2c, 11 cars 46 1/2c; No. 3 mixed, 2 cars 46 1/2c, 2 cars 46c; no grade, 1 car 44c.

Receipts of oats were 22 cars; Saturday's inspections were two cars. The increased offerings weakened prices 1/4c, as follows: No. 2 white, 3 cars 35c, 1 car 34 1/2c; No. 3 white, 2 cars 34 1/2c, 2 cars 34c, 6 cars 34c, 3 cars 33 1/2c, 1 car color 33 1/2c, 1 car color 33 1/2c; No. 4 white, 1 car 33 1/2c; No. 2 mixed, 1 car 33 1/2c; No. 3 mixed, 2 cars 33c.

Barley was quoted 44@45c; rye, 54@56c; kafir-corn, 79@81c per cwt.; bran, 79@80c per cwt.; shorts, 80@83c per cwt.; corn-chop, 90@92c per cwt.

Kansas City Live-Stock Market.

Stock Yards, Kansas City, Mo., June 4, 1906.

Cattle receipts fell short of 30,000 last week for the first time this year, but owing to the agitation about the unsanitary condition of packing-houses, consumption of meats fell off sharply, particularly in the East, and this was reflected in a smaller demand from packers, a decline of 10@20c in prices, and a generally dull market. While the outlook is unsettled, and commission men are unable to advise shippers intelligently as to future conditions. It is believed that the full publication of the Government report concerning the actual conditions at the various packing-houses, rumors about which precipitated the present agitation, will do much to clear the atmosphere. It is conceded that the articles published against the packers, mainly by sensational papers, are so much worse than the actual facts as set forth by the Government report that when this is given out it will silence the public clamor against the packers, and restore the consumptive demand to somewhere near its normal volume. The supply of cattle is moderate to-day at all points, 9,000 head here, including 4,000 in quarantine division, market steady, some sales shade higher, a hopeful sign for the present week. Feeders can not hold their cattle very long with safety, for the grass cattle will begin to come in large numbers before many weeks, generally followed by a declining market. Average quality has not been as good lately as a short time ago, tops last week at \$5.35@5.60, top to-day \$5.45, bulk of steers \$4.50@5.15, best steers and heifers mixed \$4.75@5.30, heifers \$3.75@4.75, cows \$3.25@4.50, bulls \$2.75@4.40, veals \$4.50@6.25. Stockers and feeders are 10c higher to-day, range \$3@4.60.

Hog receipts were 71,000 last week, and prices declined 15@20c for the week. Run is 9,000 to-day, market steady with Saturday, top \$6.35, bulk \$6.15@6.30, light hogs \$6.15@6.25, pigs \$5.25@5.85. The run last week was 20,000 heavier than same week last year, but it included several trains of hogs purchased at up-river markets by packers for slaughter here, as not enough came here for their needs. Demand is phenomenal, as shown by a continued range of prices 90c@1 above a year ago.

Mutton receipts have been enlarged lately by a more general movement from Texas and the Southwest, and prices are a little lower than a week ago. Supply to-day is 6,000, market steady. Heavier receipts are predicted, with weaker prices on grass stuff, while fed stuff is expected to hold up as it becomes more scarce. Best woolled lambs last week \$7.45, very few coming, spring lambs \$6.75@7.35, clipped \$6@6.60, grass muttons \$5.25@5.60, best fed yearlings \$6@6.25, wethers \$5.50@5.85, ewes \$4.75@5.60, killing goats \$3.75@3.90, goats for the country \$3@3.50.

J. A. RICKART.

South St. Joseph Live-Stock Market.

South St. Joseph, Mo., June 4, 1906. Lighter receipts of cattle than arrived a week ago did not result in any better turn in the condition of trade, in fact under the disturbed conditions consequent upon this attack upon the packers and meat inspection, the demand for cattle was of a sluggish and indifferent character, and it required the concessions in most instances to move supplies. The market in a general way was weak to 10c lower than the close last week, with steers that were a cut out of herds that recently brought \$5.60 selling reluctantly at \$5.25, while other lots at \$5.10 were a duplicate of cattle that sold here thirty days ago at \$5.35. Cheaper priced steers met about the same reduction with a very good class of killers of light to medium weight selling at \$4.50@4.75. A few strictly choice, dry-lot cows and heifers made steady prices, but in a general way the market for all she stuff was 10@15c lower, with all buying interests discriminating against grassy stock. Bulls were scarce and steady, the best veals making \$6.50. There was not enough volume to the stocker and feeder trade to test prices. The whole suggestion trade is that the country should be very careful about sending in liberal receipts this week.

The hog market was not burdened with as heavy receipts as a week ago, but the same conditions that affect the cattle trade were apparent to this

branch of the market. Following a slumping close last with this lighter supply the selling interests held out for some recovery in prices, but packers were in no condition to make any concession, and the best sellers could do was to accept steady figures for their holdings. Hogs sold within a range of \$6.10@6.30, with the bulls going at \$6.17@6.22 1/2. Quality of hogs is very good, though in some markets they are beginning to complain of stuff showing up grassy, and this is having a tendency to widen out prices. Moderate marketing seems advisable for the immediate future.

The market is still very lightly supplied at this point with live mutton. Only two loads arrived to-day, those were lambs and of fair quality that sold at \$7, and the price was considered fairly strong.

WARRICK.

Kansas Fairs in 1906.

Following is a list of fairs to be held in Kansas in 1906, their dates, locations, and secretaries, as reported to the State Board of Agriculture and compiled by Secretary F. D. Coburn: Allen County Agricultural Society—Frank E. Smith, secretary, Tola; September 25-28.

Barton County Fair Association—W. P. Feder, secretary, Great Bend; August 28-31.

Brown County—The Hiawatha Fair Association—Ellicott Irvin, secretary; Hiawatha.

Butler County Fair Association—W. F. Benson, secretary, Eldorado; October 1-6.

Chautauqua County—Hewins Park and Fair Association—W. M. Jones, secretary, Cedar Vale; September 11-13.

Clay County Fair Association—Walter Puckey, secretary, Clay Center; September 4-7.

Clay County—Wakefield Agricultural Society—Eugene Elkins, secretary, Wakefield; first week in October.

Cloud County Fair Association—F. W. Daugherty, secretary, Concordia; September 25-28.

Coffey County Agricultural Association—S. D. Weaver, secretary, Burlington; September 18-21.

Cowley County—Eastern Cowley County Fair—J. M. Henderson, secretary, Burden; September 26-28.

Cowley County Agricultural and Live-Stock Association—W. J. Wilson, secretary, Winfield; October 9-12.

Elk County Agricultural Fair Association—E. M. Place, secretary, Grenola; September 19-22.

Finney County Agricultural Society—A. H. Warner, secretary, Garden City.

Franklin County Agricultural Society—Carey M. Porter, secretary, Ottawa; September 4-8.

Greenwood County Fair Association—C. H. Weiser, secretary, Eureka; August 14-17.

Harper County—Anthony Fair Association—L. G. Jennings, secretary, Anthony; August 7-10.

Harvey County Agricultural Society—J. T. Axtell, secretary, Newton; September 25-29.

Jefferson County Fair Association—G. A. Patterson, secretary, Oskaloosa; September 4-8.

Jewell County Agricultural Fair Association—Henry R. Honey, secretary, Mankato; September 18-21.

Linn County Fair Association—O. E. Haley, secretary, Mound City; September 11-14.

Marshall County Fair Association—R. W. Hemphill, secretary, Marysville; September 11-14.

McPherson County Agricultural Fair Association—E. S. Guymon, secretary, McPherson; September 4-9.

Miami County Agricultural and Mechanical Fair Association—W. H. Bradbury, secretary, Paola; August 28-31.

Mitchell County Agricultural Association—J. E. Tice, secretary, Beloit; last week in September.

Montgomery County—Coffeyville Fair and Park Association—R. Y. Kennedy, secretary, Coffeyville; August 7-10.

Nemaha County Fair Association—V. B. Fisher, secretary, Seneca; August 29-31.

Neosho County—Chanute Fair and Improvement Association—A. E. Timpane, secretary, Chanute; August 28-31.

Ness County Agricultural Association—R. D. McKinley, secretary, Ness City; September 5-7.

Ness County—Utica Fair and Agricultural Association—R. C. Webster, Jr., secretary, Utica; August 30-September 1.

Norton County Agricultural Association—M. F. Garrity, secretary, Norton; August 28-31.

Osage County Fair Association—M. Carnaveaux, secretary, Burlingame; September 18-21.

Reno County—Central Kansas Fair Association—A. L. Sponsler, secretary, Hutchinson; September 17-23.

Republic County Agricultural Association—W. R. Wells, secretary, Belleville; September 11-14.

Rice County Agricultural and Live Stock Association—F. L. Goodson, secretary, Sterling; August 1-3.

Riley County Agricultural Society—W. B. Craig, secretary, Riley; August 28-31.

Rooks County Fair Association—E. L. Williams, secretary, Stockton; September 18-21.

Shawnee County—Kansas Exposition Company—R. T. Kreple, secretary, Topeka; September 10-15.

Smith County Fair Association—M. A. Dimond, secretary, Smith Center; August 21-24.

Stafford County Fair Association—P. O. Gray, secretary, St. John; August 22-24.

Sumner County—Mylvane Agricultural Association—Robt. P. Seyfer, secretary, Mylvane.

Wilson County—Fredonia Agricultural Association—V. L. Polson, secretary, Fredonia; August 21-24.

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KANSAS FARMER CO.,
116 West Sixth Ave., - Topeka, Kans.

Special Want Column

"Wanted," "For Sale," "For Exchange," and small want or special advertisements for short time will be inserted in this column without display for 10 cents per line of seven words or less per week. Initials or a number counted as one word. No order accepted for less than \$1.00.

CATTLE.

RED POLLED BULLS—All ages up to 14 months. Fine dark red, bucko fellows. Just what you want. H. L. Pellet, Eudora, Kans.

CHOICE D. S. Polled Durham bulls, 5 to 16 months old. C. M. Albright, Route 2, Overbrook, Kans.

26 BEAUTIFUL RED MULEY BULLS FOR SALE—John Marriage, Mullinville, Kans.

A BUTTER-BRED Holstein bull calf—The best purchase for grade dairy herd. See report Santa Fe Dairy Educational Special. Start right in your breeding. Sixty-five head to choose from. Geo. C. Mosher, Hillcrest Farm, Greenwood, Neb.

FOR SALE—Some good young Shorthorn bulls just a year old by the 2900 pound Marshall Abbotson bred 18335. Cheap, breeding and individual merit considered. D. Ballantyne & Son, Herington, Kans.

FOR SALE—The pure Cruickshank bull, Violet Prince No. 14547. Has been at the head of our herd as long as we could use him. An extra animal. H. W. McAfee, Topeka, Kans. 2 miles west of Kansas Ave. on Sixth street road.

FOR SALE—Registered Jersey cattle. Two yearling bulls. Sires—A son of Jessie Lewis, 32 lbs. butter 7 days, and "Financier County" (imported); granddam held Island butter record 3 years. Sire's dam holds public milk record of 58 pounds daily, and his dam and Island winner in class for two years. Her four dams 22 to 26 quart cows, and all winners. Sayda Polo Jersey Farm, Parsons, Kansas.

REGISTERED GUERNSEY BULLS—Ready for service. Also pure-bred Scotch Collie puppies. Dr. J. W. Perkins, 422 Altman Bldg., Kansas City, Mo.

FOR SALE Five pure-bred yearling Short-horn bulls. Will be pedigreed in name of buyer; sired by Teddy Roosevelt 19274. Good, useful bulls at living prices. Henry Haub, Whiting, Kans.

CATTLE.

GALLOWAY BULLS—4 head, 16 to 18 months old, suitable for service. All registered. Address C. A. Kline, R. F. D., Tecumseh, Kans.

FOR SALE CHEAP—Three registered Hereford bulls, one 2-year-old; two yearlings past. J. B. Colbertson, Sterling, Kans.

ABERDEEN-ANGUS CATTLE and Percheron horses—Stock for sale. Garret Hurst, breeder, Peck, Sedgwick County, Kans.

FOR SALE—Registered Galloways. Bulls, cows and heifers, singly or in car lots. Dean Bartlett, St. Marys, Kans.

PEDIGREED SHORTHORN BULL 3 years old; sire Magenta, who cost \$1,000 at 8 months. Cheap. S. J. Rents, Leavenworth, Kans.

FOR SALE—Holstein-Friesian bull calves. Address Hughes & Jones, Route 2, Topeka, Kans.

HORSES AND MULES.

FOR SALE—A good black heavy-boned jack. Price, \$250 if sold soon. Do not write but come and see him. I also have others for sale cheap. Address Joseph Plinger, Box 14, Olathe, Kans.

FOR SALE—At reasonable prices, Black Imported Percheron stallions. E. N. Woodbury, Cawker City, Kans.

LOST OR STRAYED—Brown mare, weight 1,100 pounds, white spot in forehead, barb wire cut on side, somewhat swaybacked. Suitable reward for return. J. W. Gillard, 636 Highland Ave., Topeka, Kans.

PATENTS.

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

Collections made in all parts of the United States No fee charged unless Collection is made

BOTH PHONES No. 1877

The Kansas Collection Agency

415 Kansas Avenue. TOPEKA, KANSAS

Special attention given to stock-breeders account Reference furnished on application.

REAL ESTATE.

TO EXCHANGE—In Cherokee County, Kansas, 200 acres of timber land for cattle; also 40-acre improved farm for grocery stock. W. L. High, Faulkner, Kans.

COLORADO—Sure crop and market, irrigated garden, town site bargain; Fifty acres; two miles to Denver, \$200 to \$400 an acre, 10 years time, three railroads, ten cent fare; superb lung climate; all crops; best water rights. Owner old, alone; circular. L. J. Caldwell, Arvada, Kans.

AGENTS WANTED.

Wanted—Gentleman or lady with good reference, to travel by rail or with a rig, for a firm of \$250,000 capital. Salary \$1,072 per year and expenses; salary paid weekly and expenses advanced. Address with stamp, Jos. A. Alexander, Topeka, Kans.

HELP WANTED.

FARM and ranch hands furnished free. Western Employ Agency, 704 Kansas Ave., Topeka, Kans.

SEEDS AND PLANTS.

ONE DOLLAR will buy enough of McCauley's white seed corn to plant seven acres if you send to A. J. Nicholson, Manhattan, Kans.

PLANTS FOR SALE—Cabbage, Henderson's Early Summer, Succession, 30 cents per 100, \$2.50 per 1,000. Tomatoes, Early Dwarf Champion, Beauty, Stone, Matchless, 30 cents per 100; \$2.50 per 1,000. Sweet Potatoes, Yellow Jersey, Yellow Nansmond, 20 cents per 100; \$1.50 per 1,000. F. P. Rude & Son, Box 671, North Topeka, Kans. Ind. Phone 4008.

SWINE.

DEEP CREEK DUROCS, fall gilts and 40 spring pigs sired by three good herd boars. Good ones offered at \$15 each. C. O. Anderson, Manhattan, Kans.

FOR SALE—20 good strong spring and yearling Berkshire boars that are just what the farmers want. Prices right. Address E. W. Melville, Eudora, Kansas.

SCOTCH COLLIE PUPS.

SCOTCH COLLIE PUPS—Eligible to registry. Parents registered and are workers. Pedigrees furnished with each puppy. M. S. Kohl, Benton, Kans.

FOR SALE—Scotch Collie pups from trained stock. Prices right. Will Killough, Ottawa, Kans.

SCOTCH COLLIE PUPS for sale from registered stock. G. B. Gresham, L. Box 102, Bucklin, Kans.

SCOTCH COLLIE PUPS FOR SALE. Registered stock. Chas. W. Gresham, Bucklin, Kans.

MISCELLANEOUS.

THE MINING COMPANY which got "caught" by the Frisco fire is making extraordinary offer in order to start up. Big chance to make money. Circulars sent. Oro Rice Mining Company, 2521 Virginia St., Berkeley, Cal.

DEMAND for visible typewriter at moderate price is immense. We want representatives everywhere. Little capital required. Millison Office Supply Co., Wichita, Kans.

DOGS AND BIRDS—For sale dogs, hogs, pigeons, ferrets, Belgium-hares, all kinds; 50 40-page illustrated catalogue. C. G. Lloyd, Sayre, Pa.

PRIVATE DEMONSTRATORS—Men and women for every county in Kansas. Same route each year. Salary and bonus. Address J. C. Messinger Co., Bethlehem, Pa.

WANTED—A good second-hand grain separator. Dr. Barker, Chanute, Kansas.

WANTED—At once sound young men for firemen and brakemen on railways; high wages; promotion; experience unnecessary; instructions by mail at your home; hundreds of good positions now open. Write National Railway Training Association, 620 Paxton Block, Omaha, Neb.

EARN FROM \$87.50 to as high as \$155.50 per month. Wanted—400 young men and sound men of good habits to become brakemen and firemen. Big demand in Wyoming, Nebraska, Kansas, Colorado, and Missouri. Instructions sent by mail; stamp for reply. Northern Railway Correspondence School, Room 202 Skyes Block, Minneapolis, Minn.

Stray List

Week Ending May 24.

Lyon County—W. F. Eggers, Clerk. MARKS—Taken up by Frank Hrencher in Center tp., (P. O. Olpe), 3 ponies, one about 17 years and the other 3 or 4 years old, both dark bay in color, the older mare has saddle mark and left hind foot white, the young mare, no mark or brand; valued at \$15 and \$85.

Week Ending May 31.

Smith County—Henry A. Clark, Clerk. HORSE—Taken up by A. J. Weaver in Blaine tp., May 20, 1906, one dark Brown mare, weight 900 pounds; valued at \$60.

Montgomery County—Samuel McMurtry, Clerk. HORSES AND MULES—Taken up by A. C. Darrow, in Fawn Creek tp., May 14, 1906, one black pony gelding, 5 years old; valued at \$30; also one dark brown gelding, 2 years old; valued at \$30; also one brown mare, 8 years old, star in forehead; valued at \$60; also one mare colt, black, one-year-old; valued at \$25; also one iron gray mare mule, 3 years old; valued at \$40.

LEGAL NOTICE

Notice of Stockholders' Meeting. Notice is hereby given that the annual meeting of the stockholders of The Topeka Northwestern Railroad Company will be held at the office of the company in the Office Block in the City of Topeka, Shawnee County, Kansas, on Tuesday, the 12th day of June, 1906, beginning at 10 o'clock a. m. H. A. Scandrett, Secretary.

The Weaner That's a Winner



No straps to break or spikes to cut cow's back. Fits in nose with a spring wire and animal can eat and drink without discomfort. Guaranteed not to make nose sore. At all dealers, if not send 60 cents and dealer's name for a prepaid sample. Special for self-suckers. Money repaid. Money refunded if not satisfied. Call, Yearling and Cow size. Iowa Muzzle Co., Dept. M., Carroll, Iowa.