

KANSAS FARMER

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Established 1863. \$1 a Year

Improvement of Waterways

The adjustment of rates of transportation is a subject of deep concern for every producer. Only small proportions of the products of industry are consumed in the vicinity where produced. The cost of transportation is an important part of the cost to the consumer and constitutes a large part of the difference between what the consumer pays and what the producer receives. The interests of these two are incomparably greater than are the interests of the trader. While the trader is first to pay transportation charges the amount of such charges becomes a part of the selling price to be accounted for as a part of first cost and is passed on to the consumer or charged back to the producer with

promptness and certainty. The trader's concern is with making such transportation rates as low as those of his competitors—lower if possible.

Whatever be the interests of the trading members of a community, the interests of the producing members are promoted by every reduction of the cost of transportation to the consumers. It may happen that the construction of a railroad which greatly benefits producers by affording an outlet for products of the farm may kill a town which before enjoyed a monopoly of certain trade. So, too, the opening of a waterway may affect certain traders injuriously. But great movements are to be considered with reference to the general good they are ex-

pected to accomplish—"the greatest good to the greatest number."

The proposed improvement of the Mississippi Valley Waterways is such a movement. It is proposed first to make a deep waterway from the southern end of Lake Michigan via the Illinois and Mississippi Rivers to the Gulf of Mexico, and to so improve the principal tributaries of the Mississippi that steamboating in these waters will be safe and will furnish inexpensive means of moving freight and passengers.

This scheme will probably include the improvement of the Ohio as far as Pittsburg, Pa., the Arkansas as far as Muskogee, Okla., and the Missouri as far as Omaha, Neb., or farther.

If rail transportation of Kansas products can be reduced so as to terminate at the end of the State, while cheap water rates prevail from the

Missouri River to the great markets of the consumers of bread and meats, the reduction in the charge will be shared by the producers and the consumers of these prime necessities.

The question has been raised whether such interior trading centers as Wichita would not be injuriously affected by an improvement two hundred miles away. The following correspondence between the secretary of the Wichita Board of Trade and the president of the St. Louis Business Men's League is to the point:

WICHITA ASKS FOR ARGUMENT.

Secretary McGinnis of the Wichita Board of Trade wrote as follows:

"Your June 1 circular in our hands this a. m.

"This asks our assistance in the organization of your convention.

"Prior to our engaging to any great



The Lakes-to-the-Gulf Deep Waterway, showing the part already built, from Chicago to Joliet; the part surveyed, from Joliet to St. Louis; the part being surveyed, from St. Louis to Cairo; and the part the Mississippi River Commission declares itself ready to build, if authorized by Congress, from Cairo to New Orleans.

Principal Contents of This Week's Paper

Alfalfa-meal.	817
Apiary, Agricultural College and the.	827
Brave woman, a.	824
Buttermaking, farm.	822
Cabbage lice.	820
Cabbage maggot, remedies for the.	820
Corn at the Chautauqua.	814
Cornfield, work in the.	822
Creamery, official war on the centralized.	828
Dairy-bred calf, the.	817
Dairy purposes, breeding for.	829
Fireless cooker, the.	815
Fred's story.	826
Fruit, handling.	820
Fruits, picking and handling.	820
Gospel of labor, the (poem).	824
Hatches, late.	830
Listing for wheat.	821
Milk, production of.	829
Morning song (poem).	825
Mound-building prairie ants.	815

Observations.	824
Ostrich, little Henry on the.	826
Plants at night.	825
Poultry notes.	830
Rag doll, the little (poem).	826
Rescue of Tom Barton, the.	825
Rural schools, consolidation of.	815
Russian seed wheat.	821
Scoring contest of the Kansas Station, bi-monthly.	828
Sheep industry vs. the dog industry, Coburn on the.	819
Sheep for the farmer.	819
Sheep situation, feeding.	819
Soil meeting, Illinois.	822
Strawberries in a season, two crops of.	820
Tact, the woman of.	824
Tomato vines losing their leaves.	820
Tuberculin for the detection of tuberculosis in cattle.	818
Waterways, improvement of.	813
Weather bulletin.	831
Wheat, new rule on Kansas grades of.	814
Woodlawn farm, building up.	816

KANSAS FARMER.

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extent in the project, may we ask of what benefit the completion of this work will be to Wichita?

"We are so situated that river improvement is an impossibility. We can readily see how Chicago, St. Louis, and the Mississippi Valley will be benefited.

"If this river improvement extends to Kansas City on the east and Muskogee on the south of us, who are already our strong jobbing competitors, with the lower rates water transportation would make, would we not be hurt instead of benefited?

"Enlighten with good argument wherein Wichita, 'the Peerless Princess,' the best city between the Missouri River, the Gulf of Mexico, and the Pacific Ocean, will be benefited and see how quickly we will respond to your appeals for assistance."

ST. LOUIS ANSWERS.

President Smith of the St. Louis Business Men's League answered undated July 21, as follows:

"Mr. Saunders has shown me your letter of June 19 addressed to him as secretary of the Lakes to the Gulf Deep Waterway Association, and as I am a member of the board of governors of this association and as I am also particularly interested in the welfare of Wichita, I want to say to you in reference to the great project known as the Lakes to the Gulf Deep Waterway that this is a project which should interest every citizen in the United States.

"I enclose copy of an article printed recently in the Los Angeles Times which I hope you will read, as it gives the views of a man who although he lives upon the Pacific Coast sees the great benefits that will be conferred upon the entire United States by the building of this great waterway.

"All thoughtful men know and agree that any enterprise which tends to benefit any portion of our country must necessarily benefit the whole.

"President Roosevelt in the speech which he made at Memphis last fall used the following language:

"No man can foresee the result of the possibility of development in the Mississippi Valley. Such being the case and this valley being literally the heart of the United States, all that concerns its welfare must concern the welfare of the whole country. Therefore, the Mississippi River and its tributaries ought by all means to be

utilized to their utmost possibility. Facility of wheat transportation is an essential in our modern civilization and we can not afford any longer to neglect the great highways which nature has provided for us. These natural highways or waterways can never be monopolized by any corporation—they belong to all the people and it is in the power of no one to take them away. Wherever a navigable river runs beside a railroad, the problem of regulating the rates on the railroad becomes far easier because river regulation is rate regulation. When the water rate sinks, the land rate can't be kept at an excessive height. Therefore, it is of National importance to develop these streams as highways to the fullest extent which is profitable.

"This great waterway from the Lakes to the Gulf when built will be so to speak, a trunk line, and all of the navigable rivers which flow into the Mississippi will necessarily be improved a feeders to this great water transportation system. The enlarging of the Erie Canal, which is now being done by New York State, will give us through water transportation from the Atlantic Seaboard (when the Lakes to the Gulf Deep Waterway is completed) over the Great Lakes and down through this proposed canal to New Orleans; and later when the Missouri and other tributary rivers are improved, it will make a new basis for rate making throughout the entire West; and aside from the advantages which are so clearly pointed out in the article from the Los Angeles Times above referred to, the entire West will secure lower rates of freight from all Atlantic points.

"You will, therefore, readily see that Wichita is vitally interested in this project, as the State of Kansas would undoubtedly be greatly benefited by the completion of this great waterway and the improvement of its tributary rivers, and what benefits the State of Kansas must necessarily benefit Wichita.

"I am vice-president of the Simmons Hardware Company, and as you know we have established a very important branch of our business in your city, believing as we still do that it is destined to be one of the great distributing centers of the territory west of the Missouri River. I am firmly convinced that Wichita will be greatly benefited by the improvements above outlined, and I sincerely hope that you will look at this project from what I believe to be the proper point of view, and get into the harness with us and help us to attain our object.

"The time has come for the Western States to stand together in their demands for the improvement of our internal waterways, and we certainly need the help of Kansas in putting through this great enterprise."

It will be generally conceded that the great Simmons Hardware Company, the "Keen Kutter" people, are not given to blunders in the conduct of their own business. They have shown their usual foresight in locating a branch at Wichita as stated above. Their broad business sagacity leads them to conclude that their Kansas interests will be promoted by cheapening transportation to and from this State to the greatest extent possible.

The question is really not one of absolute benefits to the producing regions affected, but is one of relation of cost to benefits. The proposed enterprise is not one of a day or of a year, but must be the work of many years. The benefits are not those of a decade or a century but of all time. Doubtless the people of the United States can afford to enter upon this great improvement, the advantages of which will begin to accrue soon after the work is begun.

Experiment station enterprise will establish a veritable school in agriculture at the National Corn Exposition at Omaha, during the big show in December. It is the purpose to have as full and complete an educational exhibit as can be made by the various State agricultural colleges and experiment stations. This is planned to be of such a character as will give

the visitor to the exposition an intelligent and comprehensive idea of the experimental work being carried on at these State institutions.

Every discomfort on account of the kind of weather that has prevailed in Kansas during the last week is compensated by the reflection that it is "good corn weather."

The question of kind of package for apples seems to be settling itself in favor of the bushel box. The consumer, who ultimately pays the bills, favors the bushel box.

It is stated that the next President will have the naming of four justices of the supreme court of the United States. Will Judge Landis, who came into notice on account of fining the Standard Oil Company of Indiana \$29,240,000 be one of the four or will Judge Grosscup who reversed him be invited? It is probably a safe guess that neither Taft nor Bryan will invite Grosscup to the higher seat.

Seven thousand nine hundred and seventy-eight cars of corn were inspected and sold upon the Chicago Board of Trade during the month of June. Only one car graded No. 1; only 772 cars, or less than 10 per cent, graded good enough for No. 2; 2,873 cars, or about 36 per cent, graded No. 3; 3,872 cars, or nearly one-half of the entire amount graded No. 4, and 460 cars were of such poor quality that no grades were attached. Will the National Corn Exposition at Omaha help to remedy this deficiency in quality?

The Oklahoma Corporation Commission seems to be doing business. A recent order reduces freight rates within that State to such an extent that Kansas millers just this side of the line are unable to compete with their brethren south of an imaginary mark in the prairie, for trade in Oklahoma. So, too, the Oklahoma shipper has an advantage on shipments from the new State to Memphis and Little Rock. The new ruling is characterized as a wall of protection around Oklahoma. Interested parties at Wichita, Wellington, Arkansas City, Anthony, Caldwell, and Coffeyville are preparing to bring the matter to the attention of the Interstate Commerce Commission.

B. E. Porter, of the 1906 graduating class in the animal husbandry department of the Iowa State College, has just been elected professor of animal husbandry in the Hawaii Agricultural College, at a salary of \$1,800 per year. The position is an excellent one and offers great opportunities for future promotion. Mr. Porter is well fitted for the place. Since graduation he has very acceptably filled the position of instructor in animal husbandry in the Maryland Agricultural College. He spent the summer of 1907 in Europe studying live stock conditions and visiting the foremost institutions of learning. His rapid promotion has been earned by hard work. Mr. Porter not only worked his way through the Centerville, Iowa, high school but through the four-year course at the Iowa State College. He is a worthy illustration of what work and purpose will do for a young man. The demand for well trained men along animal husbandry lines is greater than ever before.

NEW RULE ON KANSAS GRADES OF WHEAT.

The Kansas State Grain Grading Commission at its meeting last week adopted the following rule:

"Wheat, any part of which has been subjected to 'scouring' or to some process equivalent thereto or containing more than 1/4 of 1 per cent of rye shall not be graded higher than No. 3."

A great many millers and grain dealers were in Topeka at the time of the meeting of the commission. The millers and grain dealers suggested that a new grade of wheat be created to take in the yellow wheat. At pres-

ent there are two kinds of wheat in the No. 2 grade. One kind has a dark amber berry and the other has a light yellow berry. E. J. Smiley, representing the grain dealers, contended that the dark wheat was the better for milling purposes and asked to have the yellow graded differently. The commission refused to do it on the ground that Kansas wheat this year is all contracted for in Eastern markets and that a change in grades now would necessitate calling off these contracts.

The millers adopted resolutions as follows:

"Whereas, The State of Kansas occupies a place as one of the great grain producing States of this country and its No. 2 wheat occupies a first place in the markets of the world, and the flour made from our No. 2 wheat ranks as first class in our own country and in Europe and it is to the interest of Kansas farmers that this high standard of excellence be maintained in the future, and

"Whereas, The manufacturers in Kansas consume about 50,000,000 bushels of wheat annually in the manufacture of flour which occupies the first rank in the home markets as well as in the markets of the world, and this high standard of excellence can only be maintained by a correct standard of grading that protects the farmer and the consumer against the dishonesty of the wheat mixer and from lowering the grade of wheat and the flour to the great injury of our home industry and the consumer. Be it therefore

"Resolved, That we recommend the rules established by the State Grain Inspection Commission and ask that they be maintained in the future or if any change is made that it will be in the interest of the honest dealer, and

"Resolved, That we commend the work of the commission in protecting the honest grain dealers and farmers against the dishonest grain mixer who takes high grade wheat and mixes it with stack burned, scoured, shrunken, and musty wheat and rye, and thus destroying the high character of our wheat and the high grade of our Kansas flour."

CORN AT THE CHAUTAUQUA.

Farmers' day at the Vinewood Park Chautauqua, near Topeka, was made especially interesting and valuable by the address on "Corn" of Prof. M. L. Bowman, of the Iowa State College of Agriculture and Mechanic Arts. After throwing a few handsome oratorical bouquets at Kansas, Professor Bowman presented some statistics to show the importance of corn as the premier crop in Kansas, producing, as it did, 38.3 per cent of the value that grew out of the soil in this State in 1907. But great as the crop is, the yield is not what it should be, and Professor Bowman proceeded to show that in large measure the inferior yield is due to inferior seed. Without entering largely into a discussion of corn breeding, the professor made plain the importance of a good stand of vigorous plants. He had, an hour before, visited a corn field and pulled up an armful of corn. Some stalks were large and contained good ears; others were small and contained nubbins; others were almost barren; others still were too weak and spindling to ever produce anything of value. The fact that the vigorous, productive corn comes from vigorous seed was made plain. The further fact that the gains of an ear of corn are apt to have similarity of vigor and productiveness was also brought out. These facts have led to the "ear-test" method of selecting seed corn. This was explained and illustrated. A germination box was shown in which corn selected for appearance, from the crib, had been placed seven days before. Each square contained six grains of corn representing an ear. In some squares the corn had all sprouted with great energy. In others a part had sprouted. In others the sprouts were weak. In others the corn had failed to show life.

The farmer knows that the best

corn is produced on the stalk that shows vigor by coming up quickly and growing vigorously from the start, while, of course, no corn can be expected from that which fails to grow. From these considerations the importance of seed selection by means of the germination box was clearly demonstrated.

It was pointed out that only twelve ears of corn are necessary to plant an acre. To test these twelve ears is but a small matter. On their merit depends, in large measure, the year's crop from an acre of land worth \$50 to \$100.

If as small a proportion as six ears in 100 produce nothing or unprofitable plants, these six ears planted mean a half acre of unprofitable corn.

The address received the closest attention throughout and was followed by volleys of questions together with careful inspection of the samples and the germination box.

THE MOUND-BUILDING PRAIRIE ANTS.

In Kansas Experiment Station Bulletin 154 Professors Headlee and Dean report on Professor Dean's experiments with the mound-building prairie ants. These ants are distributed over most of that part of Kansas west of the sixth principal meridian. They live in large colonies in gravel-covered mounds, each located in a cleared space, and beneath these mounds in chambers and galleries that penetrate the earth as far as ten feet. These chambers and galleries serve as storerooms, nurseries, and workshops. The ants are injurious more as an annoyance than from the amount of their destruction of crops. They are fighters for their homes, and when defending their rights both bite and sting.

Professor Dean found the most effective way to destroy them to be to set a shallow pan containing one to three ounces of carbon bisulfide on the mound, invert over the pan a galvanized iron washtub, close all openings not covered by the tub, and seal the spaces around the edges of the tub with soil to prevent the escape of the gas. The tub should be left in position for about five hours. This treatment never failed to kill all of the ants in the colony. The professor suggests that by using two tubs and placing them on two mounds on going to work in the morning, removing them to two others at noon, and again removing them to two others at quitting time, a farmer may destroy six mounds per day without devoting much time to the work.

THE FIRELESS COOKER.

A book, useful in its day and generation, an up-to-date book of this good year 1908, a book which tells the good wife how to prepare the food for her family without cooking herself all day, has just come from the press of H. M. Ives & Sons, Topeka, Kans. The authors of the book are three cultured and experienced wives and mothers of College Hill, Topeka, namely Caroline B. Lovewell, Frances D. Whittemore, and Hannan W. Lyon.

The book contains over 200 pages; is beautifully printed and bound, and sells at \$1, with 10 cents added for postage.

Let not the man who chops the wood or brings in the coal, or buys the gasoline, imagine that this fireless cooker makes an end of the necessity to provide fuel. But it does greatly reduce the amount of fuel used, is good for the temper of the cook, and results in better cooked food than comes from the old way.

The book tells all about the fireless cooker and instead of being an advertisement for some new apparatus to be bought from a dealer, it gives full directions which, if followed with the assistance of a handy boy, will result in converting an old and useless trunk, a small drygoods box, a keg, a half-barrel, or a newly made box into a "cooker."

After heating the articles of food to be cooked in the usual way they are placed in the "cooker" which prevents the rapid escape of the heat.

Once thoroughly heating a food is usually sufficient to complete the cooking in a few hours or all night as may be convenient. The fireless cooker never scorches anything, and never overdoes it. Therefore it requires no attention while doing its work.

Besides telling how to make and how to use the fireless cooker, the book gives full directions for cooking every kind of food so as to make it good.

Orders may be sent to The Home Publishing Company, Topeka, Kans., or to The Kansas Farmer Company.

CONSOLIDATION OF RURAL SCHOOLS.

One of the very large problems demanding immediate solution is that of providing adequate school privileges for the children of country districts. That the country schools have not as a rule kept step with advances in other things and with the city schools is a painful fact not to be denied. That the cost of instruction in these country schools is far greater per capita than the cost of the highly efficient, thoroughly graded schools of the cities is one cause for dissatisfaction. But to the country parent and to the country boy and girl the more important fact is that the opportunities afforded are inadequate. Many a young family has left the farm to compete for a living in the overcrowded city because of the superior advantages afforded for the education of the children.

The realization and half admission of these facts has led to sporadic efforts to improve and to reduce the cost of the country school. To those who have studied the problem but one solution has seemed possible, namely consolidation of country schools, with transportation of the children to and from school.

State Superintendent E. T. Fairchild, of Kansas, has just issued a "Bulletin of Information Regarding Consolidation of Rural Schools," which presents in so clear a manner the facts as to efficiency, cost, and practicability that every parent in the country will welcome it as a solution of the most difficult problem of country life.

Realizing that the item of cost has much to do with men's opinions of the merits of any proposition, Superintendent Fairchild considers this aspect of the case analytically. He shows in detail that the highly efficient and well equipped schools of the cities cost far less per scholar per month than do the less efficient schools of the country. Carrying the comparison a step farther, he shows that after consolidation of country schools, the better school, including interest and maintenance on account of better buildings and equipment, better pay for more efficient teachers, and the cost of transporting children to and from school cost no more per scholar per month than had been paid before consolidation.

The bulletin contains opinions from those who have tried consolidation. It gives a summary of the advantages, and, perhaps best of all, it gives carefully prepared directions for consolidation under the Kansas law. Every parent who wants better educational opportunities for the children should write to the State Superintendent of Public Instruction, Topeka, Kans., asking for a copy of his "Bulletin of Information Regarding Consolidation of Rural Schools."

The packers are reported to be fighting the tendency to higher prices for hogs. The manager for Cudahy, at Omaha, is said to have admitted that he looks for hog prices to continue upward. He estimates the shortage in the country tributary to the Missouri River packing houses at 15 to 25 per cent.

Corn not only is the greatest income bringer to Kansas, but is the buttress of the State's immense meat-making industries, which annually represent over one-half of the value of the total manufactures, or approximately \$100,000,000 per annum. —F. D. Coburn.

WHEN YOUR SUBSCRIPTION EXPIRES

One month before a subscription expires we enclose a renewal blank on which you may write your order for the renewal, and in the last copy sent on the old subscription we again enclose a similar blank.

When we first notify you that your subscription has expired you should send your renewal at once. Should you receive a renewal blank after having sent your order for renewal, please disregard the notice. Owing to the fact that our circulation is growing so very rapidly we are obliged to make up our lists several days in advance of publication day, hence orders for change of address must reach us not later than Monday of any one week in order to become effective with that week's issue. New subscriptions which are received by us on or before Wednesday of any week will begin with that week's issue.

Kansas Farmer Special Offers.

The following combination offers are made as suggestions to our subscribers. If this list does not contain what you want write us. We guarantee the lowest publishers' price, postpaid to any address in the United States on any book or magazine published in the United States.

Remittances made for these combination offers can not apply on back subscription accounts.

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The Great Magazine Bargain of the year. A saving of 40 per cent on the publishers' prices.

Review of Reviews.....	\$3.00	} Our Price \$3.75
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Regular price.....	\$6.00	

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Another great offer which includes Country Life in America, the most beautiful magazine published.

Country Life in America.....	\$4.00	} Our Price \$5.35
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The Kansas Farmer.....	1.00	
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The Kansas Farmer.....	1.00	
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Reliable Poultry Journal.....	.50	
Weekly Capital.....	.25	
The Kansas Farmer.....	1.00	
Regular price.....	\$3.25	

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Review of Reviews.....	\$3.00	} Our Price \$3.00
Success Magazine.....	1.00	
The Kansas Farmer.....	1.00	
Regular price.....	\$5.00	

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Green's Fruit Grower.....	.50	
The Kansas Farmer.....	1.00	
Regular price.....	\$2.00	

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The American Magazine.....	\$1.00	} Our Price \$3.75
Review of Reviews.....	3.00	
Woman's Home Companion.....	1.00	
The Kansas Farmer.....	1.00	
Regular price.....	\$6.00	

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The Kansas Farmer one year and any one of the following dailies for the price named.

Topeka Daily Capital.....	\$4.50	Kansas City Daily Star and Times.....	\$5.50
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Special Long Time Offer.

The regular subscription price of THE KANSAS FARMER is One Dollar per year. Some prefer to take a cash discount by paying for a longer time in advance. To meet the views of such we will send:

Two years' subscription, in advance, to one address.....	\$1.50
or, five years' subscription, in advance, to one address.....	\$3.00
or, subscription for life, in advance.....	\$9.00

We will accept as payment for all arrearages and one or more years in advance, your check, your note, postage stamps, or currency, which ever best suits your convenience.

Address THE KANSAS FARMER CO., Topeka, Kans.

Miscellany

Building Up Woodland Farm.

A reader in Tennessee writes that he would like to hear the story of the upbuilding of Woodland Farm.

To tell it all would make rather a long story, but the essential facts may prove helpful. My father, William H. Wing, bought the present farm in 1865, and took possession the following year. At that time the clay upland of the place was very much impoverished by years of bad cropping without returning of manures. What of the farm was not too poor to pay for tillage was too wet. He began the work of soil building by first giving better tillage than ever the soil had had before, and next by feeding the crops that he grew, and some that he bought, to live stock, and saving the manures as carefully as he could. Later he began to lay underdrains, first of wood, then of burned tiles. In a few years he had greatly increased the productivity of the farm of 196 acres. It was his rule to plow no field that he could not well manure; the rest of the land he made into meadow or pasture. Father was a skillful farmer, but there were certain flaws in his system. He grew timothy and sold the hay. He grew wheat and sold that, of course. He fed a great many cattle in the woods where the manure was not available for the cultivated fields.

The writer's management began in 1890 after his return from the West, where he had been engaged in cattle-ranching. At that time my father was an old man, desirous of giving up his active direction of affairs. In 1889 the gross sales from the farm, well managed, in his way, were a little less than \$700. These amounts came from sales of timothy hay, wheat, cattle, and hogs. Much of the land was unproductive and some of it yet too poor for profitable farming. The parts that rather had cared for were very productive but he had, because of age and infirmity, restricted his activities somewhat.

ALFALFA IN OHIO.

The writer having grown alfalfa in Utah had a very high opinion of it as a profitable crop and having been always engaged in some sort of stock growing he early formed a determination to make of Woodland Farm an alfalfa and stock farm. The first year that he was at home he sowed one-third of an acre of alfalfa, as a test. It grew very well and he hastily formed the opinion that alfalfa culture was easy in Ohio. The second sowing of three acres deceived him, for only one acre succeeded. That acre was on rich, dry soil; another acre on low, wet soil died out, and the third acre on poor clay was unproductive. This valuable object lesson was learned at once and tile-laying to get applications of stable manure. In order to have more manure, and of a better quality, and because lambs make more gain with a given amount of grain, lamb feeding was begun in 1901, and the feeding of cattle in the woods abandoned. To hundred lambs were fed the first year, though a part of their hay had to be purchased. At this time my brother Willis came to help in the work of upbuilding the place. Lamb feeding proved a successful venture and the next year more lambs were fed. There began then to be available a much greater amount of manure than ever before, and little by little the alfalfa meadows were extended. With their widening breadth lamb feeding extended. Three hundred and fifty lambs were fed, then 600, then 700, then 1,000, then 1,200, then about 1,600 sheep and lambs, with hay to spare in quantity. At present it is the intention to provide shelter for about 2,000, merely to make a home market for the alfalfa hay. We can sell it but we prefer to keep it at home.

At the present the two brothers of the writer, Willis and Charles, share the management. The enrichment of

the place is proceeding more rapidly than ever before since the supply of manure is so much greater. The area of the farm has been extended until there are now about 320 acres, not all available, since there are two roads through the place and some land in timber. Last year it produced nearly 400 tons of hay, 3,200 bushels of corn (sheller manure) and filled two silos holding 125 tons each. Besides that, there was some alfalfa pastured by sheep and horses. There were grown soy-beans and barley; a field of oats failed utterly because of the excess of richness of the soil coupled with wet weather, else the receipts would have been greater. We are learning that alfalfa sod is not fit for the growth of oats since it is too full of nitrogen and causes the oats to lodge.

THE LAND WAS, AT THE START, NATURALLY FERTILE.

This, in brief, is the story of the upbuilding of a poor farm. The land was naturally fertile, but it was unproductive before father took hold of it. Some of it was unproductive a very few years ago. The underdraining, of which there are many miles, was the foundation, and stable manure the cornerstone, but alfalfa has built the place as it is. The work will go on now easier and faster than before.

TREATMENT FOR CLAY LAND.

Not all of our problems are solved. We know how to treat clay land; the land that was once our least product-

ive is now our best, but we do not yet know how to treat some of our black soils to make them equal the clays. We contemplate using some carloads of ground phosphate (untreated) in connection with our manures and hope in time to have the farm as a whole produce a half more than it does today.

When the writer returned to the farm in 1889 he found one old darkey doing all of the work, with the help of my father. Now the place employs three married men the year around, and often several other men, besides the labor of Willis and Charles. That indicates what a small farm may do towards building up a country, when it is farmed deeper than is usual and alfalfa is the main crop. This great increase in fertility with all that follows, is directly traceable to the use of alfalfa, which is the greatest soil enricher in the world. True, it will not enrich poor soils, for it will not grow upon them, but once established on good land the manure coming from it will enable the farmer to build an adjoining acre till that also will grow alfalfa.

In this connection, I may say that the Nebraska Experiment Station plowed an eighty-year-old alfalfa field and planted it to corn. An adjoining field that had no alfalfa was heavily manured. The manured field produced 75 bushels of corn to the acre. The alfalfa sod produced 86 bushels. On Woodland Farm some fields have

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doubled their corn production since alfalfa has grown upon them.—Joseph E. Wing, in the Breeders' Gazette.

A Correction.

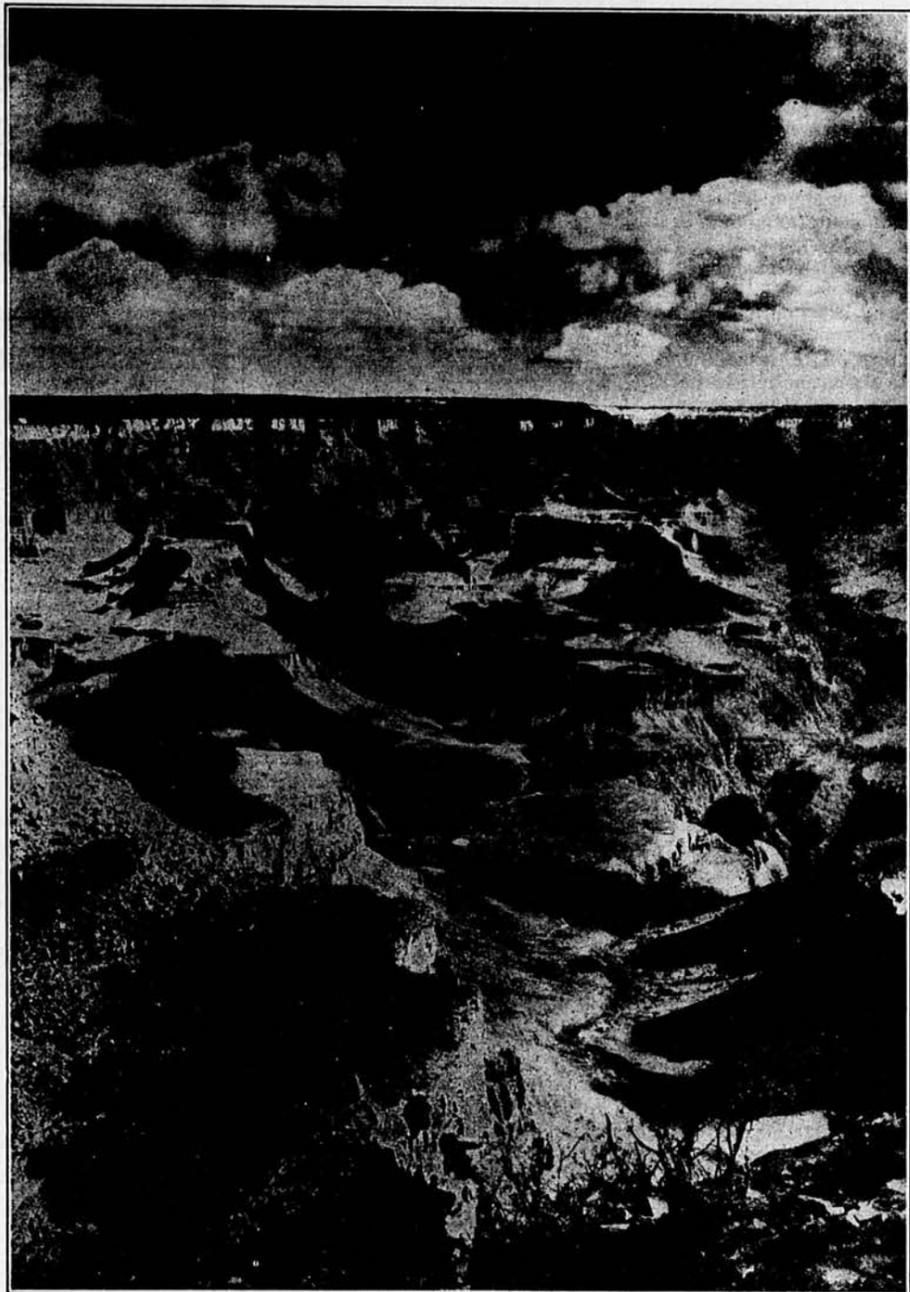
EDITOR KANSAS FARMER:—A few of the Kansas State Fair premium catalogues were mailed to prospective exhibitors which did not contain the Hereford classification. If you received one of such, notify A. L. Sponsler, secretary, Hutchinson, Kans., and you will receive a corrected catalogue.

The silver cup offered by the American Berkshire Breeders' Association will be awarded at Hutchinson on "herd consisting of one boar and three sows under 1 year old, bred and owned in Kansas by exhibitor;" second price, \$15; third prize, \$10.

A. L. SPONSLER.

Hutchinson, Kans.

According to the Government's reports, the aggregate yield of corn in Canada for the eight years preceding was less than the output of Kansas in the single year 1906.—F. D. Coburn.



ON THE SANTA FE.

The accompanying picture shows the Grand Canyon of the Colorado from the head of Bright Angel trail. The average American has perhaps read more or less about this great gash in the face of Nature and has felt a desire to see it. One of the things which has prevented visitors from experiencing the sensations which are inspired by a view of this chasm, which reaches to the depth of a mile straight down in the earth, has

been its difficulty of access. This difficulty has now been removed and in the most pleasant fashion.

The Santa Fe railroad has not only built a branch line to the brink of the canyon, but it has established a through sleeping car service in which passengers from any point west of Chicago may ride, in the California Limited train which is made up entirely of sleepers, dining car, buffet, and observation car and baggage cars, and

whose schedule is one of the most rapid on any road. The luxury of modern travel is nowhere better exemplified than on the Santa Fe California Limited. This service leaves nothing to be desired, and the placing of a through sleeping car from Chicago to the Grand Canyon direct, makes this greatest of Nature's wonders within easy reach of all who travel westward over the Santa Fe system.

Stock Interests

The State-Wide Fair.

The strenuous efforts put forth by the breeders and business men to hold a State-Wide Fair at Topeka this fall seem likely to be rewarded. Secretary R. T. Kreipe reports that he has never had so strong a demand for premium lists, and fieldmen report that the interest is general among the live stock men. As the Topeka dates immediately follow those of the Nebraska State Fair exhibitors will have special facilities in making the circuit.

Topeka fair grounds are the most beautiful in the State and are located on the Santa Fe railway and the street car line. With the new buildings which are now being erected and the repairs that are being made the visitors will be comfortably cared for and the exhibits well displayed. Remember that September 8 to 12 is the time and arrange to come and show what you have raised on your farm. Send a postal to R. T. Kreipe, Topeka, for a premium list.

Alfalfa-Meal.

STENOGRAPHIC REPORT OF REMARKS OF DR. J. T. AXTELL, BEFORE THE KANSAS IMPROVED STOCK BREEDERS' ASSOCIATION.

I see a sample here before me which looks very familiar, and if I can tell you something about what we do with it and whether it is worth while to grind alfalfa into meal, it may interest you. That, of course, is the question, will it pay to grind alfalfa into meal or not? I have noticed that my cattle and even horses when turned in the field in the fall where there were stacks of good alfalfa hay and also stacks of old black thrashed alfalfa straw, from which the seed had been thrashed, the cattle and even the horses would eat the old black thrashed hay before they ate the good hay. In other words, I believe the hay was relished by the horses and the cattle much more for being thrashed and cut up finely. The value of the alfalfa was much increased by its running through the huller or thrashing machine. It would scarcely have been touched had it not been thrashed. You all know that alfalfa in itself is not a balanced feed, therefore, it should not be fed alone. It is too rich in protein. Alfalfa-meal, according to the analysis made at Manhattan, shows about 16½ per cent protein and about 40 per cent carbohydrates and fat. Our experiment stations have shown us that a milk cow giving a good flow of milk or a horse at hard work requires each day 2½ pounds of protein and 12½ of carbohydrates. If you are feeding alfalfa alone you are just feeding more than twice as much protein as the animal needs just to get the carbohydrates needed. With 16½ pounds of protein to the hundred and 40 pounds of carbohydrates to the hundred, the animal would have to eat 30 to 35 pounds of alfalfa hay a day to get the carbohydrates needed and by doing so is getting twice as much protein as needed. You are not only wasting the protein, but you are taxing the health of the animal to eliminate the protein. Your horses are urinating in large quantities and they are perspiring too freely.

Corn is 7.9 per cent protein and 66 per cent carbohydrates. If the animal were fed corn alone it would require about 33 pounds of corn per day to supply the protein and this would give about twice as much carbohydrates as is needed. The excess of carbohydrates causes indigestion and the animal becomes sick. Neither corn nor alfalfa is a balanced feed, but combined, equal parts by weight, they balance perfectly and but 20 to 25 pounds of the mixture is needed in a day. It is easy to mix the meal with the corn in just the proportions you wish and you have saved at least half your hay. This is no dream; it is absolutely true. Horses running out to alfalfa hay in a rack will eat from 40

to 80 pounds of hay a day per head. This I have tried by weighing the hay to them. In cold weather I have known them to eat as much as 80 pounds a day and never less than 40 pounds. On my place I am feeding about 300 head of stock and we let no animal have more than 15 pounds of alfalfa in a day and that is all an animal can take care of properly without waste, because it gets all the protein required. I tell you, farmers, you have been too careful with corn and you have fed too much alfalfa. One pound of alfalfa-meal and 1 pound of ground corn mixed are worth more than 2 pounds of ground corn for feeding. Alfalfa ground into meal is equal in value pound for pound with corn. I know this is a fact and I don't believe very many of you have realized it or thought it was true. Alfalfa-meal is just as easily handled as corn; there is no more waste in feeding it and it is just as cheaply shipped. If our alfalfa farmers of Kansas will produce alfalfa and grind it into meal and get an equal value, pound for pound, with corn, can you begin to realize what our alfalfa lands are worth? It takes 36 bushels of corn to make a ton. You don't raise very many tons of corn on an acre and you can raise a good many tons of alfalfa. The alfalfa-meal when mixed with corn becomes a balanced ration and you can feed your animal just what you want. You feed it in a box and in the dry and there is no waste. It has been thought that we could not feed alfalfa to race horses and to driving horses. This is a mistake; it is only because we did not feed it right. Fed in proper proportions as I have indicated it is all right. There are many places in our towns, and even in the country, where they feed ground corn and bran and pay \$20 or more a ton for the bran. Bran has no advantage over alfalfa-meal in any way, but is one-third less in feeding value, yet there are thousands of tons of it used right here in this alfalfa country. It is a good feed and it balances properly with corn, but we have something that will take its place in every way. If bran is worth \$20 a ton, alfalfa-meal is worth about \$30 a ton, and we can produce it very cheaply.

It is simply a marvel what you can do with dairy cows feeding alfalfa-meal. When I started the alfalfa mill last fall, I concluded I would try it on a bunch of dairy cows and I bought them. The man who sold them to me told me they were giving about 25 gallons of milk a day. I expect he told it high. I put those cows on 15 pounds of alfalfa-meal a day, fed in two different feeds, and we gave them 6 pounds of corn, ground, mixed with the 15 pounds of alfalfa-meal, and in one week's time they were giving 45 gallons of milk a day and now they are giving more than that. They keep right on giving more. Besides the 15 pounds of alfalfa-meal and 6 pounds of corn, we let them run to wheat straw and corn fodder. Speaking of wheat straw, let us make another remark. We have thousands of tons of wheat straw in Kansas going to waste. If your wheat straw were ground with alfalfa hay, two tons of straw to one ton of hay, you could compel your cattle to eat it. It hasn't any protein in it—about one-tenth of 1 per cent digestible protein in it—but it has quite a quantity of carbohydrates. For a maintenance ration you would feed about 30 pounds a day of this mixture. That would be 10 pounds of alfalfa and 20 pounds of wheat straw. This would make the very cheapest feed there is in Kansas today. Some reports give as high as 34 per cent of carbohydrates in wheat straw. We have no need of oats in Kansas. That is a startling proposition and yet I know it is true. Oats are good feed. They are nearer balanced in proportion of protein and carbohydrates than any other one feed we have, but they are not rich in either protein or carbohydrates, that is, not rich compared with alfalfa. By mixing alfalfa and corn we make a feed equal to oats at much less ex-

pense. I have 20 head of standard bred horses. We feed them alfalfa-meal and ground corn and I would like anybody to look through that stable. They are in perfect condition. Professor TenEyck of Manhattan was there not long ago and he said he never saw horses in better condition. These were race horses in training but were fed no oats. Cornmeal is three times as heavy as alfalfa-meal. To the large horses we fed 4 pounds of alfalfa-meal three times a day. It takes almost a half bushel of alfalfa-meal to weigh 4 pounds. To this we add about half a gallon of ground corn and wet and mix it in a half bushel measure. This half bushel of mixed feed three times a day is the cheapest and best feed you can give the horses. At night we gave each horse about 5 pounds of prairie hay. For the colts and growing horses we give more alfalfa-meal or let them run to alfalfa hay.

To sell our hay we must bale or grind it. When you bale hay you have added nothing to its value except the ease of handling. Incidentally, you have lost a good many leaves, which are the cream of the alfalfa and every time you handle a bale of alfalfa you shake out a few leaves. The ordinary bale of alfalfa hay shows nothing but stems on the outside. When you go to feed the bale there is just as much waste by getting out of the manger and under the horses' feet, by the animals eating the stems or the leaves and leaving the balance, and it is just as hard for you to tell how many pounds you are feeding. When your alfalfa is ground you add from 25 to 40 per cent to its nutritive value by grinding and you put it in a sack where it can be shipped to any part of the world. You can know just what a gallon or a half bushel of it will weigh and you can feed it accurately, knowing just how much you are feeding. You feed it without wasting any whatever. Aside from the cost of milling machinery, you can grind your alfalfa just as cheap as you can bale it. It seems to me this means we will put up mills and grind our alfalfa rather than bale it. They are hauling alfalfa to the Newton mill for 15' miles. They make large racks and bring from two to three tons on the wagon. I have a bunch of steers that I am feeding alfalfa-meal. I started these steers with 15 pounds of alfalfa-meal and about 12 pounds of ground corn a day mixed in a box. After two or three weeks we had reduced the alfalfa to 12 pounds and increased the corn just a little. At the end of sixty days we fed the steers 10 pounds of alfalfa-meal and 20 pounds of corn a day. With high-priced corn and cheap alfalfa this is certainly the most profitable way to feed steers.

Mr. Harrington: We want to know something about the machinery it takes to make that.

Dr. Axtell: I do not think that any attrition or grinding mill—at least in milling quantities—has been a success. It may be you could use an attrition mill for a farm, and mix a little corn with it, but it would be a very imperfect affair, and would require a great deal of horse power, and you couldn't properly mix your corn and hay. You have to grind your corn and hay together in such a mill. You would like to have a little mill that you could use on your farm and grind your feed. For a farm mill a cutting box is the best. If you would tell me how to manage the meal when it comes through the fan so as to put it in a room or in a bin and get the wind out of it and in a sack, then I would have it solved for you. I would have a mill for a low price that would grind a ton or more an hour and with very little expense. I know how to grind it perfectly. The machine works like a watch. You can feed it just about as fast as a man can put in.

A Member: What is the cost of the milling machinery?

Dr. Axtell: About three thousand dollars aside from the power to run it.

A Member: How do you feed that to swine?

Dr. Axtell: There's more benefit in

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grinding alfalfa for hogs than for any other stock on your farm. The hog's teeth and stomach are not calculated to eat alfalfa hay. Alfalfa-meal is a little bit coarser than it ought to be for hogs and I believe you should take the fine dust out of your meal. It is almost perfect feed when fed with shorts. It is wonderful feed for them, fattening hogs or brood sows or growing hogs. You must have more condensed feed for hogs than for any other animal.

The three or four States excelling Kansas in total corn-production are her immediate neighbors. Of these she is not jealous, and to overcome any deficits in her meat-making grains she has but to utilize one of her three, four or five cuttings of alfalfa harvested each year. Missouri is admittedly one of the world's foremost corn States; yet Uncle Sam's reports show that Kansas in 1896 and 1899 raised more corn by 40 per cent than was raised by Missouri.—F. D. Coburn.

The Dairy-Bred Calf.

C. E. SUTTON, LAWRENCE, KANS.

Can the dairy-bred calf be made to pay is the important question confronting the Western dairyman. Milk has been very high and it has not paid to feed it, and high-priced grain into the calf bred along dairy lines, for the purpose of making beef. A great many dairymen have tried feeding this class of cattle only to find at the end of two years that they had not returned the cost of the grain consumed, not to mention the item of labor. This has led to the common practise of destroying practically all the male calves, even though the owner almost hates himself when committing the cowardly act of taking an innocent life. But what can he do with the calf and make him pay a profit, is the question every dairyman desires to have answered and the experience of the gentlemen mentioned in this article we believe will answer the question and transfer the dairy-bred calf from an item of loss to one of satisfactory profit.

About eighteen years ago our Angus bull accidentally got into the corral and bred a couple of registered Holstein heifers. The result was a surprise to us, as the calves came black as crows, hornless, and of good beef form. Later we continued the cross on twenty-five or thirty head of Holsteins, putting two and three calves on a cow and graining them besides with the result that the calves were sold and went right along with our beef-bred calves without a question.

The above experiment has been extensively tried in other States with flattering results and is strongly recommended by the agricultural colleges. Professor Kennedy of the Iowa Agricultural College states that this cross is a decided success in England and Scotland, and recommends it to the farmers of Iowa who desire to keep high-class dairy cows and also desire to produce steers to fatten. Professor Kennedy recently answered the following inquiry from Iowa along these lines:

"Inasmuch as the dairy industry is gaining ground very rapidly in this section of Iowa, several of us farmers are wondering what influence it will have on the beef business. Do you think that we could raise good beef cattle by using a good pure-bred An-

gus bull on our dairy cows? If such work were pursued, would it be best to use both males and females for beef? We would like to have Professor Kennedy answer this, as I understand he has visited sections in Scotland and England where beef is produced along somewhat similar lines."

Professor Kennedy answers: "The questions asked are full of interest for every dairyman in the West. There is indeed a strong and growing sentiment among the Western farmers to go into the dairy business. High-priced land, high-priced feed, and low-priced fat cattle have caused this condition of affairs. The Western farmer does not desire to abandon beef production, but he must modify his methods.

"Dairying is without doubt the most profitable branch of live stock farming if the farmer has good help and good conditions. The average farmer desires to produce calves that will make good beef animals. He also wishes to own a herd of cows that will produce handsome profits from the milk production standpoint. He has tried the dual-purpose cow but she has not fulfilled his expectations. [And moreover she never will.—C. E. S.]

"By crossing the high-class Angus bull on the dairy cow you solve this problem in the twinkling of an eye. The writer has seen this method of crossing the Angus bull on all grades of dairy cows practised, both in this country and in Great Britain. He also goes on record as saying that the man who wishes to maintain a high-class herd of dairy cows and at the same time produce a crop of calves capable of being developed into good beef cattle can do so successfully in this way, for no other method of cross breeding yet discovered will give any such perfect results. The method has been thoroughly tried in the best districts of England and Scotland and is a pronounced success. The writer has visited Perthshire and the Midlothian districts where land rents for \$12.50 per acre, and there found these methods in vogue. Every farmer who pursued this line of work claimed the Angus sire to be the best because the calves all came polled, black in color, uniform in type, good feeders, early maturers, and produced a high quality of beef. Sires of other breeds have been tried but all agreed that the Angus sire has no equal in this special line of work.

"A. W. Trowe, Freeborn County, Minnesota, has been using this cross in his dairy for many years. In answer to an inquiry he writes as follows:

"We are asked to give the results obtained by using an Angus bull on dairy cows, as well as our observation of results obtained by others. For years we were backward about advising the use of beef bulls on dairy-bred cows, but eighteen years ago such striking results of Angus cross breeding came to our attention on the farm of John Frank, where we saw a herd of over one hundred cows of various colors and with them about as many calves all of which were solid black and hornless, that we decided to try the experiment ourselves, being forced to admit the wonderful prepotency of the Angus bull.

"Upon returning home we described this herd to a neighbor who became so infatuated with the idea that he purchased an Angus bull. His cows were a mixture of all colors carried by the bovine family and representing at least four different breeds. After several years' experience in this line of breeding he concluded that he had gained his two points, uniformity and good beefing qualities."

"Years ago we started an experiment along similar lines, our object being to produce a satisfactory steer calf from our Jersey cows. (We had at the time as many dairy-bred cows as we desired for several years to come.) It occurred to us that by using a black polled sire with these cows for a few years we could dispose of both steer and heifer calves for beef, and we very much disliked to destroy the calves, the question of what to do with the calf having come to us as it

has to every man who keeps special purpose cows.

"Dairymen dislike to destroy young animals have kept these dairy-bred calves only to find at the end of the second year that there was no possible way of getting pay for the feed consumed, and the average farmer has found that, taking one year with another, it is economy to destroy the dairy-bred bull calf as soon as he is born, but this Angus-Jersey cross-breeding produces a calf in every way satisfactory for feeding purposes and we believe that for the man who keeps Jersey, Guernsey, or Holstein cows there is no better plan to follow than for a portion of the time to use an extreme beef type Angus sire and dispose of all the increase until he is again obliged to replenish his dairy herd. He can then for a time use a high-class dairy sire with his old stock and continue to improve his cows, and between times he will have calves to sell that will bring him more money than the average cattle that are put on the market. The superiority in this method of cross breeding is that a special purpose cow for milk is better than a general purpose cow. This is conceded by all, and the price at which we have sold calves and steers from this Angus-Jersey cross proves that they are worth more than the average general purpose steer.

"This Angus cross is also a decided success with Holsteins.

"A. T. Budlong has a herd of Holstein cows that produce close to three hundred pounds of butter per cow each year and by this method of cross breeding he has a bunch of calves which are, with the exception of two, first-class specimens of the beef type in both form and color.

"G. B. Thayer has a herd of high grade and pure-bred Jerseys. He also has produced remarkable results. In a bunch of thirty-five calves there are but two, each with a small white spot and only one showing horns.

"Professor Hæcker has used an Angus bull with Ayrshire and Holstein cows and has as fine beef specimens as one would wish to see.

"Superintendent Gregg, of the State Farmers' Institute, has Angus-Jersey calves weighing 900 pounds at 12 months of age.

"We treat the heifers the same as steers, keeping only an occasional promising one for a milker. Our object in making this cross is to be able to profitably dispose of the increase. The farmer with a conglomeration of almost every color in his herd can produce a uniform lot of calves with good beefing qualities by this method. Milkmen who sell the calves at birth can likewise get more money for them."

Professor Kennedy goes on to advise the importance of making beef of all the calves, both male and female. The calves should be liberally fed from birth so as to be ready for the market at 24 months of age, when they should weigh fully 1,200 pounds each.

The dairymen of the West will add thousands of dollars annually to their income by following the advice of Professor Kennedy.

I would add this word of caution—buy a bull of extreme beef type; short-legged, wide-out and thick-fleshed, the result will "show you" that the dairy-bred calf is an item of profit.

Tuberculin for the Detection of Tuberculosis in Cattle and Other Animals.

[Parke, Davis & Co., the great manufacturing druggists, have issued the following statement for the purpose primarily of calling the attention of veterinarians to the subject. The statement contains so much that is interesting and important to the stockman and farmer as well as the veterinarian that we have taken the liberty of reproducing it in full.—EDITOR.]

Unsuspected tuberculosis spreads. One infected animal may thus become the nucleus of an infected herd. A cow with tuberculosis is a peril in the dairy, a menace to the health of the community—for the milk will carry infection, as well as the meat. To save the lives of the healthy animals, and to protect the milk-consumers, it is necessary to know how to detect

tuberculosis before it makes its presence manifest by gross physical signs. Cows may grow fat while harboring the tubercle bacillus. They are scattering the seeds of death before they are themselves wounded at a mortal point. The author of "The Four Bovine Scourges," professor of veterinary medicine and surgery in the Edinburgh Royal Medical College in 1879, said: "Acute tubercular disease of an organ may give rise to no symptoms of a positive character. The deadly disease is, nevertheless, making its way in the tissues, and through the secretions diffusing contamination."

Tuberculin is a detective of tuberculosis. Dr. E. A. A. Grange, formerly State Veterinarian of Michigan, stated in 1896 that he had employed it in upwards of a thousand instances in two years and had not discovered a single case in all these which would impeach the test. The Experiment Station of Alabama (to pass from the extreme North to the extreme South) in one of its reports referred to the fact that the Cattle Commission of Massachusetts had tested over twenty-five thousand cattle, and found the tuberculin at fault in one out of every four hundred cases tested. The United States Veterinary Medical Association, in convention at Buffalo in 1896, "resolved" that "Tuberculin furnishes incomparably the best means of recognizing tuberculosis in the living animal; properly used, it is entirely harmless to healthy cattle and exceedingly accurate in its effects."

Our tuberculin is made according to the original formula of Professor Koch. It is a toxin, and when injected under the skin its presence is resented by the animal. This resentment, or resistance, in a perfectly healthy subject causes no perceptible rise of temperature; but in a tuberculous subject, vitiated by the lodgment of the same sort of toxins from the tubercle bacilli, the effort to throw off the invading substance results in a temporary fever. There is one exception to this rule: cattle with far advanced tuberculosis often show no elevation of temperature from the tuberculin injection. This may be because there is already so much toxin present that the comparatively small amount required for the test makes no impression, or because so long a time has elapsed since the original disturbance (the original secretion of toxin) occurred in the animal that an antitoxin has been developed—having no effect upon the tubercle germ, but efficacious to some extent against the toxins, whether evolved in the organism or introduced from without. Be that as it may, the test holds in the cases where it is most needed—that is, in cases which show no outward symptoms of tuberculosis although the disease is present.

There is no danger of an animal contracting tuberculosis from the injection of Tuberculin, as it is a sterile solution, the germs having been all killed and filtered out, and only the chemical toxin remaining.

We market Tuberculin, concentrated, in vials containing an amount sufficient to make four tests; also in bottles of forty tests. It keeps better in this concentrated form, but must be diluted before being used. To facilitate this dilution without loss of material or contamination, we place such an amount in the small vial that when the latter is filled with carbolic water the Tuberculin will be of the proper strength.

To make the dilution, first add to some recently boiled water sufficient carbolic acid to make it one-half per cent, that is, 5 parts carbolic acid to 1000 parts water, then remove the stopper from the 4-dose vial of Tuberculin, fill with this carbolic water, replace the stopper and shake. The material is now ready for injection. If the bottle of 40 doses is used instead of the vial, the dilution will have to be made in a separate vessel—in the proportion of one part Tuberculin to nine of carbolic water.

Injections.—Inject under the skin, along the neck or shoulder region, 2.5 cc., or about 40 drops, of the di-

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From the tenth to the twentieth hour after the injection the temperature should be taken every two hours. Some veterinarians rely on the temperature taken at the twelfth, fifteenth, and eighteenth hours. "A rise of over 1½° F. will indicate tuberculosis;" this elevation of temperature subsides as the tuberculin is excreted from the system.

Note.—Do not attempt to test a cow when "in heat;" during this time the temperature may show great variations.

N. B.—Veterinarians who expect to make a number of injections will find it to their advantage to have their druggist make for them several ounces of the one-half per cent carbolic acid. This will keep indefinitely and can be added to the Tuberculin at the stable.

Sheep for the Farmer.

JOS. E. WING BEFORE PENNSYLVANIA STOCK BREEDERS.

I think it will pay the farmer to have one hundred ewes. This is a nice little lot to take care of. He need not learn to know them all by name, but he can know them all by sight.

I am not talking to you about the winter lamb business now; I am going to talk to you of how the ordinary farmer can manage to make money on sheep in Pennsylvania.

THE CARE OF THE EWES.

He should begin in February or March, and first I want to talk to you a little about taking care of the ewes in pregnancy. That is the thing most people know little about. I love to talk about it, because I have had so much experience with it. I had the benefit of that when I was a young man and had a young wife, and a nice lot of sheep, and I was happy as I could be. I kept my sheep very carefully housed, and protected from the weather, and led them out to water, and took all the care of them that I knew how. I had read a good deal about the value of protein in the feed and of bone-meal and wheat bran, and clover hay, and oats sometimes, and I never saw anything prettier than that bunch of sheep. But when the lambs came then the clouds came over my sun. Feeding so much protein had developed too much bone, and the lambs could hardly be born at all. I remember one weighing 17 pounds, but the mother died and the lamb died. I took it into the house and nursed it and fed it, but it died. The lamb died because I did not know how to feed. Well, an old man who had raised sheep for many years said to me: "You take too good care of your sheep; let them hustle, and give them oat straw. You have wasted your feed by giving them too much." So I gave them oat straw and a little corn fodder, and they looked fine and well rounded out, but there was something not quite right. You can learn to tell that in your sheep just as a man learns to know when his wife is mad. At first he needs a diagram to show him, but after awhile he learns it instinctively. Well, the lambs came, and they looked all right; there was nothing wrong to be seen, but they did not live. That ewe did not have that lamb at the physiological moment; there are forces at work in her beyond the care of man, and I learned then this wonderful thing, that if the ewe did not have milk in her udder, she did not love her lamb either. I have had an old ewe look at me, and then at the lamb, and say as plainly as if she could talk, "Joe, here is that lamb; I have no use for it; you had better take care of it." And I tried it many times, and have nursed those lambs and fed them, and tried my best to raise them, but rarely with success. And I learned this, that if a ewe does not have milk in her udder she does not have any love in her heart, either, and these ewes did not have milk in their udders because they did not have these lambs at the physiological moment.

Then I thought that if I was careful to get a good sire, my lambs would be all right; so I exercised great care to get good sires. Then, one day I had a lamb born, and the moment it was born it looked around very lively and found its dinner and enjoyed it, and I said, "That lamb has strength, and it is going to live," but it died. Its father lived, and its mother lived, and all its kindred. It would take a special story to tell how too much strength is too good—how it is almost as bad as too little.

Now, we have learned how the lambs should be born, and we will go back to our ewe. We keep that ewe carefully housed, and protected from the wet weather, and we feed her up with alfalfa and bran, and yet none of those lambs will live. Why? She gets no exercise; she stands too much, and not one of those lambs will live. Keep her out of doors, and give her exercise, and feed her well, but not too well, and see if those lambs will not live. Our sheep must not be

exposed to the weather, but they must not be kept too warm. You can not raise sheep in this way. I have a neighbor who has a barn worth \$3,000, and he has never raised a single sheep in it. He keeps it closed too tight, and his sheep get no air. They need the air.

A man who has sheep should have a lot of little panels made, about 3½ feet long, and fitted with two little doors to keep the lambs together. You can fold the panels up and put them away when you don't want them.

Never give the ewe any change in her feed, and no increase. It may cause a great many troubles, and give her indigestion to give her anything different, but gradually decrease it while seeing that she still has enough to eat. It is a common mistake to give her some protein, and some wheat bran, and some alfalfa, thinking that will make milk.

If you think the lambs can not suck all the milk out so as to get a fresh supply next time, it is wise to milk her for a few days until the lambs get bigger.

THE CARE OF THE LAMBS.

Now, another thing; I am pretty near getting to the winter lamb business, but I want to start you right for the spring, and then we will start on that in the same way. Make a place where the lambs can go in and the ewes can not follow, and make it so that they can get in easier than out. The lamb is the creature of opportunity. Most men are like them, and some of you men here will probably go to the Legislature some day, and some will probably go to prison; it all depends upon the opportunity. So if the lamb has the opportunity to go into this place he will do so. Place in that pen a little trough, and in that trough some grain—wheat bran will do, or a little cornmeal, very coarse ground, or about 10 per cent of oil-meal or buckwheat bran. It doesn't take long for these little fellows to get started eating the grain, and I tell you they enjoy it. Then comes the grass in the fields, and here is something I want to impress upon you; keep them off the grass when it is growing. When you turn them out of the pen, turn them into a little yard, and keep it bright and clean, and when you give them grass feed it to them on the ground. Why? There is nothing in the grass but a little coloring matter, but until he gets something to do he does not need very much of it.

TROUBLE WITH INTESTINAL PARASITES.

When you turn them out you may have some trouble about intestinal parasites. That time comes along about the middle of June. Then the ewes go out to grass with the lambs, and I tell you it is a pretty sight to see those lambs run up and down the fields and play and then run up to the ewe, and off again, as if asking her to watch them at play.

Make a place in the field and spread a little cornmeal there for them, and one of the best things you can give them is coarse salt that you buy, and then, of course, there is the mother's milk—the best of all for them.

Feeding Sheep Situation.

FROM CLAY, ROBINSON & COMPANY'S LIVESTOCK REPORT.

This is the time of the year when prospective feeders of sheep and lambs begin to size up the situation and make preparations for the work. It will not be long before the movement of the stock from the breeding grounds of the northwest will be on in full blast, and then the outgoing shipments of feeding and breeding animals from the markets to the farms of the middle west and eastern States will commence.

While there has been some inquiry from country sources regarding thin offerings, there is as yet no inclination on the part of intending buyers to take hold with any vim. A great many express the opinion that prices are still too high and present prospects for corn rather discouraging. For the above reasons, along with the terrible drubbing the feeders got the

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past season, it is only logical to expect a thinning of their ranks and a more exacting crowd of buyers.

It is necessary to go back to 1904 to find a time when during the regular stocking-up season prices for feeding sheep and lambs were as low as now. As compared with one year ago, current quotations of \$3.25 for choice feeding ewes, \$3.85 for feeding wethers, \$4.25 for feeding yearlings, \$5.50 for choice feeding lambs and \$4.25@5.00 for aged to yearling breeding ewes show a decline of \$1.00@1.50.

If the curtailment in the feeding operations goes on as indicated at this time, there should be relatively good prices in force for fat stock next winter, providing the anticipated revival of commercial and industrial activity takes place. Then will those who plucked up courage to take hold at a time when so many who previously fed stay out of the game be in a position to realize well on their labor and investment.

The big packers make no concealment of their intention to put prices for grass sheep and lambs on a very low basis this season, which, if successfully brought about, spells unusually low rates for thin stock. Whenever prices for feeding lambs drop to \$5.00, feeding yearlings to \$4.00 and feeding wethers to \$3.75 a rare occasion will be presented for the wise feeder or farmer who has the facilities and experience to handle the bovine stock.

Low prices for sheep can not last long. The demand for the fat offerings should again be of the urgent and insistent kind, and the market for wool will show marked improvement on that of the present. These conditions may not be brought about in the near future, but it should not be many months before the market for both wool and mutton will be in normal shape.

Coburn on the Sheep Industry vs. the Dog Industry.

Secretary Coburn answers an inquiry in the following characteristic and forceful fashion:

Mr. Sim Stoffel, Norton, Kans.,

MY DEAR SIR:

I have your letter of June 22, and note your inquiries as to the probable desirability of embarking in sheep husbandry in Norton County.

It is rather outside my province to advise at long range as to the private affairs of any individual, especially one whose characteristics, tastes, training, experience, situation, likes and dislikes I do not know. Good

sheepmen, too, as is said of poets, are born and not made.

Considering the sheep-raising investment I may say, as closely related to it, that the people of your county appear, from the returns made by her officials, to be far more partial to developing the dog industry than to sheep. For example, they report to this office, under oath, that in 1905 the county was cultivating 1,759 dogs and 152 sheep, and in 1906 had increased the dogs to 1,774 and reduced the sheep to 142.

There is probably no part of the world naturally better adapted for sheep than Norton County, Kansas, and every farm in the county should profitably maintain a flock, but I could not counsel embarking in sheep in any agricultural community or in any county which shows a preference of 1,300 per cent in favor of dogs. Where dogs are regarded as so much more desirable than wool, and mutton, and lambs, the sheep industry and the sheep owner have about the same chance for prosperity as a snowball in hades.

The average Kansas canine (your Bob, any Fanny, and my Tige and Togo always excepted, of course) is a worthless, sycophantic, law-defying, flea-breeding, fly-snapping porch loafer by day, equaled by no other domestic animal in habits of unspeakable nastiness; and a sneaking, murderous, cruel coward, prowling all the countryside by night, with a lust for more wanton slaughter unknown to any wild beast, and he harmonizes with the harmless, beneficent sheep only after the sheep's flesh is inside his stomach, its wool in his teeth and his jaws dripping with its blood.

Your county, however, is by no means the greatest sinner in the matter of discriminating in favor of dogs and against sheep. One of the best counties in the State last year officially reported, from actual count, 4 sheep and 3,145 dogs; another 1 sheep and 1,636 dogs; a third 2 sheep and 2,790 dogs; still another 1 sheep and 1,211 dogs, and so on. It seems to me that the ratios are out of proportion. Either there are entirely too many dogs for so few sheep, or by far too few sheep for so many dogs.

While I would like to see many more sheep in your county I must say that under the circumstances, as they appear to exist just now, I am somewhat timid about advising more than the most modest investment in providing them. Very Cordially yours,

F. D. COBURN, Secretary.

Horticulture

Two Crops of Strawberries in a Season.

In some recent "press notes," Prof. O. B. Whipple, of the Colorado Agricultural College, tells how they get two crops of strawberries a season in Colorado. The method may be found applicable in Western Kansas. The following explanation by Professor Whipple is easily understood:

"The principle involved is an old one; simply artificially provide for a resting period after the first crop is off. This may be done by withholding water until the bed is well dried up. As soon as the first pickings begin to get light, shut off the water and leave the bed until the tops are well browned. Then mow and rake the bed, irrigate it thoroughly, and give it frequent cultivation and irrigation until the second crop begins to ripen.

"We would naturally expect that such a system of caring for the bed would shorten its life, and no doubt it does, but a late crop of berries is often quite profitable, and the average bed is grown too long anyway. It is often advisable to cut the first crop a little short by withholding the water and thus increase the second crop. In this way we get two light crops, and although they may not exceed one good crop from a well grown bed, they come on the market when the prices are good. In Western Colorado second-crop berries often sell on the retail market at 20 cents per box."

Remedies for the Cabbage Maggot.

F. L. WASHBURN, STATE ENTOMOLOGIST,
STATE EXPERIMENT STATION, ST. ANTHONY PARK, MINN.

Much work was done last season against this pest, which attacks the roots of cauliflower and cabbage, as well as working in radish and turnip, details of which will later be published in bulletin form.

Three thousand cauliflower plants were used in our experimental garden, beside a large number of cabbage plants, and in addition cooperative work was carried on in truck gardens. It seems desirable at this time to publish, for the benefit of the market gardeners and others, a short circular, embodying in the briefest possible way our findings during the past year, which information may be of service to planters.

In considering these recommendations it must be borne in mind that each grower should be guided as to the practicability of certain remedies by the special conditions surrounding him individually. One grower could well use certain methods, which would not be available for another.

The following remedies were tested on a large number of plants and found more or less unsatisfactory: Dipping plants in solution of arsenate of lead; treating with carbolic acid emulsion; placing carbolic acid and lime about plants; use of tarred paper cards, and tarred "felt" cards, the latter being the better of the two; sawdust and glue about the base of plants; bran and glue about the base of plants; bran, Paris green and glue, etc.

The best results were obtained by treating cauliflower by the method given below. It certainly is an available remedy for a limited number of cauliflower and cabbage (we propose to try it on radish also this spring), and if the crop brings any price whatever, it would seem that it is practicable for a large acreage of cauliflower.

Steep two ounces of white hellebore in one quart of water for an hour, then dilute with water to make one gallon of the decoction. Larger quantities can be made by increasing the proportions. Apply with watering pot from which the rose has been removed, a few days after plants are set out; five days later apply again, and a third application five days after the second. Use the solution five or six times more at weekly intervals. It takes approximately between two and three hours

to treat 1,000 plants, and the material required for this number costs fifty cents at retail. About a teacupful is poured around each plant.

Fields exposed to breeze suffer less than sheltered fields.

Fields in which the old stalks are not allowed to stand appear to be less affected than fields which are neglected in this particular.

If it were not for parasites and predaceous enemies, which play an important part in helping the gardener, this pest would be much worse than it is.

Holland cabbage appears to be exempt from attack, no cabbage maggots being found in this variety.

Red cabbage, on the contrary, is apparently not immune, since it suffers from the attacks of the maggot.

Cabbage maggot flies may emerge from pupae (the hard brown resting stage following the maggot) which are buried five inches deep in the soil.

Handling Fruit.

G. P. WHITEKER, FRUIT DEALER, TOPEKA, KANS.

The first thing a fruit grower wants to do when he sees he is going to have a crop of any kind of fruit is to secure his packages, boxes or barrels, to handle it in. The packages should be as neat as possible, so that the fruit will be attractive.

The next thing is when the fruit is just right pick it carefully, not roughly. Pack it in the packages from the tree; never put the fruit on the ground or in piles where it will be inclined to heat or sweat, as this ripens the fruit and destroys the keeping quality. The fruit should never be left in the sun and should be kept clean from dust.

It should be delivered to the market as quickly as possible. If it is fruit that should go to cold storage the quicker it is in the storage after picking the better and the longer it keeps. Should it be for immediate shipment it is just as proper to do the same.

Now, in regard to the grading of fruit: If the fruit is graded for keeping in cold storage there should not be a bruised, wormy, or inferior article put in the box or barrel, as it will decay and cost some one more than it is worth by the time it is taken out of the storage.

The reason for doing it right at once is it saves labor, and labor is the dearest thing a man can buy. Apples picked, packed, and handled properly, and put in cold storage at the proper time can be kept till May 1 without any loss whatever. The same fruit picked roughly, not graded, and put in piles will not keep for the spring trade.

Boxes are the proper packages to pack apples or pears in, as a box is more easily handled and more nearly the size of package that nineteenth-twentieths of the people want and will bring from 10 to 25 per cent more in price.

To prove this I will say that Washington, Oregon, Utah, Idaho, Colorado, Arizona, and California all have adopted the box and all fruit is picked, packed, and handled carefully. The most tender fruit will carry to New York in fine shape and all those States are making a success. Why can not Kansas adopt the same methods in handling fruit? Kansas farmers are to the front on other articles. Some growers will say, "Oh, we haven't got time to pack fruit this way." If the fruit is worth anything it is worth your time. The commission man can not pack all the fruit and should not be expected to pack fruit at all.

Cabbage Lice.

EDITOR KANSAS FARMER:—I have a cabbage patch of about 500 plants that is almost covered with lice. Can you give me a sure remedy through your paper?
R. B. S.

Barber County.

It will prove difficult to destroy the cabbage aphid after the plants are well headed and some of the lice have penetrated the heads.

If the lice are treated as soon as they appear, or if treated before the heads are well formed, they can easily and certainly be killed by thoroughly wet-

ting them with whale-oil soap at the rate of 1 pound to 7 or 8 gallons of water. To make the work entirely successful, every louse must be wetted and if the first treatment fails to kill all the lice, it should be repeated within a few days.

A knapsack sprayer to which is attached a spray rod bent upward at the end and capped with a fine-holed Vermont nozzle, will prove a most efficient method of applying the spray on small patches.
T. J. HEADLEE.

Tomato Vines Losing Their Leaves.

Will you be so good as to tell me what is wrong with tomato vines when the first leaves or branches get yellow and finally die, then the next and so on until they are nude of leaves, although full of fruit. Is it an insect or a lack of something in the soil. Yours truly,
M. R. DEVER,
Manhattan, Kans.

From an examination of the leaves sent I find your tomatoes to be affected with a fungus disease known as leaf blight (*Cylindrosporium* sp.). The mycelium of this fungus grows in the leaves of the plants and destroys them. It reproduces by small dust like spores which are found on the surface of the leaves. This disease is not often reported in Kansas, but in some sections it is known to do considerable damage. It may however be largely controlled by the application of Bordeaux at intervals of about ten days throughout the growing season of the tomato. After the fruit begins to ripen I would advise the use of copper carbonate rather than the Bordeaux, since the latter will discolor the fruit.

The formula for Bordeaux mixture is as follows: Copper sulfate, 4 pounds; lime 4 pounds; water 50 gallons; dissolve the copper sulfate in hot or cold water in a wooden or earthen vessel and dilute to 25 gallons; slake the lime in a tub, adding water cautiously and only in sufficient amounts to insure thorough slaking. After thorough slaking more water can be added, then stir until it has the consistency of thick cream, when cold dilute to 25 gallons. When the two solutions are prepared as above described, pour both together into a 50-gallon barrel and thoroughly mix. Before using strain through a fine mesh sieve.

For the copper carbonate use the following formula: Copper carbonate 5 ounces; ammonia 3 pints; water 50 gallons. The copper carbonate dissolved in ammonia may be kept as a stock solution and diluted to the required strength just before using. If this be kept in a glass stoppered bottle it will not deteriorate with age, but the made up solution loses its strength on standing.

GEO. F. FREEMAN,
Assistant Botanist, Kansas State Agricultural College.

Picking and Handling Fruits.

The following general directions are from a little book of instructions issued by the Yakima Valley Fruit Shippers Association:

"All fruit shall be carefully picked at the proper state of ripeness and laid (not dropped) into buckets or baskets. No windfalls or fruit that drops from trees from any cause shall be placed with picked fruit for packing.

"When pouring fruit from picking bucket or basket into boxes or trays, the bucket or basket shall be put down into receptacle until it rests on bottom. Picker shall then place his hand over fruit to let it out gently, that it may not in any way be bruised, except that peaches and other tender fruits shall in all cases be packed direct from baskets. Apples shall be carefully sorted and graded before being placed on packing table.

"All wagons for conveying fruit

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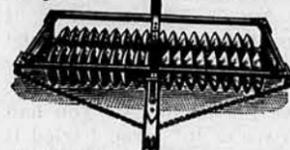
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from orchards to packing houses, and to shipping stations, must be supplied with springs, so that there will be no jar to mar or bruise fruits, and tarpaulins or other covering should be placed over loads to keep out the heat, dust or rain."

The joint picnic meeting, which the Shawnee County Horticultural Society was to have held in connection with the annual picnic of the Berryton Grange, has been postponed for one week on account of its proximity to the grocer's picnic. The meeting will be held in the park at Berryton, August 13, with the following program in the afternoon: "What the Grange Has Done for the People," H. H. Wallace; "Cold Storage," W. H. Barnes.

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Agriculture

Russian Seed Wheat.

PRESS BULLETIN NO. 164, AGRICULTURAL EXPERIMENT STATION, KANSAS STATE AGRICULTURAL COLLEGE.

The improvement of seed wheat for Kansas has been in progress at the Kansas Station for some years. But to further this work, a Seed-Wheat Bill was passed at the last meeting of the Legislature, authorizing the board of regents of the Agricultural College to send representatives of the Experiment Station to investigate sources of seed-wheat supply, and to import seed wheat if deemed advisable. In accordance with this act of the legislature, Prof. A. M. TenEyck made a personal investigation in Alberta, the writer in Turkey and Russia, and at the present time Prof. H. F. Roberts is making an investigation in Roumania, Hungary, Germany, and Sweden.

The annual total yield of wheat in Russia averages approximately 625,000,000 bushels—just about the general average of the United States. In our country about three-fifths of the production is winter grown and two-fifths spring grown, while in Russia fully three-fourths of the wheat is spring grown. The spring wheat yield in Russia is also increasing, due to the extension northward into new regions that do not admit of winter crops. As to the yield of these two classes, winter wheat gives the largest per acre, and averages from 25 to 40 per cent more than spring wheat. It may be stated as an invariable rule that winter wheat gives a better yield than spring wheat; and in this connection it may be said, also, that the winter wheat in Russia requires and gets better care than spring wheat.

While the total production of wheat in Russia compares favorably with other countries, when compared as to yield per acre the comparison is far from favorable, as is seen from the following five-year-period averages: 1885-1890, 7.1 bushels; 1890-1895, 7.9 bushels; 1895-1900, 8.6 bushels; 1900-1905, 9.1 bushels. The 1906 average is estimated at less than 8 bushels per acre. If Russia's acre average equaled that of Germany, for instance, the annual production would not be far from 1,500,000,000 bushels. This low yield is not due to the type or the character of the soil, for the soil is relatively good, and many large areas are especially noted for their exceptional fertility.

The climatic conditions are unfavorable during certain years, giving rise to what is known as "Famine Years" that occur once or even twice during a five-year period. A leading cause of poor yield of wheat in Russia, of both winter and spring wheat, is the poor methods in vogue, especially the methods employed by the peasants and the uneducated landowners. Agricultural methods in Russia are very primitive, including the rotation system, the methods of culture, and the style of fertilization.

The common system of rotation in the center of the wheat belt is as follows: First year, fallow; second year, winter crop; and third year, spring crop. A not altogether uncommon system is that involving continued culture until the land is exhausted. It is given over to non-production, or resting, for 10, 20 or 30 years, or until its production is restored again.

Leguminous crops as a part of the rotation system are, as a rule, never employed, and only on a few large estates. It is on these farms that the best farming is done in Russia, and real progress is now and has been for many years taking place.

Diversification of crops is therefore spreading and will become more popular in time. But it is unlikely that such will be at the expense of the wheat crop. Not only is the land abused in wheat growing, and the general rotation scheme unscientific and hurtful to the soil, but the tools and implements employed are of the most

primitive sorts. In the first place, the kinds of farming tools are small in number, they are very poor, and altogether inadequate for doing the work required. The plow, so common and indispensable to us, is a luxury in many parts of Russia. In one district in Russia, less than 20 per cent of the entire tilled land is broken with an iron plow. More than 75 per cent of this work was done by a tool known as the Sokha, a forked-stick sort of plow, that scratches the soil from two to four inches deep. A few wooden plows, between 5 and 10 per cent of the total soil-breaking tools, are found in many of the wheat districts.

The reason so many poor tools in the wheat district are found is because of the poverty of the people. While primitive forms are employed by the peasants, on the other hand improved tools of all kinds, including plows, harrows, harvesters, and threshers, are used on the large estates.

The greatest progress in wheat growing is found on the large estates. Here some diversification in crops is practised, fertilizers are often used, seed is usually selected, and improved methods are generally employed. On one estate near Kharkoff more than 300,000 bushels of wheat were grown last year.

The quality of the red winter wheat of Russia is good, but perhaps no better than the present improved wheat stock of Kansas. Two sections stand out prominently as sources of seed supply: Central Crimea (Taurida Province), especially between Simferopol and Melitopol; and farther to the north, in the Province of Kharkov, in its eastern part where the climate is very dry and cold.

For purposes of comparison and tests at the Kansas Experiment Station and other places in Kansas, samples that have been under improvement have been secured from both of these districts. In all, about 25 varieties and lots were selected during the past summer, all of which are now at the Station and will be seeded this fall. These varieties will be tested in comparison with the improved varieties of the Station, and by another year the Station will have at hand real, positive information of the value of further importation, especially of large quantities for general State supply.

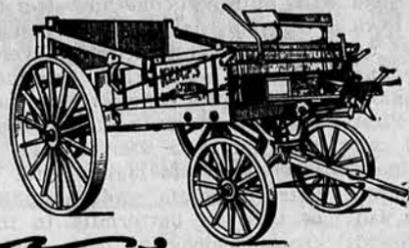
The wheat of Turkey is inferior to Kansas-bred wheat, and it is not advisable to look in that direction for improved seed stock.

The cost of importing the best selected seed wheat from Russia and delivering the same in Kansas will be approximately two dollars and fifty cents per bushel. This means good wheat, somewhat improved by selection, and fairly free from weed seeds.

C. W. BURKETT, Director.
Manhattan, Kans., July 14, 1908.

Listing for Wheat.

I think it was sixteen years ago that I first listed land for wheat and continued same as long as I grew wheat which I think was seven years. I would not have a man plow my land if he would plow it free. I was in Manhattan while Georgeson was professor in agriculture at the college and I went to his office for the purpose of explaining my way of preparing a seed-bed for wheat by first listing. He listened with interest and I thought he would do some experimental work along that line, but I guess he never did, at least I never heard of it. Experimental work is expensive on the farm and should be conducted as much as possible at State expense. For the benefit of those that have land suitable, I will give my method. As soon as the present crop is removed start the lister without subsoiler, providing the ground is in fit condition for plowing. Go around the field the same as you intend to harvest, running the lister closer than you would for corn. Be sure and cover the center of the ridges well. Then after volunteer wheat is well started go on with a harrow, going around the same way as listing. Next go on with a disk, curler with shovels, or cultivator with



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With an I. H. C. spreader, the work of hauling out and spreading manure is reduced just about one-half, and it is made agreeable work instead of a job to be dreaded and postponed as long as possible every year.

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Should you not make such an investment this year?

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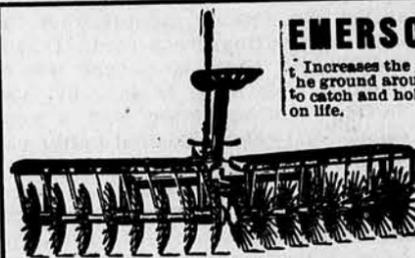
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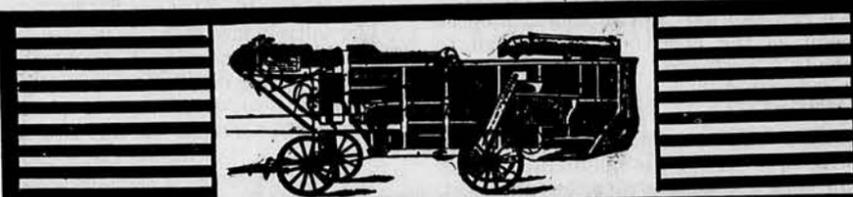


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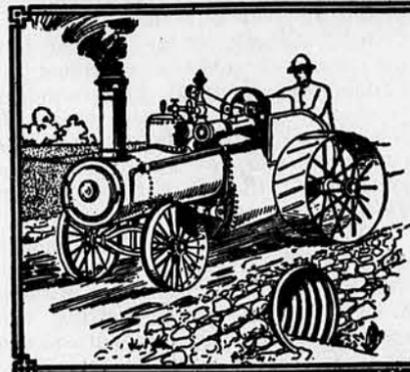
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two large shovels. Then with one or two more good harrowings your field is ready for the drill and if the work has been well done you will have an ideal seed-bed. The soil will be fine on top and firm underneath. I make the following claims for listing. First by going over ground more rapid and stopping weed growth by listing there is more surface exposed to the action of the atmosphere. Second, there will be no dead furrows or ridges around the field. Third, the stubble and trash will be on top of the land where it with have a tendency to catch snow and stop surface soil from drifting.

Ottawa County. W. B. EAMES.

Work in the Corn Field.

EDITOR KANSAS FARMER:—In answer to your general invitation I will remark that we must do the best that we can in the corn field. The wide shovels cut the eyebrows from the lister ridges but they leave bigger clods than the narrow shovels do. I use a sled over the corn row. It is about 4 feet long, 8 inches wide, and 6 inches high of 1 inch boards, then sides about 1 foot higher of galvanized iron, bent until they nearly meet. That gives the dirt a chance to work back and the spring of the iron keeps the dirt from packing on the sides. It is necessary to send the shovels down to get the weeds and break up the crust. The dirt flies to the top of the beams so we put a long doubletree on the front end of the sled reaching nearly to the wheels. Fasten the ends of the doubletree to the frame of the cultivator with ropes and no number of clods can turn it over. On account of the weeds we are throwing the dirt to the sled the first time through, and the corn will grow so fast that we will have to keep throwing dirt to it.

On the late corn we are using a 10-foot harrow with a sled under it made of 4-inch boards and 6 runners. The pairs of runners are 10 inches apart in front and 21 inches behind to crush the clods against the lister ridge. Since the heavy rains the driver may ride the harrow.

The harvest and hay demand part of our attention but we are trying to keep one team in the corn field all the time with a 4-shovel, lever-control, riding cultivator, operated by our little girl. The field should be cleaned of weeds as soon as possible and the ground should not be allowed to bake. I think the corn will grow longer if we cultivate late so we should stop as soon as the corn is high enough to shade the ground, otherwise the frost may catch too much corn. The ground should be made clear of weeds and mellow before the first of August. We will have to use judgment in dividing the loss among the corn, hay, harvest, and hired help. CHARLES A. BABBIT.

Brown County.

Farm Butter Making.

At this time of the year there are many conditions which are likely to cause the production of an inferior grade of butter on the farm. The cause of this poor butter may be traced either to a single poor condition, or perhaps several of them. By carefully carrying out the following conditions, first-class butter should be produced:

CREAM.

Hand separator cream produces better butter than that separated by any other method. The deep can (shotgun can), surrounded by cold water, is second best; pans and crocks are third best; and the water-dilution method comes last.

The cream should be kept in as nearly sweet condition as possible until enough has been gathered for a churning. This should then be soured, or ripened. To keep the cream sweet, while gathering enough for a churning, keep the can containing it surrounded with cold water, or perhaps, better, hang it in the well. To ripen, place where it will become somewhat warmer (at a temperature of 75 to 80 degrees), until it is sour enough; then cool down to a temperature of from 55 to 60 degrees, which is right for churning. Let it stand at this temperature for an hour or so before

churning, if possible. This will cause the butter to come in better condition.

Cream that is being ripened should be thoroughly stirred several times before it is ready for churning.

It is often advisable to save some of the buttermilk of one churning to be used as a starter (the same as yeast in bread making) for the next batch of cream. Add a small amount of this old buttermilk to the sweet cream which has been gathered for the new churning, thoroughly stir it, and it will ripen very much more readily. Care should be exercised to keep this old buttermilk in as good condition as possible. This method of cream ripening will be found excellent for the winter months.

TEMPERATURE.

Every butter maker should have a good dairy thermometer, and then use it.

One of the main causes for having to churn from one to five hours is either too warm or too cool temperature of the cream. With a temperature of from 55 to 60 degrees, butter should be produced in from 30 to 45 minutes, providing the other conditions are right.

CHURNING.

Strain all cream into the churn. This will remove all clots and particles of curd, and there will be no danger of white specks in the butter.

Do not fill the churn over one-third to one-half full. Give the cream room for agitation, which insures quick churning. Turn the churn just fast enough to give the cream the greatest amount of agitation. In case a barrel churn is used, turn it so the cream has time to fall from one end to the other with a distinct thud.

COLORING.

In order to make a uniformly colored butter for the entire year, some color must necessarily be used. Very little will be required during the spring and summer months when the cows are getting green feed. During the fall and winter more color will be required. No harm is done by moderately coloring butter with a good commercial color. Colored butter can be sold on the market for a very much better price than that not colored. White butter is not nearly so appetizing as that which contains color. The color should be added to the cream in the churn before starting to churn.

WHEN TO STOP CHURNING.

The butter should be gathered until the grains become about one-half the size of a grain of wheat. Then draw off the buttermilk through a strainer and wash the butter. If the butter is gathered until it is in one large chunk, it can not be washed or salted satisfactorily.

WASHING THE BUTTER.

After drawing off the buttermilk, pour a pailful of cold water in the churn over the butter and give the churn four or five quick revolutions. Then draw off the first wash water and put on the second and turn as before. If the butter is hard enough after the second washing, draw it off and take out the butter.

The washing of the butter removes the buttermilk and makes the butter keep for a longer time. It also puts it in better condition for salting.

SALTING AND WORKING.

The butter should be taken from the churn in the granular condition and the salt added before it has been worked together. Usually about one ounce of salt is added for each pound of butter. The salt should be worked through the butter with a ladle or paddle and not with the hands.

Once working, at the time of salting, is usually sufficient, providing the butter is hard enough when removed from the churn. If the butter is somewhat soft when taken out, it can be salted and set away for a few hours until it gets hard enough to finish.

Butter is usually worked enough when the water has been removed so that the butter will bend without breaking. Too much working will spoil the grain of the butter and make it salvy; while leaving too

much water in it will spoil its keeping qualities.

PACKING.

Pack or print the butter as soon as it has been worked sufficiently and put it in a cool place until it is taken to the market.

Remember that the appearance of the package, as well as the way the butter is packed, has a great deal to do with the selling price.

Butter that has been carefully made and handled according to the above precautions can be readily contracted, by the year, at a price ranging from 30 to 35 cents per pound.

H. M. BAINER.

Colorado Agricultural College, Fort Collins, Colo.

Illinois Soil Meeting.—Story from World Famous Rothamsted Experiment Station.

(Reported by Arthur J. Bill for the Illinois Farmers' Institute.)

A meeting of peculiar interest was held July 7 and 8 at the Illinois College of Agriculture, Urbana, when Director A. D. Hall, of the oldest agricultural experiment station in the world, the Rothamsted fields at Harpenden, England, was a guest. Farmers and land owners from twenty or more counties were present, including forty from Sangamon County.

The university experiment plots were visited in two trips, and there were seen many comparisons in plain proof of the marked and repeated results in plant growth secured by applying different elements of plant food to the soil. These differences in growth seem so much more real and impressive when seen with one's own eyes than can be brought home to the reader by description.

ADDRESS OF ENGLISH VISITOR.

Continuity has been an essential feature of the Rothamsted experiments, and it has made the work most valuable. The same fertility has been put on a plot, or the same crop or rotation grown upon it for sixty-five years, in some cases, without alteration of the original plan. The crops responded very plainly to the fertility applied, and the crude question of yield was settled in the first twenty or thirty years. But the story was only beginning. The longer the experiments were carried on in one definite line the more light they threw on all sorts of problems hardly considered at first.

LIFE AND DEATH STRUGGLE OF PLANTS.

Grass has been grown on one Rothamsted field for more than fifty years and probably always. The field is divided into half-acre plots for different treatment, the hay cut and removed twice a year and no stock ever allowed in the field. A severe struggle for life and expansion goes on and the net result represents a kind of balance of power. The field shows an extraordinary diversity of herbage. If the conditions are changed ever so little it is sure to benefit one set of plants.

FORTY-SIX VARIETIES OF PLOTS.

Plot 1 has received no fertility, and 46 different species of plants are mixed up on this starved land; the crop is seven inches high and yields a ton per acre. The tall "quacking grass" develops here but never on a fertilized plot; it indicates bad land.

CROPS DIFFER IN STANDING STARVATION.

Starvation affects different crops in a different fashion. As the land begins to run down first one and then another kind of plants begins to suffer. A 4-year rotation of turnips, barley, clover, and wheat has been grown for sixty years. One plot has received no fertility, the second phosphorus with a little potash, and the third a complete fertilizer. Considerable wheat is grown on all three plots; it stands starvation better than either of the other crops. Clover makes a good showing on the second and third plots, but drops to about one-fourth on the starved plot. The barley suffers more than wheat but not as much as clover. But turnips drop from 20 tons per acre on the plot well supplied with plant

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Makes work a pleasure—a boy can operate it—and it's easy on your horses, too. Write for "Plow Book" today—mention this paper and we'll send you a

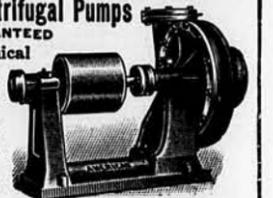
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Austin Manufacturing Co., Chicago

food to a very small quantity on the starved plot. Wheat stands what is fatal to Swede turnips. The cereal crops are the most able to use what is in the soil.

CLOVER CAN GET ITS OWN NITROGEN.

Returning to the continuous grass field, the plot which received full treatment of phosphates and potash, grows plants 13 or 14 inches high and yields 2 1/2 tons of hay instead of one ton on the starved land. There was a large preponderance of clover, and for a clear reason. The legumes are able to draw nitrogen from the atmosphere and, with the phosphorus and potash, the clover gets the advantage. It has been found that legumes improve the soil more than a direct application of nitrogen fertilizer.

GRASS AHEAD ON NITROGEN ALONE.

But the nitrogen plot is almost exclusively grass. When the grass gets nitrogen, and the clover lacks phosphorus and potash, as in this case, the grass gets the start and turns the clover out.

NITROGEN MAKES IMMEDIATE GROWTH.

The results of nitrogen are seen at once in the greener and more abundant leaf; it makes the whole plant go ahead, and the farmer is apt to think more of nitrogen than of phosphorus and potash because he may have to wait till harvest and actually weigh the product to see their results. Nitrogen increases the vegetative parts of the plant and an excess of it tends to make the plant go on growing too long and defers the production of flower and seed; it puts off the ripening. Excessive nitrogen has doubled the amount of wheat straw but reduced the per cent of wheat grain from 62 down to 48 per cent. The more nitrogen in the soil the more water and less sugar in the beet.

MORE NITROGEN MORE DISEASE.

An excess of nitrogen makes the plant more susceptible to disease, especially fungus disease. Mangolds at Rothamsted are swept every year with fungus diseases, while three feet away are perfectly sound, healthful beets. The infection is alike in both places, but it "takes" only on the plots having an excess of nitrogen. The diseased leaves are seen torn, shriveled, and rotten. Wheat fields get rusty and weeds are mildewed on high nitrogen land.

PHOSPHORUS RIPENS THE GRAIN.

Phosphoric acid applied to the soil hurries on the production of flowers and seed, the ripening of the grain. Right now it is making a difference of ten days in the appearance of the barley grain. Phosphorus is of enormous value in pushing the crop on to ripeness. It is also an extraordinary stimulant to the formation of roots, and of side shoots. This is a certain fact.

POTASH FOR SUGAR AND STARCH.

It is the special action of potash to aid the plant in making carbohydrates (sugar and starch). This process can not go forward unless potash is present; to increase this process increase the potash. Beet yields at Rothamsted have been more than doubled by the addition of potash. Each of the three fertilizers has a specific effect and should be applied according to the specific needs of the crop.

PHOSPHORUS RIPENS CORN.

Doctor Hopkins of Illinois said that the ripening effect of phosphorus had been seen in a very marked manner the past half-dozen years on the old experiment plot at the university. The continuous corn plot, producing 25 to 30 bushels per acre, is usually caught by the frost, while two weeks before that time the plot with plenty of manure and phosphorus has ripened up 100 bushels per acre of sound corn.

NO INJURY FROM EXCESS OF PHOSPHORUS.

"I never saw an over abundance of phosphorus," said Director Hall, answering a question. Ten times as much as needed has been applied to some of the Rothamsted plots; the excess lies dormant in the soil and is available to increase future crops; there is no injurious effect, neither is

there any danger of overdoing the growth of legumes.

If the soil is acid and rich in organic matter the natural phosphorus of fine ground rock phosphate is the best form. On a light loam with plenty of lime the acid form of phosphorus is best.

PHOSPHORUS ADDS A TON OF CLOVER.

Doctor Hopkins said that no effect of phosphorus in Illinois is more marked than its effect on clover. As an average of the last five years it has increased the yield a ton per acre at the university.

GREAT EFFECT OF LIME.

Lime has a great effect on the texture of the soil. One Rothamsted field had soil so heavy, wet, cold, and late that it was found almost impossible to get crops started upon it, and it was abandoned long years ago. Later analyses (by Director Hall) showed that it was simply deficient in lime, and when this was added the soil was all right. The fine particles of clay cause it to "run together" and "bake," but lime added will make these particles cluster in groups and behave as if they were grains of sand. This is called flocculating, and it allows the ground to dry out and become easier to work, and hence warmer and earlier.

NEUTRALIZES ACID IN SOIL.

Lime is essential to the proper working of all other fertilizers. It neutralizes the acids of green manures or any substances that are rotting down, but rain water takes a little lime out of the soil every year.

A healthy soil contains bacteria; these are necessary to certain changes in preparing the plant food for use, and lime is necessary to the proper development of the bacteria.

The carbonate or nitrate of soda has the opposite (alkali) action of deflocculating clay, that is, making its particles fly apart, in which condition it remains, wetter, more sticky and colder. Some fertilizers have this power and thus hurt the clay soil.

SOIL PROBLEM MOST COMPLICATED.

Several tables of data and pictures were shown tracing and proving these effects in definite terms, the object being to show how extremely complicated is the inter action of the fertility of the soil and fertilizers. The soil experimenter is dealing with the most complicated mechanism in the universe. The soil is a living thing. You alter one single condition or combination and the accumulated result is very great upon the plant. It is like tinkering at a watch with the blade of a penknife to stick into the soil some great coarse thing in the way of a fertilizer; it has other actions besides that of a plant food. We have answered some of the primary questions of plant requirements, but we are only at the beginning of soil investigation.

ANSWERING LIME QUESTIONS.

Answering questions, Director Hall said he would apply lime to any soil lacking in lime; that lime acted strongly to improve the texture only on clay soils; that many soils would be benefitted by lime if they did not show any acidity; that lime does no good to soil that has been upset by use of nitrate of soda; chimney soot will correct the bad effects of too much soda sometimes used by market gardeners; either ground limestone or air-slaked lime will do.

DRAINAGE HELPS HARDEST SOILS.

Director Hall knew of no soils in England so stiff that they would not be benefitted by drainage. Some English lands are so hard the trenches can not be dug until after the Christmas rains have softened the ground, and yet the drainage of these lands is most profitable. The benefit increases year after year. This throws light upon the drainage of the so-called hardpan land of southern Illinois. Springfield, Ill., July 18, 1908.

Queen Victoria placed high value on all housewifely accomplishments, and had her daughters taught them as carefully as though the knowledge had been necessary.

ANGLE OF DISCS NEVER CHANGES

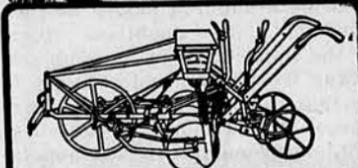
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turns on its carrying wheels. It saves your strength; no lifting, no tugging. Whole machine turns in its own length—5 feet. That's another convenience. Depth of furrow is easily regulated. Sows all kinds of grains, large or small as well as peas, beans, corn, etc., without clogging or crushing seed. Can be fitted with grass-seed attachment or crushing seed. Write today, Mr. Farmer. Let's get acquainted. We'll send our free catalog and see that you get one of our drills without trouble to yourself if your dealer doesn't handle our line.

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L. H. Tjaden, Auctioneer.

L. H. Tjaden, of Garnett, Kans., starts an auctioneer's card in this issue of THE KANSAS FARMER, to which we invite the special attention of any of our readers who may require his services. Colonel Tjaden has had 21 years' experience on the black and is qualified in every way to give satisfactory service. He has had experience with pure-bred stock, having bred O. I. C.'s for a number of years, and now has one of the best herds in that part of the State. His herd is headed by a grandson of Norway Chief, who is owned by the Fisher Live Stock Company, of Hastings, Neb. He has a fine lot of spring pigs on hands and announces in his card that he will have young stock for sale at all times.

If you need his professional services or wish to buy some choice O. I. C.'s, write Col. L. H. Tjaden, Garnett, Kans., and mention THE KANSAS FARMER.

J. W. Pelphrey & Son's Poland-Chinas.

In this issue of THE KANSAS FARMER we are starting the advertisement of J. W. Pelphrey & Son, of Humboldt, Kans., who own one of the best herds of Poland-Chinas in that part of the State. They have made great progress in the time that they have been breeding, and this is due largely to the quality of their foundation stock and their enterprise in always trying to secure the best. Their herd is headed at the present time by Grand Perfect 46180, a strong breeding son of Grand Perfection 35273; his dam is Dairy White-face by Perfect Now, bred by Ed. Klevener. Grand Perfect is a heavy boned, vigorous fellow with length, scale, finish, and natural feeding qualities. His work on the herd has been very satisfactory. He is the sire of the major portion of the 60 fine spring pigs that we saw, and they are a very uniform lot, showing up strong, with good wide heads, lots of finish, and plenty of bone and stretch.

The dams of this young stuff are a good lot, and some of those to which our attention was called are, Oakie 2d by Corrector Chief, dam Oakie by Meddler, Winfield by Peerless Perfection 2d, Black Beauty by Corrected Model, Model Bess by King Chief Model, Peach by Corrector Chief, he by Corrector 2d and 5 extra good sows by Proud Archer (by Proud Perfection) who headed the herd for two years.

At least two-thirds of the spring pigs are of early farrow and are nearly ready to ship. We were shown 50 good fall pigs, among which are a fine line of gilts, giving strong promise of excellent breeding qualities.

Among these are a show little of 5 (1 boar and 4 gilts) that are very fancy. These are by Grand Perfect, out of Lady Archie by Proud Archer.

The male if he carries on as he promises is a prospect for a herd header. This little will be fitted and shown together with Grand Perfect and some of the sows.

Pelphrey & Son have for immediate sale some of these fall gilts and they can soon furnish spring pigs, either sex, and they are extra good ones. Pelphrey & Son are planning to hold a fall sale some time in November, date for which will be claimed in THE KANSAS FARMER.

Look up their advertisement elsewhere in this issue and write them your needs or go and see the hogs. In writing please mention this paper.

CORN HARVESTER cuts and throws in piles on harvester or windrows. Man and horse cuts and shocks equal with a corn bluder. Sold in every state. Price \$15. Testimonials and catalog free, showing harvester at work.

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THE GOSPEL OF LABOR.

But I think the King of that country comes out from His tireless host, And walks in this world of the weary, as if He loved it the most; For here in the dusty confusion, with eyes that are heavy and dim, He meets again the laboring men who are looking and longing for Him. He cancels the curse of Eden, and brings them a blessing instead; Blessed are they that labor, for Jesus partakes of their bread. He puts His hand to their burdens; He enters their homes at night; Who does his best shall have as a guest the Master of life and light. And courage will come with His presence, and patience returns at His touch. And manifold sins be forgiven to those who love Him much; And the cries of envy and anger will change to the songs of cheer For the tolling age will forget its rage when the Prince of Peace draws near. This is the gospel of labor—ring it, ye bells of the kirk— The Lord of Love came down from above to live with the men who work. This is the rose that He planted here in the thorn-cursed soil— Heaven is blest with perfect rest, but the blessing of earth is toll.

—Henry Van Dyke.

Observations.

It is interesting to observe humanity in the large assembly and note the different and differing kinds. One is wont to wonder in one's heart if they all left their manners at home with their cares, as they serge and push along for their "right of way." At home they would not be guilty of such discourtesy to strangers as is exhibited in a crowd, rubbing and scrambling for the car, eager to see something interesting, or to get a drink at the drinking fountain. Men roughly push their way in front of old ladies, and women with their arms full of little ones, or baskets, instead of assisting them, their only thought being to get where and what they want. Have they all gone mad, or is it true that the majority of people are rude and ill-mannered, the rest weak-minded, and like a flock of sheep following the others? They are not all so, for as the crowd was pushing to get on to the car leaving the Chautauqua at Topeka, one gentleman stood aside and good-naturedly assisted woman after woman to board the car, till all were safely on. A lady also refused to crowd, and when she finally was seated quietly remarked that she would rather walk than scramble for a place.

Some persons put their manners on and off as they do their best clothes but like the ass in the lion's skin their ears are sure to show sooner or later. One of the best tests of a woman's true self is her children. They reflect what the mother has acted out every day before them. There sits a real lady; her attitude and manner show it. Her husband sits on one side of her glancing admiringly at her and her young son sits on the other side. He is a natural little gentleman, one observes—not a prig nor a mollycoddle—a real boy, who has associated with a lady all his life, and his demeanor, though courteous is as natural as that other boy over there, who has been taught by words only, whose mother wears her best manners in company. Many a mother finds out with regret that she has made serious mistakes in this regard, but "it is better to begin late than never," and it is never too late to do well. It is a hopeless case when one gives up trying to do better, to better her own condition and the condition of others. The mother, of all others, can not afford to give up. Her life, as a success or a failure, is adjudged by the way her children turn out, for the first object of every mother should be to bring up her children to be good and useful men and women.

When Senator Dolliver was speaking at the Chautauqua a child cried and annoyed the audience which was trying not to lose any of the splendid speech. But it did not annoy the speak-

er, who stopped to remark that there ought to be a hundred babies at such an assembly. He doubtless appreciates the importance of mothers getting away from home and perhaps he knows that the baby's presence there is a proof of the mother's eagerness for self-improvement. It is a hopeful sign that there are so many happy children. The normal child will be happy if he has half a chance, and is comfortable; and the happy, healthy child's chances in life are better morally and in every other way than the sickly one's. It is easier to be good and do right if one is well. Most of the little ones were dressed sensibly with just sufficient clothing for their comfort. One happy child was enjoying a ride in his go-cart with his little fat feet bare and with only a little white slip on. Many toddling ones wore little socks and sandals which is almost like being barefoot and is better for those that walk, as they avoid hurting the feet. There is always so much danger of their stepping upon nails or other sharp or lacerating objects. The little socks are just as expensive as the long stockings but evidently the little 4-year-old I am about to quote, thought differently. He had on his first pair, and a gentleman asked him why his mother didn't buy him long stockings. Quickly he replied, "We don't have money enough to go 'round."

The Woman of Tact.

She had been talking pleasantly to two or three women. She had made her goodbyes all cheerful and bright, and, after she had disappeared, one woman turned to another and said in a tone that was scoffing: "She is a thorough woman of tact." Now in this case the woman who had said none but pleasant words, who, by a bright story, had prevented the discussion of a petty scandal, was a woman who was as brave hearted as any that ever lived, and who bore not only her own but the burdens of a good many other people, yet she saw no reason why she should inflict her troubles on her friends, or why she should not be in its best sense a woman of tact.

A woman of tact is one who feels that the story to hurt your feelings is essentially bad form, and inconsiderate of the feelings of others.

A woman of tact is one who is courteous to old people, who laughs with the young, and who makes herself agreeable to all women in all conditions of life.

A woman of tact is one who makes her good morning a pleasant greeting, her visit a bright spot in the day, and her goodbye a hope that she may come again.

A woman of tact is one who does not gauge people by their clothes or their riches, but who condemns bad manners.

A veritable woman of tact is the best type of a Christian, for her very consideration makes other women long to imitate her. Remember that to do your work as a woman of tact means more than speaking from a platform or assumed elevation.

A woman of tact is one who is courteous under all circumstances and in every condition in which she may be placed. She is the woman who can receive the unwelcome guest with a smile so bright and a handshake so cordial that in trying to make the welcome seem real it becomes so. A woman of tact is one whose love for humanity is second only in her life's devotion, and whose watchword is unselfishness in thought and action. By making self last it finally becomes natural to have it so.—Exchange.

A country clergyman on his round of visits interviewed a youngster as to his acquaintance with Bible stories. "My lad," he said, "you have, of course, heard of the parables?" "Yes, sir," shyly answered the boy,

whose mother instructed him in sacred history. "Yes, sir." "Good," said the clergyman. "Now, which of them do you like the best of all?" The boy squirmed, but at last, heeding his mother's frowns, he replied: "I guess I like that one where somebody loafs and fishes."

A Brave Woman.

FLORENCE SHAW KELLOGG, RUSSELL COUNTY.

I have recently told you the story of Emily Hobhouse, a present-day heroine, and the beautiful work she has done and is still doing. Now I would tell you of one no less brave and persistent, no less devoted to what she believed to be right, one who was willing to dare and suffer everything if only she could help to bring in an era of greater justice and freedom for her sister women—beautiful, gifted, brave Mary Wollstonecraft. At the time when she was born, April 27, 1759, little serious thought was given to the education of women, and there sphere was indeed a narrow one, hedged in by unjust laws and still more unjust and cruel prejudices.

It was for them to take whatever the men in authority over them might choose to dictate, and they had to be patient and uncomplaining. With this in mind we may fairly imagine how like the bursting of a bomb in a quiet camp it was when Mary Wollstonecraft, having by diligent effort gained education enough to enable her to do it, wrote and published her brave book, "Vindication of the Rights of Women," in which she poured out her whole soul in an impassioned plea for justice and freedom of opinion and of acts, such as should be accorded to a reasoning, thinking being. This book is justly called "The keynote and lever of the woman's movement that is making new conditions in all nations." One hundred years before its publication a certain Mary Astell "had hinted in frightened, suppressed tones" that women had human rights, but so faint and fruitless were her words that this is all we know about them. It was left to the later Mary, Mary Wollstonecraft, to speak the living, growing word—the word that should be a "fruitful seed" for generations to come. It was hers to "blaze the way" to greater freedom and a more liberal interpretation of what life and duty meant to herself and most nobly and bravely she did her work. Her's was a time when it took great courage for a woman to "speak in meeting" and comparatively few women were supposed to have the necessary intelligence and skill to write what would be worth a man's time to read. Her book "electrified Europe" and was readily translated into French and German. So earnest was she in the giving of her message that it could not fail to arouse deep thought—thought that crystallized into action and bore its own legitimate fruit—and we of to-day can not know for how much of our larger, freer life, our wider opportunities and manifold fields of work we have to thank her. But surely our debt to her is a great one and to be paid only in the coin of human love and kindness one to the other, and in the brave doing of our work each in our time and place, as she did her's. She was, it is claimed, the first woman to make literature her profession. Several other volumes of her writings were given to the public, but this of which I write was her masterpiece and by it she is chiefly known. For a time she was the literary star of London, and the great men of the day, among them Johnson and Southey, were proud to claim her friendship. This must have been a happy time for her, a restful oasis in a desert of pain and suffering. Her life was pathetic and tragic in the extreme, and added to her own many sorrows, she bore the weight of the sorrows of her sex. The wrongs and cruelties that were inflicted upon women everywhere lay as a heavy weight upon her tender heart, her sympathetic nature making it impossible for her not to feel it all as if done to herself.

Her reign as a literary star was as



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HENRY W. ROBY, M. D.
Surgeon,
708 Kansas Ave., Topeka, Kans.

short as it was brilliant; her very strength and courage being the reason of her downfall. In her home life as a child and maiden there was nothing to teach her of the sacredness of the marriage relation, or what it might mean to woman. Her father, though the son of a well-to-do English manufacturer and well brought up, was a drunkard, and because of his bad habits and shiftlessness, the family lived in extreme misery and poverty. He was a terror and a tyrant to those whom he should have lovingly cherished and protected, and many a time the child Mary threw herself between her father and mother and received on her own person the blows meant for her mother.

In her early womanhood she served as lady's maid for one year a certain lady of high degree, a leader of fashion and society, and here, too, the holiness of life, the mockery of the marriage vow and relation was forced upon her notice. Is it any wonder, then, that she spurned it all and denounced the marriage rite, seeing in it only another bond of servility and shame for her sex? In this attitude it was that the one she thought was her true mate came to her (an American named Gilbert Imlay). She refused to be bound by any ceremony, feeling that love was enough. In the purity of her thought, the nobility of her purpose, she never dreamed of the storm this action would bring upon her. In all confidence and trust she allied herself with him, thinking thus to strike a yet more effective blow for freedom. But it was a very different from her thought. Taking no account of the purity of her motive or of her heroic devotion to what she believed was right, her friends deserted her and she was denounced as a "social outcast," a "hyenna in petticoats." In our own day George Elliot met with a like fate for a like reason. "Every heart knows its own bitterness." They who sin against the law or the custom of their time, be their motive ever so pure, their principle ever so holy, must pay the full penalty in suffering and in shame, though in their hearts they are conscious of no wrong doing. But let us not too harshly condemn those who in their great desire to make better conditions go too far. Let us at least believe it to be a mistake of the head but not of the heart and recognize their bravery and their strength.

To his shame be it said that Mr. Imlay proved himself all unworthy of the love and trust Mary Wollstonecraft gave him, and after a few years she was obliged to separate from him because of his cruelty and neglect, thus proving it is not the ceremony that is at fault—not that that makes or mars a marriage, but the man and woman who thus join their lives together. Later she met and married again a more worthy man, but her life with him was a brief one. She died at the birth of their first child, a daughter, who in after years became the loved wife of the poet Shelley and was his joy and inspiration until his tragic death in the Grecian Sea.

The work Mary Wollstonecraft did, though so sadly misjudged and belied, did not die with her, for amid all the chaff there was some true wheat that became a "fruitful seed" in the cause of right and justice, and all over the world to-day women are better treated and more honored and walk in broader paths because of what she did. Every great cause has its martyrs, those who, defying the prejudice and ignorance of their present time, dare to be true to the light given them and so to braze the way through the dense forests of doubt for those who are yet to come. If they make mistakes—as they are apt to do—let us not judge them too severely, but, thanking them for the good they do and avoiding their mistakes, let us walk bravely in the upper way to which they point and so lend our mite to help all the world to higher, purer levels.

Plants at Night.

Plants are interesting and we love to watch them in the daytime, but many have not thought to see what they do at night. A writer in St.

Nicholas tells the young folks about the peculiarities of some plants at night:

"Many kinds of plants have peculiar sleeping attitudes. The clovers will be found with their leaflets folded face to face. Even if there has been no rain, the leaves of the plantain will be wet, and the upright leaves of cabbage plants have a few drops of moisture, which soon find their way down the stems to the earth round the roots. A sudden thrust of the lantern into this clump of jewel weed near our path, produces a shower of miniature drops, that glisten in the light like gems. A closer examination of the plant will show nearly every leaf with its clinging drops at the tips of the 'teeth' along the edge,—a veritable leaf in green enamel, bordered with 'moon-stones!' That clump of 'pusley' has made itself less noticeable by turning its thick, pulpy leaves edge uppermost, and not flat out as we know it by day. You need scarcely expect to find many of the plants and blossoms as they appear by day, for it is probable that there are but few of them that do not wear some night guise, if our eyes are but sharp enough to discover it.

"Not the least of the many surprises of a night stroll is to learn how well one can see after the eyes have become accustomed to the darkness."

The Young Folks

MORNING SONG.

Bring me no song of tears,
Fling me no sorrows,
Wing me no Yesteryears,
Sing me To-morrows!
Pipe me a merry lay,
Tune no heart's aching,
Bid me look up and say:
"Hope! Dawn is breaking!"

Croon me no lullabies,
Moon me no dreaming,
Tune me the spreading skies
Hopefully gleaming,
Lull me with Sorrow's voice
Not into sleeping,
Bid me awake, rejoice,
Joy in my keeping.

Not ash of dead desire,
Not frown Septembers,
Light me a living fire,
Heap me no embers,
Bring from no twilight gray
Cloaks for dead sorrows,
Sing of the Dawn and Day,
Hope and to-morrow!

—J. W. Foley, in New York Times.

The Rescue of Tom Barton.

Tom Barton was a fisherman who fished in the lakes formed by the Mississippi River, in its annual rampage and overflow during the "June rise." There is usually a wide valley on one side or the other of the great river, and it is a peculiar formation of the valley that the ground back near the bluffs—perhaps as far as two or three miles of the river—is much lower than it is near the ordinary confines of the stream. Hence, when a great swell comes, and the waters overflow the valley, lakes are frequently formed in the outer lowlands. These lakes are well stocked with fish before the waters recede, and they multiply with astonishing rapidity. Some of the lakes get to be two or three years old before the water from the river reaches them again, and so become alive with fine fish. Often the intervening country is stocked with heavy timber and undergrowth, making it difficult to penetrate to the bluffs.

It was in a section of this kind that Tom Barton lived. There was no roadway back to the lake where he fished—only a bridle-path—and his catch had to be brought out on horseback—usually in two gunny-bags tied together and thrown across his horse, saddle-bag fashion.

One day Tom went back to the lake to fish, a distance of three miles from his home, taking with him his little yellow dog, Spitz—of no particular breed—simply a common cur. It was Thursday, and he told his wife that he would be back by Friday night, sure. But he did not return as agreed. Neither did he come on Saturday or Sunday. As he had frequently overstayed his appointed time, however, no especially uneasiness was felt by Mrs. Barton. "Tom's having a big run

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of luck," she remarked to one of her neighbors. He'll be back all right by to-morrow, with a big lot of fish."

On the Monday evening succeeding the Thursday on which Barton had disappeared into the forest, I had occasion to go back that way in search of my cows. The timber and undergrowth grew thickly, and I experienced much difficulty in getting through it on my horse. I was frequently compelled to lie down close to his neck to avoid the low-hanging branches.

I was back about a mile from my rear field, when Barton's dog Spitz suddenly appeared before me. He looked up at me as I sat on my horse, and whined piteously. I dismounted, called him to me and stroked him. Then he gave two of three short barks, and started from me—back toward the lake. Seeing that I did not follow him, he returned to me, whining as before. I patted him on the head and said:

"What's the matter, Spitz, old boy?"

Then he barked furiously, and started again back into the timber. Suddenly a thought flashed through my mind:

"This is Tom Barton's dog. Where is Tom?" Then I called the dog to me and said:

"Spitz, Spitz, where is your master?" Again he barked, and tore away through the woods. He was gone several minutes, when he again returned, whining, as at first. Thoroughly satisfied that something was wrong, I mounted my horse, and as Spitz started into the forest again, barking, I followed him. Seeing that I was going his way at last, he rushed back to me, and jumped and barked like a coach dog for some time. Then he again led the way back whence he had come.

He would stop every few minutes, and look back to see if I was still coming, and then with a short bark or two would hurry on. In this way we traveled for a half an hour or more, till we came to the shore of a great lake. Then Spitz rushed ahead till he came to where a tree had been recently felled, and barked more furiously than ever. I dismounted, and,



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tying my horse to a tree, went to where the branches of the fallen tree lay spread out on the ground, in the midst of which the dog was making so much fuss. I parted the branches—still covered with leaves—and there, pinioned to the earth by a great cruel limb, lay Tom Barton! His clothing was torn to threads in his vain struggle to release himself, and in many places the skin of his arms and legs was lacerated and sore. Even as I watched, his faithful little dog, with a piteous look in its sympathetic eyes, licked the bruised flesh! One arm and both legs were beneath the limb of the tree, and the sense of the dumb creature who had never deserted his master, was illustrated by the way the earth was scratched and torn away in several places where the man was pinioned to the earth.

Tom was unconscious, but breathing naturally. With some water from the lake applied to his heated temples, and some to his parched lips and throat, he soon revived. But, at sight of me, he relapsed again from pure joy. When he rallied the second time he regained his senses. I bade him keep quiet while I dug the earth away from beneath his legs and arm with his axe, which I found near by. Here again the dog demonstrated his devotion and desire to assist in the release of his master, by scratching vigorously at the earth as I loosened it.

It took me about half an hour to release the poor fellow, and as much longer to restore the circulation in his benumbed limbs. When he finally sat up and spoke to Spitzzy, the dog went into a transport of joy. He would jump and bark, and rush about his master and gently lick his hands and face. Barton explained that he had cut the tree down for the purpose of building a small raft, and, as it was slow in falling, he stepped back from it several yards, but, unfortunately, it had pitched in a different direction from which he had expected, and before he could get entirely clear of it he was knocked to the ground and held there by the limb. He had been in that condition for two nights and a day and a half. The dog had been his faithful companion—leaving him for a short time only. The second day the faithful creature had brought him a small rabbit, from which he had sucked some blood, where the skin was lacerated.

"Nothing that I ever before ate or drank gave me such pleasure and strength, nor filled me with such a sense of gratitude, as the nourishment to my famished body that my poor little dog brought me," he declared. And then, with tears in his eyes—tears that ran freely as I told him how Spitzzy had begged me to come to his rescue—he exclaimed:

"Thank God for the friendship of a dog!"—D. H. Stoval, in *Pets and Animals*.

Little Henry on the Ostrich.

The ostrich is a bird that looks like a gas pipe stuck in a pillow on a step ladder without any steps. The ostrich is the only bird that does not sing or fly or go to roost in a tree. When it is pursued it sticks its head in the sand, because it hasn't any sand in its craw. When it is caught it kicks like a mule, only harder, and readily escapes. Uncle Bill knows a man that was kicked by an ostrich once after he run away from home because his wife hits him with flat irons and rolling pins. After the ostrich kicked him he went home to his wife and kissed her and bought her a dozen rolling pins.

The ostrich lays eggs as big as a hat, and they are worth about as much as cold storage eggs in January. The ostrich is chiefly valued for its feathers, which are used to trim women's hats. If the ostrich could sell its own feathers it would make so much money it would drink itself extinct, although it can eat anything, being like a billy goat in this respect. The ostrich knows it can not sing, and doesn't try to. It eats like a goat, kicks like a mule, runs like a horse and hasn't got any more sense than a rabbit, but it is a bird.

The Little Ones

THE LITTLE RAG DOLL.

Oh, my dolls were many when I was young,
Blue-eyed, brown-eyed and gray;
But the little rag-doll to which I clung,
I love to this very day—
Now if you should climb up the attic stairs,
And open the trunk to the right,
And peep in the lid as you would be bid
I'm afraid you might call her a sight.
For Popsy is old, with a scar on her chin,
And her cheeks are as white as the wall;
But please understand that to me she is grand,
And I love her the best of them all;
Oh, never a time have I climbed up to bed,
When my age was, I think, about seven,
But close to my breast she would cuddle and rest,
While my little prayer flew up to heaven.

I'd an Indian doll and a bride and groom;
A Dinah, a baby and nurse;
A talking doll and a walking doll;
And one with a silver purse;
But far and above and beyond the rest,
That lie in the drawer near the wall,
Is the little rag-doll that I love the best.
She's the dearest—the sweetest of all!
—Maxwell Williams, in *Brooklyn Eagle*.

Fred's Story.

Fred Wells smothered a sigh as he looked out of the window at the rain. He felt sure it would be a long day. Rainy days in the country were always long, but he didn't want his Aunt Edith to think he was unhappy, so he said nothing. He got a big picture book and huddled down in the Morris chair to make the best of it.

"Where are you, Fred?" called his Aunt Edith a little later.

"Here, auntie; I am coming," he answered.

"I want you to watch the squirrels. I am sure Mama Squirrel is planning to move. It is raining hard and the babies are getting wet in the tree. She was in the wash-house looking around, and I think she decided the wood-box would make a good home. It has a pile of excelsior in it, and will be good and warm," said Mrs. Lacey.

Fred was interested at once, and drew a chair up to the window. Mama Squirrel spied him and stopped to take a look; she wanted to make sure he was not a bad boy who planned to hurt her children. Being reassured, she sped up the tree, picked up a squirrel in her teeth, and laboriously made her way down and across the yard to the wash-house.

"She is moving, auntie," called Fred. "I didn't know a squirrel ever had its nest in a house."

"They don't, but this squirrel is so tame that it makes a difference." Mrs. Lacey drew up another chair, and they both watched until the five

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baby squirrels were in the new home, warm and dry. "I never knew squirrels thought so much of their children," said Fred. "She loves her baby squirrels just like folks love their children, doesn't she?" "Hush," and Mrs. Lacey held up a warning finger as Mama Squirrel came up on the porch. "I expect she wants something for the babies to eat. You may give her some nuts. She will take them out of your hand." Fred got a handful of nuts and opened the door cautiously. He held out his hand and the squirrel came eagerly. She scampered away with the nut and in a little while returned for another.

"What makes her wait so long between trips?" asked Fred. "You might put on your raincoat and go and see," suggested his aunt. In a few minutes Fred came running back. "She is cracking the nuts for the little squirrels!" he exclaimed, excitedly. "She works for her children and takes

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care of them just like mama does of me."

His aunt smiled at the eager face. "Dinner is ready just as soon as your hands are washed."

"Dinner! Already! This has been such a little morning. Oh, auntie, I have my story for school. You know we have to tell a story every Friday after recess about something we have seen. Miss Brown says it is to make us see things around us. I am glad it rained, else I wouldn't have a squirrel story.—Herald and Presbyterian.

The Apiary

Agricultural College and the Apiary.

EDITOR KANSAS FARMER:—Please permit me to give a most hearty endorsement to what is said concerning the province of the Agricultural College at Manhattan by THE KANSAS FARMER in the issue of June 25.

No matter how many different institutions of learning we may have, the inquiry should invariably be made by the thoughtful father and mother, who have a son or daughter to educate, as to what an education in its broadest sense is, and of what it should consist. The most rational answer that can be given is that an education should embrace such training of both the hands and minds of the rising generation as will fit them for the general usefulness in life. To put our children out of the cradle into schoolhouses, from the commonest country district school building to the most costly house of learning in the country, there to be trained in the contents of books, and at the same time leaving their hands entirely untrained is rather a distortion than an accomplishment, for the very prominent reason that when thrown upon their own resources they have practically no resources to draw upon in any and all cases where any manual effort is required. And just at this point let us one and all bear in mind that persons who can pass from the cradle through a lifetime of average length without finding it positively indispensable to perform manual labor are comparatively few. Hence the indispensable necessity of fitting our colleges for training our sons and daughters along all the different lines of usefulness. And unless an educational institution is fitted for all this, it falls short of what it should be.

Let us not forget that our greatest men and women were and are now trained for general usefulness. Mr. Lincoln probably never crossed the threshold of a college education until he was a man full grown and began to attract attention through his steady advancement to prominence in public life. The performance of manual labor was his chief and only source of subsistence, though through his boyhood and early manhood what made him great was his dogged diligence in applying himself to the study and practise of anything and everything that he found necessary to be done in order to win an honorable living. In all he did he never fumbled, poisoned paper and rolled cigarettes nor blighted his brain by smoking the same. He never laid about saloons nor gambling hells nor was he ever known as a street corner loafer or store box whittler.

Theodore Roosevelt, who is now President of the greatest Nation ever known to civilization, who in addition is a graduate of a college, can to-day lasso the wildest pony or Texas steer. I will also hazard the guess that he can harness a team of horses or mules, hitch them to a plow and do good work with them. I will also guess that if necessary he can milk a cow and would not regard his dignity as having been crippled for performing such a trick. In fact, his life has been too busy a one so far to even take time to learn to part his hair in the middle.

To be brief, let our Agricultural College be fully equipped to train our

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young people to be intensely practical no matter along what line they may choose to receive special training in the way of a particular occupation or profession. Among other industrial pursuits let it be made a duty for all to receive at least a rudimentary knowledge of the habits of the honey-bee. For no legitimate pursuit of so much real worth to our people where properly understood has been so grossly neglected and is as a result surrounded by so much unjustifiable superstition and downright ignorance. More than thirty years ago I delivered a lecture before the students of the Agricultural College, Prof. John Anderson then being president, and the object he informed me being to teach beekeeping there. But it has not yet been done. Let the regent of that school see that it is done hereafter, and my word for it, our people will never regret it, for Kansas will soon be the leading honey-producing State. Rice County. G. BOHRER.



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222D 9	7-14	No. 7	14x21x14	43 x 28 1/2	31 in.	27 in.	7 in.	10 1/2 qts.	500	\$25.95
222D 10	7-16	No. 7	16x21x14	45 x 28 1/2	31 in.	27 in.	7 in.	13 1/2 qts.	505	26.45
222D 11	8-10	No. 8	16x21x14	45 x 28 1/2	31 in.	27 in.	7 in.	13 1/2 qts.	505	26.45
222D 12	8-18	No. 8	18x21x14	47 x 28 1/2	31 in.	27 in.	7 in.	17 qts.	525	30.65
222D 13	9-18	No. 9	18x21x14	47 x 28 1/2	31 in.	27 in.	7 in.	17 qts.	525	30.65
222D 14	8-20	No. 8	20x21x14	49 x 28 1/2	31 in.	27 in.	7 in.	22 qts.	545	32.25
222D 15	9-20	No. 9	20x21x14	49 x 28 1/2	31 in.	27 in.	7 in.	22 qts.	545	32.25

The County Fair.
 The county agricultural fair is one of the geratest neighborhood educators that can be organized in the interest of improved farming and stock growing. The gathering together of the products of the farm to compare with those of your neighbor is the incentive for improvement, both in variety and breed of product, and in growth, cultivation, and care. It is by this method of comparison that we are enabled to estimate the possibilities in our work. The educational advantages of the fair have practically no limit; it extends to every department, even the social features are educational and of immense value to the young people. There is an acknowledged advantage, with the business man and the politician, in acquiring a wide acquaintance over the county and State. There is also an advantage with the young people in forming acquaintances outside of their own immediate neighborhoods. The county fair should be managed in such a way as to afford the greatest possible advantages for bringing the people together in the common inter-ests of the farm and home. Suitable halls should be provided on the fair grounds for holding meetings in the interest of dairying, fruit-growing, corn culture, poultry-raising, in short the free discussion of any and all topics of interest to the farm and home. These halls should be light, airy, well ventilated rest rooms, with easy and comfortable seats for the tired to rest and with a degree of ease and comfort listen to the addresses and discussions on the various subjects that may come up. The institute idea may thus be introduced and cultivated to the advantage of the fair visitor and the trifling side show and silly amusement features that have persistently forced their way into the fair grounds as a legitimate form of amusement for these great, mixed audiences, be educated out of existence. Public sentiment is for reform and the fairs of the country of all classes, both great and small, will be forced to look more carefully after the character of entertainment they license to come on the fair grounds.—Twentieth Century Farmer.

Dairy Interests

Official War on the Centralized Creamery.

The Bureau of Animal Industry of the U. S. Department of Agriculture is sending out an excerpt from the 1907 report of the chief of the bureau in which the partiality of the cooperative creamery and its antipathy to the centralized creamery are plainly manifested.

Following is the excerpt received at this office:

"A special investigation has been made of economic and commercial conditions in the creamery business and information has been secured showing that there is practically a monopoly of this industry in some sections, while in others the business is largely conducted on a cooperative basis or there is fair competition, the result being that under the latter conditions the farmers are receiving from 6 to 8 cents a pound more for their butter-fat than in the territory controlled by the monopoly. This difference is due partly to the methods of the so-called 'centralizers' and partly to the inferior quality of the butter produced by those concerns, because the cream is collected over a wide territory and much of it is received in a stale condition.

"That a very large percentage of the butter found in the market is below grade, selling for less than market prices for fine butter, and that the farmers in a very large area of butter-producing territory receive much less than a fair price for their product, are both matters of record. That the losses from these sources amount to millions of dollars annually to the farmers of the country is easily demonstrated.

"For convenience in designation, the creameries are divided into four classes. Cooperative creameries are owned and operated by the patrons—that is, the persons who supply the cream—and the entire receipts, less actual running expenses and sinking fund, are divided among the farmers in proportion to the amount of butter-fat delivered by each. Individual creameries are those owned and operated by private interest and doing local business. When three or more individual creameries are owned or controlled by the same interests, they are designated as combination creameries. The fourth class—'centralizers'—is composed of creameries that receive cream from greater distances than it

can be hauled in by wagons the distances extending up to 400 or 500 miles. The plants are usually large, and an extensive system of agencies for the purchase of cream is maintained.

"The investigations show that the cooperative creamery yields the largest returns to the farmer for his butter-fat. The individual and combination creameries, usually being located in close competition with the cooperative creameries, pay very nearly as much.

The centralizers, where they have gained a monopoly, pay as little as the farmer will accept. Reports for July, 1907, show that in Kansas and Nebraska, where the monopoly appears to be complete, the farmers received only 17 and 18 cents a pound for their butter-fat, while in Northern Iowa, Minnesota, Wisconsin, and Illinois, where the cooperative creameries have the field, the prices were from 25 to 26 cents.

"The methods of the centralizers are sometimes very reprehensible. Where these concerns have come into competition with small creameries, they have raised their prices to a point that made it impossible for the small concerns to continue, and have thus forced the latter out of business. Competition having been destroyed and a monopoly secured, the prices paid to the farmers were lowered. The large concerns operating over a great territory, with here and there a competitor that they wished to put out of business, could in one locality raise the price paid above that possible to pay with profit, and at other places decrease the price so little as not to be apparent and more than offset the loss. This ability to destroy competition without inflicting self-injury has been used effectively in many localities.

"Perhaps the most potent factor, however, in restricting the business of the small creamery has been the special low rates reported to be granted by the railroads to the big creameries. These rates were understood to be much lower than for any similar commodity, being only about one-third of the rate on butter. In Nebraska, in the best territory, the gross earnings for hauling cream were but 13 cents per car mile, while the settling basis between railroads for hauling empty cars was 15 cents per car mile.

"The system of killing the small creameries has been carried on to the fullest extent in Southern Iowa, Missouri, Kansas, and Nebraska. Taking Kansas as an illustration, it is found that the number of creameries declined from 133 in 1900 to 67 in 1905, while in Minnesota in the same period there was an increase from 582 to 905. The decrease in Kansas is attributed to dissatisfaction and distrust on the part of the farmer with the central creamery, to the low prices paid, the poor quality of the butter, the killing of the small creameries, and the loss of all immediate contact between the farmer and the owner of the business. The increase in Minnesota can be accounted for by just the reverse set of conditions. The loss to Kansas farmers during the last year on account of the low prices alone is estimated at \$1,000,000. If Kansas had made 50,000,000 pounds of butter, as it should, instead of 17,000,000, the income to the State would have been, on the same basis of valuation, at least \$12,000,000 greater than it is for the present year, and there would have been no less wheat, corn, alfalfa, beef, pork, or any other crop raised. The reason why Kansas is not on a par with Minnesota, Iowa, and other great dairy States is because the industry has been promoted from the centralizer standpoint and not for the interests of the farmer. Fifteen years ago Kansas and Minnesota stood nearly equal with regard to the creamery industry. Now Minnesota is not only far ahead with volume of production, but the Minnesota farmer gets 6 to 7 cents a pound more for butter-fat than does the Kansas farmer. What has been said of Kansas applies in general also to Missouri, Southern Iowa, and Nebraska.

"Investigation has shown that the

highest grade of butter is made only from whole milk delivered to the creamery fresh every day. This is possible only where there are local creameries at convenient distances. The longer the time between milking and churning the poorer the quality of the butter. Shipping cream by railroad except for very short distances is detrimental to the quality of the butter.

"The centralizers, on account of receiving cream from long distances are unable to turn out as high-grade product as the local concerns that use fresher cream, but they are usually managed so as to get every possible cent of revenue from their material. They use the most improved methods of manufacture, get a maximum overrun, and prevent loss in every possible way. The small creameries, on the other hand, are often very lax in these matters, but by reason of the superior quality of their product and their practise of giving full returns to the farmers they are still able to pay 6 or 7 cents a pound more for butter-fat. By no means do all of the small creameries make fancy butter, however. Some of them have doubtless succumbed largely because of losses which might have been prevented by better methods.

"There can be no doubt that the tendency of the centralizing system is bad for both the farmer and the public. The effect is to exact high prices from the consumer and to pay low prices to the farmer, the profits going to the large operators who control the situation. The small local cooperative creameries should be encouraged. The Dairy Division is already endeavoring to assist the creameries to avoid losses by low overrun, loose methods, etc., and to improve the quality of their product where this is defective, by its service of inspecting and reporting on the butter as it arrives on the market, as hereinbefore described. In order that the farmers may receive proper returns for their product there should be a material improvement in the quality of the butter as found upon the market. This can best be accomplished by encouraging local creameries, better methods of manufacture, and, greatest of all, a discrimination as to quality in the markets. Butter is not bought on the basis of quality, as it should be, but the tendency is more and more in that direction. The chief handicap is a lack of inspectors. The work of the division already shows that National supervision of interstate trade in butter would operate greatly to the benefit of the creameries. The cost of Federal inspection would not be as great as might be at first supposed. A careful estimate based on experience already gained shows that twenty-five men could handle this work without difficulty. Part of these men could be detailed to work in the field with the creameries to give personal instruction to those most needing it. Such instruction will be needed, especially in the centralized territory where small creameries will be established if conditions make it possible. It is the belief of many interested in this work that the increased returns to creameries through such supervision and inspection would result in millions of dollars saved to the farmer each year.

"Publicity as to the prices received by farmers in various sections for their butter-fat would be a powerful agency in enabling the farmers to obtain better returns from the 'centralizers.' The Department could gather this information and disseminate it. New York, Chicago, and Elgin quotations on butter are not printed in the papers published in the territory most affected by the centralizers. Only local quotations are published, and these are several cents below the actual market prices. The farmers in that territory have no way of finding out what the farmers of other sections are getting."

The manifest partisanship of this excerpt is not creditable to the Division which issues it.

Undoubtedly every producer of milk would like to receive a higher price for his butter-fat. But there is a limit to what he can afford to do in ex-



change for a higher price. Thus, if he must haul the whole milk to the creamery and either haul back an inferior quality of skim-milk or deprive his pigs and calves of this valuable food, it is largely a question of distance that must determine whether he is paying too much for the added price. There need be no surprise if the figures given in the official report as representing the comparative prices received for butter-fat under the two systems shall be seriously challenged.

If the "centralizers" have resorted to unfair methods to dispose of competitors and have established monopolies which indulge in the practices of the trust, the evil should receive proper attention from officials having such matters in charge.

One of the surprising suggestions of this official report is that in Nebraska the railroads have hauled cream at 13 cents per car mile while the settling basis between railroads for hauling empty cars was 15 cents per car mile. If a system has really been put into operation whereby a carload of so valuable a farm product as cream can be transported at less than the price of hauling the empty car it is difficult to see who is hurt outside of the railroad company.

In the matter of quotations of prices of butter, THE KANSAS FARMER, at the request of creamery patrons, made an extensive comparison of prices quoted by the Continental Creamery, of Topeka, with Elgin quotations as given for the same dates in the New York Produce Review, and found that in every instance the quotations from the two sources were identical. Such comparisons are easily made. It is a matter of some surprise that the official report charges that local quotations are several cents below actual market prices without giving the figures from the record.

THE KANSAS FARMER is not the defender of the centralized creamery, but it merely calls attention to a few of the points in a report which seems to be peculiarly one-sided.

Report of the Third Bi-Monthly Scoring Contest of the Kansas Station.

EDITOR KANSAS FARMER:—On Saturday, July 11, Mr. Winkler scored the butter entered for the third bi-monthly

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1908

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16 distributing warehouses in U. S. and Canada.

494
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scoring contest held by the dairy department of the Kansas State Agricultural College. Not as many samples were entered for this contest as for the second contest, but much interest has been evidenced by several makers in personal letters which they have sent in.

The quality of the butter at this contest was very even and much above the average of that entered for the two previous contests. This evenness of quality and the marked improvement in this respect, will aid in opening new markets for Kansas butter.

There was also a marked improvement in the workmanship in making the butter, several of the tubs being marked by the judge as showing "fine workmanship."

The old cream flavor was noticeable in several of the samples, and has been one of the worst faults of the butter in all of our contests. One tub had a flavor that is sometimes caused by the use of poor salt. The salt used in buttermaking should be of the best quality and should be stored in a dry, cool and clean place. The texture was good with the exception of two samples. One, seemingly overworked, was found to have been worked in the washwater, which process is very hard on the texture of the butter. Another was marked as short in the body.

One sample was badly mottled and we believe the cause was insufficient working, not having been worked sufficiently to distribute the salt evenly.

Some paraffined tubs were sent in; two of these were criticised as having too heavy a coat of paraffine, it being so thick on one tub as to scale off of the cover. Only enough paraffine should be used to fill the pores of the wood.

Those receiving the three highest scores were as follows: E. J. Alexander, Salina, 90.75; H. L. Phillippi, Salina, 90.5; M. E. Brunner, Great Bend, 90.

FAIRIE BRINTNALL,

Assistant in Dairy Husbandry,
Manhattan, Kans.

Production of Milk.

Bulletin 160 of the Ontario Department of Agriculture contains an address by Prof. H. H. Dean on the production of milk. In this address Professor Dean said:

A GOOD COW.

The first thing I want to emphasize in the production of milk is that we must have a good cow. What is a good cow? One that will produce at least 6,000 pounds of milk, or make not less than 250 pounds of butter in one year, at a cost of not more than \$30 for feed. Such a cow as that is a profitable animal. Will you bear in mind that a careful estimate, based upon results of the cow testing associations, states that the average production of the cows of the provinces of Ontario and Quebec, which comprises the best dairying districts in Canada, is only 3,000 pounds of milk in the year. Is there any wonder that in some dairying districts there is not enough milk to drink? There is no money in keeping cows like this, and it is no wonder that people are not satisfied. We have in our stable a Holstein which has produced 2,522 pounds of milk in thirty days, within 500 pounds of the average annual production of cows of Ontario and Quebec. In seven days she gave us 643 pounds, and in one day 96 pounds of milk. If we had cows like that there would be no trouble about having plenty of milk to drink. A man can not afford to keep cows that produce only 3,000 pounds of milk in a year.

One of the factors that we must bear in mind regarding a good cow is that we must have a strong, healthy, vigorous one, if we would have milk that has what is called vitality. I think it would be impossible to get the best milk for drinking purposes from a cow that is low in vitality. Second, the cow must be fed the right kind of food. There are some men so generous that they will feed their cows straw all winter, give them all the straw they can eat and then swear at them because they will not give more milk.

It is little wonder that many farmers are unable to obtain satisfactory milk production. They do not feed. If you ask a cow what she would rather have to eat, she would answer, "Give me juicy, succulent grass, and I will give you plenty of milk." For five or six months of the year the farmer must substitute for grass such food as mangels, carrots, and corn silage. Turnips should not be fed to cows producing milk. Some people enjoy the flavor of turnips in milk, but the majority do not. If you want the best quality of milk, do not feed turnips. We should recommend the following ration for winter milk production: Eight to 10 pounds clover hay, 30 to 40 pounds of corn silage, 20 to 30 pounds mangels, 8 to 10 pounds meal made up of equal parts of oats and bran by weight, and 1 to 2 pounds of oil cake, gluten-meal, or pea-meal, the ration to be given in two feeds daily to each cow. A cow does not need to be fed more than twice a day under ordinary conditions.

Give the cow plenty of water. How much water do you think was drunk by the cow that gave 96 pounds of milk in one day? Nearly 200 pounds. That does not mean that the milk was water, as her milk tested about 3.5 per cent fat. You can not water milk through the cow. Only man has learned that trick.

Next, give the cow plenty of salt. Treat her as if she were your friend. Any man who will kick a cow or strike her with a pitchfork should be taken by the back of the neck and kicked out of doors.

KEEP THE COW HOUSE CLEAN.

The cow house should be kept clean and sweet and well ventilated. It is impossible to get good milk from a cow kept in a stable that is not clean. I would like you to see the stable in connection with our college, and I think you would agree with me that the air of that stable is probably as pure as it is in this room. Such a condition can be got at small expense. Bulletin 143 gives instruction as to how to ventilate a cow stable at small cost. No man should keep his cows in a small, damp, filthy house and expect good milk fit for human use. The cows must be kept clean. If you suggest currying the cows, farmers will laugh at you, but nevertheless, cows need to be regularly brushed and curried. They need to be kept clean as much as horses, if not more so. It is impossible to get clean milk from dirty cows. You have only to notice the sediment in a milk bottle to know that this is a fact. The people of this country should rise and demand clean, sweet milk.

Next, cows should be milked in a kindly manner. The person doing the milking should have on clean clothes. Men do the milking, as a rule. Women should not be asked to go to the barn to milk cows, and especially not through a dirty barn, to milk dirty cows. As a rule, the milking should be done by a man. He should have on clean clothes, and should wash his hands before milking. The average man will think nothing of sitting down to milk with dirty hands. Milk in a quick manner into a clean pail. The milk, immediately after it is drawn from the cow, should be strained, and cooled to a temperature of 50 to 60 degrees.

If you get milk cooled to 50 or 60 degrees, it can be kept for a long time, and will be fit for human consumption. Milk which is not cooled at once forms a medium for the development of bacteria, and very often contagious diseases are spread through an impure milk supply. Milk which is sold to towns and cities ought to be under the strict control of the municipality, and the people of the municipality should see to it that the milk is above reproach. In Glasgow and Copenhagen the milk is inspected, and the people of those cities get milk of a much higher standard than is sold in this country, and at no greater cost.

I see no reason why skim-milk should not be sold. It is of special value to growing children. A great many cities have laws prohibiting the sale of skim-milk. I hold that

skim-milk should be sold, that the poor of our towns and cities ought to have it. But it is hard to get any one to buy skim-milk, because it gives one the appearance of being poor. Buttermilk is a most healthful drink. If people would drink buttermilk instead of whisky, it would probably be better for all concerned. Scientists tell us that there are germs in sour milk which fight against the germs causing death to the human body. It is also said that buttermilk has a tendency to lengthen life. People in some parts of Europe drink largely of sour milk, and these people live to a very great old age.

Breeding for Dairy Purposes.

It is a matter of importance, with all classes of stock, and before the animals are used for breeding, to allow sufficient time for the quality and character of the parents on both sides to properly develop before progeny is reared. It is often the case that defects, either constitutional or otherwise, do not show until the animal has reached a reasonably full physical development. When animals are bred before they are fully matured, whatever defects they may possess, will be transmitted to their offspring. Generally (says Mr. C. G. Free-Thouger, in a contemporary) with the shorter-lived animals, it is best to await the period of reasonably mature development before breeding, if the best results are to be secured, which with animals like the cow and horse, that require a much longer time to properly develop and mature, it is best to breed earlier in their growth. But in all cases, and especially when breeding to improve, a reasonable time should be allowed for proper growth and development. In nearly all cases, with all classes of stock, the best animals are the offspring of parents mature and well developed on both sides—animals that have made a vigorous, thrifty growth from birth, and when bred are in good, healthy condition. Too young breeding is such a drain upon the vitality that in many cases the animal never fully recovers from the effects. Generally, however, the dam suffers from too early breeding more than the sire.

PRINCIPLES TO FOLLOW.

One of the best plans of management when breeding from young animals is to mate them to older and more mature sires. If the sire is young breed to older and more mature dams, but mate the dams that are being bred for the first time with well-matured sires that have proved themselves good breeders. In breeding up a dairy herd a judicious selection of both sire and dam is most important, and then must be pursued a system of feeding and management suited to the purpose for which the animals are being raised. Too many dairymen follow out these principles only in part. For instance, there are scores of dairies where a comparatively high-priced pure-bred sire has been purchased and used, but the owner has paid no attention to the possibilities of his cows, and the result has naturally been that some of the stock is good and some poor. The owners then say it is all rubbish to talk about high-class sires, for their calves do not average much, if any better than from the ordinary sire.

FEEDING AND MANAGEMENT.

But the matter of careless feeding and management is by far the most common mistake. Some follow a line that tends every day to change a calf bred for dairy purposes into a beef animal, while others pay so little attention to the matter of feeding that they develop nothing but an ordinary animal out of what, from its select breeding ought to be a select one. Too many think that the feeding of the last few weeks before parturition is all that is necessary to develop a heifer into a first-rate milker. I am aware that I step out on to what may be called theory when I say that the manner of feeding and handling the cow during conception exerts almost as much influence over the nature and capabilities of her calf as do the few

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months after its birth. But if it is called a theory, it is most certainly a reasonable, common-sense theory, for no one can dispute this fact, that during conception the mother and offspring in embryo are identically one, and the food that nourishes the one also gives life and growth to the other; this being the case, what may be called theoretical by some becomes practical. True, the matter of selection in breeding can, and does, do much towards improvement, and the same is true of judicious feeding for a purpose, but neither is alone a success. By carefully practising both it is an easy matter for any dairyman in the space of a very few years to considerably increase the product of his cows.

THE QUESTION OF SIZE.

The cows kept by dairymen are too frequently of a type not suited for the business. Experiments have been carried out in England and America for many years with a view of finding out the cost of production. In these experiments each cow is fed all she can consume and digest; every pound of food is weighed, its cost noted, and the milk is weighed and tested for the butter-fat. Some cows, he finds, charge 50 per cent more per pound of butter made from their milk than others. Breed makes no difference—some Shorthorns make cheap butter and some Jerseys costly butter; neither has size nor color anything to do with it. All the cows that made cheap butter were put on one side, and those which charged the most on the other side. Each side, no matter what breed, showed similar characteristics. Those that charged a high price were the sleek, nice-looking animals that would answer the description of the beef cow, while those that made butter cheaply had the genuine dairy type, the light quarters and the heavy, wedge-shaped barrel.

A certain proportion of the food of a cow is used up in running her machinery, and the question is what does she do with the surplus of her food? If she returns it to you in the form of milk she may be a profitable cow; if she lays it on her back as fat she is not a dairy cow. Always avoid the cow that has a tendency to lay on fat, if you want cheap milk production.

I have said above that the size of the cow has nothing, or but little, to do with the cost of production, and this is abundantly proved by experiments. It has time and again been demonstrated that there are large cows with comparatively small feeding capacity, and, on the other hand, some small cows have even greater feeding and digesting capacity than some of the larger ones. There is no one rule of feeding that has led astray so considerable a number of agricultural experimenters, and destroyed the practical value of their work, as the one declaring that animals should be fed according to their size. Some cows with short legs and light quarters will barely turn the scales at 900 pounds, and yet, having a capacious middle, will eat and digest more than others with long, heavy quarters, with a comparatively light body, and weighing 1,200 pounds. Small or medium cows have greater digesting capacity in proportion to their size than large animals. Indeed, this seems to hold good with all our domestic animals, not only as far as feeding capacity is concerned, but in strength and endurance as well. In breeding to increase size we always fail to increase strength and endurance, or speed, in the same proportion. That the cost of maintenance is fairly measured by

the size of the animal is true only in a general way. We must take temperament into account. An animal having a highly developed nervous system would, under certain conditions, require more food for maintenance than would another animal of the same size under similar conditions, but not having a highly developed vital temperament. In the future temperament and form in the animal will be found to play a more important part than has generally been supposed. Indeed, it is more than probable that they will be found to be greater factors in determining the usefulness or adaptability of animals for specific purposes than the generally accepted characteristics.—C. G. Free-Thouger, in a New Zealand Contemporary.

The Poultry Yard

CONDUCTED BY THOMAS OWEN.

Poultry Notes.

There is no use in expecting eggs if your hens are lousy or your poultry houses infested with mites. Observations have demonstrated that fowls infested with mites are exceedingly unprofitable. The cost of keeping them is increased and the income from them is very much reduced; indeed, when very badly infested the fowls are totally incapacitated for work. The hen will cease laying. The ovaries undergo atrophy and on examination will be found shrunken and in a condition unsuitable for work. In several flocks on which observations were made, it was found that egg production was greatly reduced or altogether prevented during the spring and summer on account of the hens being lousy, when under normal conditions egg production would have been at its height. Various methods are recommended to get rid of mites. Spraying with any of the liquid lice-killers is generally efficacious. If a cheaper method is desired, kerosene emulsion will be found to do the work, as it not only kills the mites themselves but also the eggs when it comes in contact with them. In spraying with this emulsion care should be taken to direct the spray into all crevices, holes, joints and other hiding and breeding places of the mites. The first spray of emulsion will kill within five minutes all the mites and eggs with which it comes in contact; but many mites will be left in the hiding places, unaffected by the spray. The spraying should therefore be repeated as soon as the first spraying is completed and a third spraying as soon as the second is done. At each repetition the beginning should be made at the same place and the same order followed as in the first. These three sprayings done in one day and in rapid succession will destroy nearly all the mites, but as experiments have shown, many eggs are left in places untouched by the spray. If these were allowed to go on undisturbed, it would not be long until the building would be as badly infested as at the beginning. Therefore the spraying should be repeated every three or four days, spraying two or three times on each occasion for about two weeks. Air-slaked lime is also a most effective mite killer and easy of application. Take the lime and throw it all over the house and then shut the door and let it settle in every crevice. Repeat this two or three days in succession once a month and it ought to get rid of all the mites.

All poultry, whether it be chicks, ducklings, poults, or goslings have a strong natural appetite for animal food. In fact, all nestlings prefer insect or animal food. The tendency to feed on grains, seeds, and fruits develops later in life. Experiment stations have demonstrated that a chick or duckling will not thrive or develop on grain alone as they will upon grain and meat in some form. The younger they are when animal food is given them the better the gains through life.

The poultry on free range will generally pick up enough insect life to keep in good health, but the confined birds need some attention from the keeper. Ducks and geese get snails and shell fish if given a chance in natural water. They also get many ground beetles. Turkeys on free range are after grasshoppers and other insects all day long. The hen that scratches so vigorously in the garden is after insect life. When the supply of natural meat is scant or lacking, it is up to you to give them meat scrap, bone-meal, green cut bone, or a plentiful supply of skim-milk. Fowls prefer bones that are cut or broken into small pieces with the meat, cooked or raw, adhering to them. The hens do not care for the commercial dry bone, unless such is free from the odor of ammonia or decaying matter. Dry bones either broken or ground will be eaten, but not so readily as those that are fresh. Fresh bones can be ground only in bone mills made especially for that purpose. They are sometimes steamed in order to render them brittle, or placed in the oven and burned. Of course, when subjected to heat, they lose more or less nitrogenous matter, such as meat or gelatine. With a regular bone cutter, however, all kinds of green bones can be prepared for the fowls and they like nothing better nor is anything so healthful for them.

There is much talk about the folly of keeping unprofitable cows—cows that will not pay their board. How about the unprofitable hen. There are thousands upon thousands of hens that are now eating their heads off, simply because the owner does not take trouble enough to sort them over and get rid of the unprofitable ones. With chicken feed at the high price it now is, it would seem as if the poultryman would take notice and get rid of the unprofitable hen. He can get a good price for her from the butcher and save lots of money by reducing his feed bill.

Late Hatches.

This season of the year has been a very good one, as far as hatching chicks is concerned. The rearing of the chicks has been hampered somewhat by frequent rains, especially in early spring, but brooders offer ample protection from all kinds of weather and breeders have experienced little difficulty.

There are, however, many broods of late hatched chicks, and they can be reared quite as profitably as the early hatched if they are given special care. They require more attention and must be kept growing and matured by late autumn. If the pullets are started to laying by late fall they can, by judicious feeding, be kept at it all winter and become profitable winter layers. The greatest enemies to late hatched chicks are lice and mites. Constant watch should be kept to see that these pests do not get the best of the late brood. Frequent dustings with a good insect powder will help to keep them down. The coops and runs should be kept scrupulously clean and free from filth.

Another difficulty in raising late hatched chicks to maturity is that they are allowed to run with older and stronger chicks and consequently are trampled upon and crowded out at feeding time. They should be fed by themselves and given special care that they are well treated and get their full supply of food. Make separate racks in which to feed them and make the slats so close together that the older chicks can not enter to deprive the younger ones of their food.

The summer's heat will stunt their growth. While the young chicks need sunshine, they can not thrive well if compelled to roam under the blistering rays of the sun. Provide them with plenty of shade. Young chicks, while they do not need more water than the older ones, yet they must have water oftener, and it must be fresh. Place the drinking fountains where they will be shaded and endeavor to keep fresh water before the late hatched at all times. Look for lice.

They thrive in the heat and attack the youngest chicks.—Wisconsin Agriculturist.

Schedule of State and International Shows—1908.

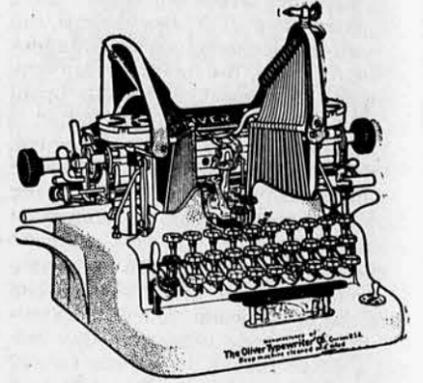
- Blue-Grass Fair, Lexington, Ky., Aug. 10-15, 1908; Jouett Shouse, secretary.
- Iowa State Fair, Des Moines, Aug. 20-28, 1908; J. C. Simpson, secretary.
- Ohio State Fair, Columbus, Aug. 31-Sept. 4, 1908; F. L. Calvert, secretary.
- Nebraska State Fair, Lincoln, Aug. 31-Sept. 4, 1908; W. R. Mellor, secretary.
- Minnesota State Fair, Hamlin, Aug. 31-Sept. 5, 1908; C. N. Cosgrove, secretary.
- Wisconsin State Fair, Madison, Sept. 7 to 11, 1908; John M. True, secretary.
- Colorado Interstate Exposition, Denver, Sept. 7 to 12, 1908; C. E. Stubbs, general manager.
- Indiana State Fair, Indianapolis, Sept. 7 to 11, 1908; Charles Downing, secretary.
- South Dakota State Fair, Huron, Sept. 7 to 11, 1908; C. N. McIlvaine, secretary.
- Kentucky State Fair, Louisville, Sept. 14 to 19, 1908; J. W. Newman, secretary.
- Michigan State Fair, Grand Rapids, Sept. 3-11, 1908; I. B. Butterfield, secretary.
- Kansas State Fair, Hutchinson, Sept. 14-19, 1908; A. L. Sponsler, secretary.
- Tennessee State Fair, Nashville, Sept. 21-26, 1908; J. W. Russwurm, secretary.
- Illinois State Fair, Springfield, Sept. 25-Oct. 2, 1908; J. W. Dickerson, secretary.
- Washington State Fair, North Yakima, Sept. 28-Oct. 3, 1908; G. A. Graham, secretary.
- Inter-State Live-Stock Show, St. Joseph, Mo., Sept. 21-26, 1908; M. P. Irwin, manager.
- Missouri State Fair, Sedalia, Oct. 3-9, 1908; John T. Stinson, secretary.
- American Royal Live-Stock Show, Kansas City, Mo., Oct. 12-17, 1908; A. M. Thompson, secretary.
- North Carolina State Fair, Raleigh, Oct. 12-17, 1908; Joseph E. Pogue, secretary.
- International Live-Stock Exposition, Nov. 28-Dec. 5, 1908; B. H. Heide, manager, Chicago, Ill.

Farmers' Fairs in 1908.

- The list of county fairs to be held in Kansas in 1908 is announced by Secretary F. D. Coburn as follows:
- Allen County Agricultural Society—Frank E. Smith, secretary, Iola; August 25-28.
 - Barton County Fair Association—W. P. Feder, secretary, Great Bend; September 8-11.
 - Brown County, The Hiawatha Fair Association—George M. Davis, secretary; Hiawatha.
 - Butler County Fair Association—A. Shelden, secretary, El Dorado; August 25-28.
 - Butler County, Douglas Agricultural Society—C. R. Alger, secretary, Douglas; September 17-19.
 - Clay County Fair Association—Walter Puckey, secretary, Clay Center; September 1-4.
 - Clay County, Wakefield Agricultural Society—Eugene Elkins, secretary, Wakefield; first week in October.
 - Cloud County Fair Association—W. S. James, secretary, Concordia; September 15-18.
 - Coffey County Agricultural Fair Association—Charles N. Converse, secretary, Burlington; September 7-11.
 - Cowley County Agricultural and Live Stock Association—Frank W. Sidle, secretary, Winfield; September 1-5.
 - Cowley County—Eastern Cowley County Fair Association—W. A. Bowden, secretary, Burden; September 16-18.
 - Dickinson County Fair Association—H. C. Wann, secretary, Abilene; September 22-25.
 - Elk County Agricultural Fair Association—H. B. Terry, secretary, Grenola; September 23-25.
 - Finney County Agricultural Society—A. H. Warner, secretary, Garden City.
 - Franklin County Agricultural Society—E. M. Shelden, secretary, Ottawa; September 1-4.
 - Greenwood County Fair Association—C. H. Weiser, secretary, Eureka; August 18-22.
 - Harper County, Anthony Fair Association—L. G. Jennings, secretary; Anthony; August 4-7.
 - Harvey County Agricultural Society—L. G. Harlan, secretary, Newton; September 29, October 2.
 - Jefferson County Fair Association—Ralph Snyder, secretary, Oskaloosa.
 - Leavenworth County Fair Association—Stance Meyers, secretary, Leavenworth; September 15-19.
 - Linn County Fair Association—O. E. Haley, secretary, Mound City; first week in September.
 - Marshall County Fair Association—W. H. Smith, secretary, Marysville.
 - McPherson County Agricultural Fair Association—D. H. Grant, secretary, McPherson; September 22-25.
 - Miami County Agricultural and Mechanical Fair Association—George R. Reynolds, secretary, Paola; September 29, October 2.
 - Mitchell County Agricultural Association—Ira N. Tice, secretary, Beloit; September 16-19.
 - Montgomery County, Coffeyville Fair and Park Association—A. B. Holloway, secretary, Coffeyville; August 11-14.
 - Nemaha County Fair Association—Joshua Mitchell, secretary, Seneca; Sept. 16-18.
 - Neosho County, Chanute Fair and Improvement Association—A. E. Timpane, secretary, Chanute; August 18-21.
 - Ness County Agricultural Association—Thomas Rineley, secretary; Ness City, October 7-9.
 - Ness County, Utica Agricultural and Fair Association—R. C. Webster, jr., secretary, Utica, October 7-9.
 - Norton County Agricultural Association—M. F. Garrity, secretary, Norton; August 25-29.
 - Osage County Fair Association—F. E.

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SCOTCH COLLIES.

SCOTCH COLLIES of the very best breeding, have the intelligence of a human. For particulars address, DEER LAKE PARK, SEVERY, KAN.

SCOTCH COLLIES—Pups and young dogs from the best blood in Scotland and America now for sale. All of my brood bitches and stud dogs are registered, well trained and natural workers. Emporia, Kansas, Emporia, Kans. W. H. Richards.

Scotch Collies.

Fifty-seven Collie puppies just old enough to ship. Place your orders early, so you can get one of the choice ones. Walnut Grove Farm, Emporia, Kans.

Incubators and Brooders

If you want a good incubator in a hurry write to the undersigned. He keeps the Old Trusty Incubator (hot water) and the Compend (hot air), two of the best incubators made. Also the Zero brooder, no better made. It pays to buy a good brooder. No use hatching chicks without a good brooder to raise them. The Zero will raise every chick you put in it.

THOMAS OWEN, Sta. B, Topeka, Kans.

Weather Bulletin

Following is the weekly weather bulletin of the Kansas Weather Service for the week ending July 28, 1907, prepared by T. B. Jennings, Station Director.

DATA FOR THE WEEK.

Table with columns for Temperature (Maximum, Minimum, Mean, Departure from normal) and Precipitation (Total, Departure from normal, Per cent of sunshine) for the Western Division.

Table with columns for Temperature (Maximum, Minimum, Mean, Departure from normal) and Precipitation (Total, Departure from normal, Per cent of sunshine) for the Middle Division.

Table with columns for Temperature (Maximum, Minimum, Mean, Departure from normal) and Precipitation (Total, Departure from normal, Per cent of sunshine) for the Eastern Division.

Table with columns for Date and Precipitation (Total, Departure from normal, Per cent of sunshine) for the State by weeks.

GENERAL SUMMARY.

The weather for the section was cool and wet during the week, being quite cool the first two days and about normal the last day.

The rainfall was greatest in the central northern counties and least in the southern border counties between Seward and Chautauqua Counties.

Allen.—The weather was generally cloudy and sultry, with an average daily temperature deficiency of 2° and thundershowers on four days, yielding 1.16 inches of rainfall.

Anderson.—The nights were cool and the weather cloudy thruout. Light showers fell the middle of the week.

Atchison.—The weather was very pleasant, tho there were several humid, sultry days. Thunderstorms occurred on Friday, the 24th.

Brown.—Temperatures were very uniform, the maximum temperatures ranging in the eighties and the minimum temperatures in the sixties thruout.

Chase.—The weather was favorable, the more rain would be beneficial. The highest temperature was 96° on the 21st and the lowest 59° on the same day.

Chautauqua.—Temperatures were favorable and the sky was mostly clear, but the rainfall, 0.13 of an inch, was deficient and the ground is beginning to get dry.

Cherokee.—The rainfall was plentiful and temperatures favorable, but the sunshine was deficient, as

gressed. The mean daily average was 15° below normal on the 19th and 1° below on the 25th.

Comanche.—Light rains fell the first and last days of the week, but the ground is in need of moisture.

Dickinson.—The week was rather cool, cloudy, and rainy, but generally quite favorable.

Ellis.—Weather conditions were exceptionally favorable. Six of the days were clear and warm and there was sufficient rainfall.

Ellsworth.—Sunday, the 19th, was unseasonably cool, and none of the nights were very warm, but most of the days were warm, with plenty of rain.

Harper.—The week was dry and the latter part warm. More rain is needed.

Jewell.—Temperatures were rather low, the maximum ranging but little above 80° on each day. Heavy rains fell and were of much benefit.

Kingman.—A fine rain fell at Kingman on the 19th, but only 0.12 of an inch fell at Norwich during the week.

McPherson.—Copious and beneficial rains fell on the 20th, after which warm, clear weather prevailed.

Marion.—Fine rains fell on several days and temperatures were favorable.

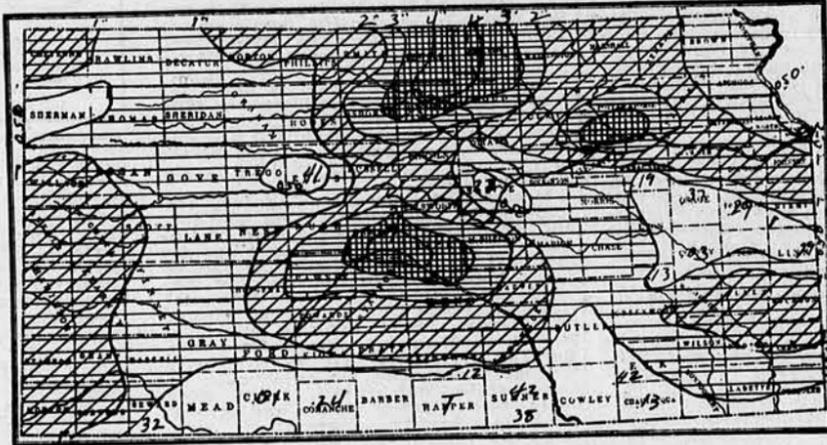
Osborne.—Over two inches of rain fell, the heaviest occurring on Sunday, the 19th. Temperatures were highest at the close of the week, the maximum being 90° on the 24th.

Ottawa.—There was sufficient rainfall and four days were clear. All the nights were cool.

Pawnee.—The latter part was warm, the fore part cool. Over two inches of rain fell on the 19th.

Phillips.—There was only one clear day this week. The weather was very favorable.

RAINFALL FOR WEEK ENDING JULY 25, 1908.



SCALE IN INCHES.

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

there were no days entirely clear and two were cloudy.

Coffey.—The maximum temperature the first two days was 84°, after that it was 90° or higher, reaching 98° on the 21st. The rainfall was light, but sufficient.

Elk.—Temperatures were moderate, the nights being uniformly cool. A good rain fell on the 23rd.

Franklin.—The latter part of the week was warmer than the fore part, but all the nights were cool.

Greenwood.—Temperatures were reasonable, tho somewhat high on the 21st, when the maximum reached 100° at Fall River and 98° at Madison.

Jefferson.—The weather was favorable for out door work, the only rainfall of consequence being 0.84 of an inch on the 23rd.

Johnson.—The week was dry, excepting on the 24th, when 1.04 inches of rain fell. This rain was of much benefit.

Labette.—Temperatures averaged below normal, the fore part of the week being quite cool, and none of the nights were unpleasantly warm.

Linn.—Very pleasant weather obtained, but the rainfall, 0.29 of an inch, was not all that was needed.

Marshall.—The weather was very favorable. Temperatures were moderate and the rainfall and sunshine were abundant.

Miami.—The days were warm and generally clear and the nights pleasant. Fine rains fell on the 20th, 21st, and 23rd.

Montgomery.—The week was cooler than the preceding one, with less sunshine, but several light showers which fell amounted to 0.52 of an inch.

Osage.—The weather was very favorable thruout. Light showers fell the last two days.

Shawnee.—Ideal summer weather prevailed. Temperatures were very uniform and not unpleasant and a fine rain of 1.59 inches on the afternoon of Thursday, the 23rd, furnished all the moisture needed.

Wabunsee.—No unusually warm weather occurred and temperatures were very uniform.

Wilson.—Much needed rains, amounting to 0.90 of an inch, fell on the 22nd and 23rd.

Woodson.—The week was generally clear and rather high temperatures occurred on the 21st, when the maximum was 92° at Toronto and 97° at Yates Center.

Abundant rains fell.

Wyandotte.—The week was pleasant, with moderate temperatures and but little rainfall. Thunderstorms occurred on the 21st, 23rd, and 24th.

MIDDLE DIVISION.

Barton.—During a thunderstorm on the 25th over 2.50 inches of rain fell in one hour and light hail occurred, but did no damage. The total weekly rainfall was 4.28 inches.

Butler.—The week was warm, clear, and dry.

Clay.—The week was very favorable.

Cloud.—Temperatures rose steadily as the week pro-

Reno.—The week began with heavy rains, but generally the days were clear and moderately warm.

Saline.—Light rains fell on the 19th and on the last three days. More rain would be beneficial.

Sedgwick.—Light rains fell on the 19th and 20th and a copious shower on the 24th. The temperature averaged somewhat below the normal. There was ample sunshine.

Smith.—Very favorable weather prevailed. The week opened with a splendid rain and closed with warm weather.

Stafford.—A fine rain fell on the 20th.

Sumner.—Several days were sultry. The highest temperature was 95° on the 31st. Only one light rain fell, and more would be of benefit.

Washington.—There was much sunshine and plenty of rain. The nights were cool and the maximum temperature exceeded 90° but on one day, the 21st.

WESTERN DIVISION.

Cheyenne.—Fine weather prevailed. A good rain of 1.70 inches fell on the 18th, and temperatures were moderate.

Clark.—Warm, dry weather prevailed and every day, excepting one, was clear. Rain is beginning to be needed.

Decatur.—Four days were clear, one partly cloudy and two cloudy. The rainfall, 0.60 of an inch, was sufficient for all needs.

Finney.—The weather was mostly clear, with showers the fore part of the week. Temperatures were moderate. The week was pleasant.

Ford.—Rains fell on four days and the normal amount of sunshine was received. The temperature averaged slightly below normal.

Hamilton.—The week began cool and cloudy, with 1.15 inches of rain on the 18th, but the latter part was clear and considerably warmer.

Lane.—The middle of the week was sultry and the latter part windy. Rain fell on the 19th and 21st.

Norton.—There was plenty of rainfall and sunshine, and temperatures were pleasant.

Rawlins.—A good rain occurred on the 19th. There was plenty of sunshine.

Scott.—The week began cool and rainy, but ended warm, dry, and clear. The total rainfall, 0.32 of an inch, was insufficient.

Seward.—Light rains fell on the 19th and 22nd, but more rain is needed.

Sheridan.—Sunday, the 19th, was unseasonably cool, with a rainfall of 0.78 of an inch. The other days were warm, dry, and clear.

Sherman.—This was a pleasant week. A light rain fell on the 23rd.

Stevens.—A heavy rain fell on the 21st. Weather conditions were very favorable.

Thomas.—The week began with temperatures considerably below normal, but closed much warmer. Showers on the 19th and 22nd furnished all the moisture needed.

Trigo.—A welcome rain of 0.52 of an inch fell on the 19th and was followed by warm, dry weather till the week closed.

Wallace.—The weather was very favorable, with fine rains, amounting to 1.35 inches.

Burke, secretary, Burlingame; September 1-4.

Reno County, Central Kansas Fair Association—A. L. Sponsler, secretary, Hutchinson; September 14-19.

Republic County Agricultural Association—F. N. Woodward, secretary, Belleville; September 8-11.

Rice County Agricultural and Live-Stock Association—C. Hawkins, secretary, Sterling; September 1-4.

Riley County Agricultural Association—W. B. Craig, secretary, Riley.

Rooks County Fair Association—H. A. Butler, secretary, Stockton; September 8-11.

Shawnee County Kansas State Exposition Company—R. T. Kreipe, secretary, Topeka; September 7-12.

Sheridan County Agricultural Association—Frank A. McIvor, secretary, Hoxie.

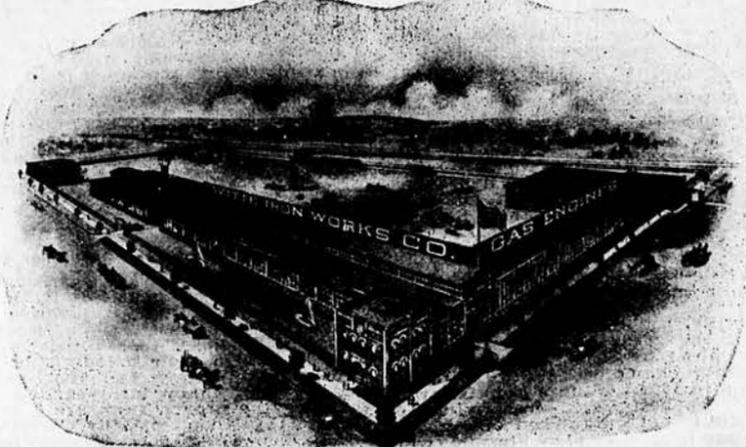
Sheridan County, Selden District Fair Association—George W. Sloan, secretary, Selden; September 1-4.

Stafford County Fair Association—D. S. Mull, secretary, St. John; August 26-28.

Wilson County, Fredonia Agricultural Association—W. H. Edmundson, secretary, Fredonia; August 4-7.

The Advancement of the Gas Engine for Power Purposes.

The gas engine has made a wonderful advancement as a power factor in the last few years. A striking illustration of what has been accomplished in this line is best shown by the illustration herewith of the new gas and gasoline engine plant of the Witte Iron Works Co., of Kansas City, Mo.



into the new plant the company has adopted the introduction principal of advertising, making inducements to those who purchase the first engines in new localities and the number of engines being shipped out has proven that their plan of selling is a great success.

Field Notes

LIVE STOCK REPRESENTATIVES.

L. K. Lewis.....Kansas and Oklahoma
A. L. Hutchings.....Kansas and Nebraska
Geo. E. Cole.....Missouri and Iowa

The territory lying west of the Missouri River has long been recognized by breeders as a profitable field for pure-bred stock. They have been anxious to exhibit at some point in this great section where their stock could be seen and inspected by thousands, but until this year, when the first annual Colorado Interstate Fair and Exposition will be held in Denver the second week in September, there has been no such exhibition place. That the breeders appreciate the magnitude and the importance of this exhibition is shown by the number of requests for premium lists, and entries, being received by every mail by Mr. G. C. Fuller, of Denver, acting secretary of the fair.

The show offers a most liberal list of prizes, the amount aggregating upwards of \$25,000, half of which is distributed in the live stock departments. They are up to date in every way, even to issuing a catalogue of the exhibits in the horse and cattle departments, in which entries close August 15, and in all other departments September 5. The poultry department, by the way, will be remarkably large with cash premiums of \$2,420 offered.

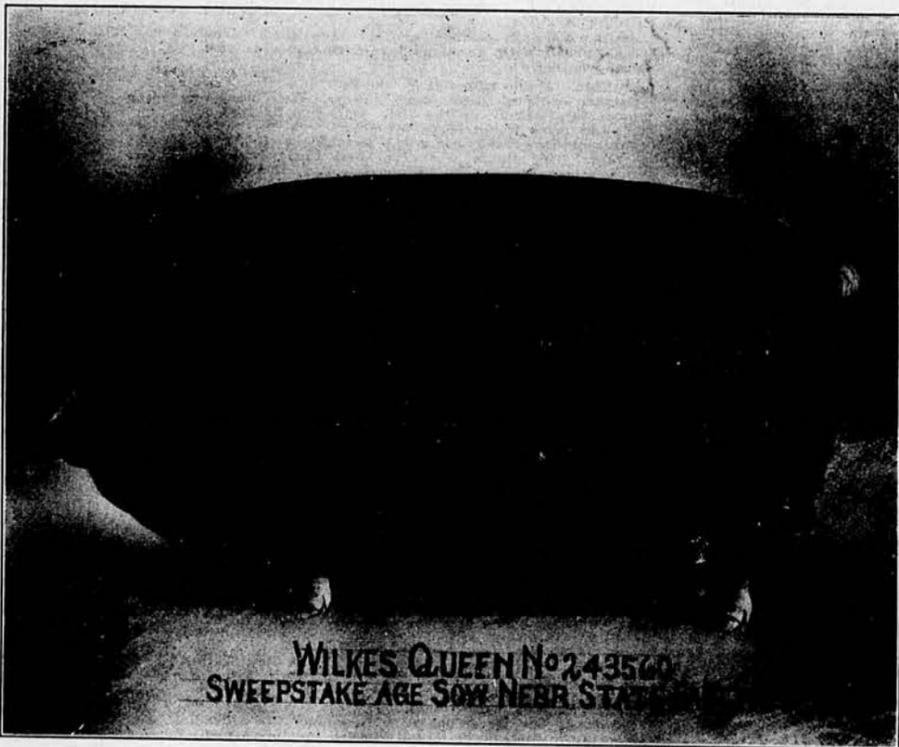
Mr. Harry Petrie, general superintendent, writes that the new buildings are rapidly nearing completion, and that all exhibits will be cared for systematically, with every care exercised for the comfort and safety of stock.

Jos. Schmidt & Sons' Poland-Chinas.

One of the best herds of Poland-Chinas that we have seen for a long time is owned by Jos. Schmidt & Son, Wymore, Neb. The breeding stock in this herd are large, strong individuals with the quality, smoothness, finish and Poland-China type and conformation of the smaller hog. When a man can breed this kind of a pig he is the right man in the right place, and is in the front rank as a breeder.

These were the kind we found in his herd, large enough to suit the large hog breeder with the type and finish to win in the show ring.

The breeders and show men remember that great sow Wilkes Queen 243560 that was bred in this herd and won sweepstakes at Nebraska State Fair in 1906; also grand champions at the



WILKES QUEEN No. 243560
SWEEPSTAKE AGE SOW NEBR. STATE FAIR

Owned by Joseph Schmidt & Son, Wymore, Neb.

American Royal the same year. This is only one of the many good ones that are produced in this herd. At present the Schmidts are fitting a bunch of sows that will make the very best of the breed hustle in any show ring. The boars at the head of this herd are Dorsey's Perfection 2d and Fieldman, a son of the great Don Wilkes Queen and sired by Dorsey's Perfection 2d. Some of the sows in the herd are Stylish Gosick, Miss Ideal, and Malden Rose, all sired by Dorsey's Perfection 2d. These sows will be seen in the show ring this fall where they will speak for themselves. Schmidt & Son have a nice lot of young pigs of the same breeding and quality as their breeding herd which will be ready to sell soon.

J. M. Neilson's Berkshires.

One of the best herds of Berkshires in the West is owned by J. M. Neilson, Marysville, Kans. At the head of this herd is the great boar, Kansas Longfellow, sired by Baron Longfellow 2d, the junior champion at St. Louis Exposition in 1904. Kansas Longfellow is one of the best Berkshires living today. He is not only a son of a champion, but is a champion himself, winning first in class and championship at Nebraska State Fair in 1907.

It would be hard to find another hog with the size, quality and finish backed

up with the show record that Kansas Longfellow has. Another boar used in this herd is Berryton Boy, sired by Berryton Duke Jr. This is a yearling of great promise. He is long, smooth, and even throughout, very strong in head, back, loin, ham, and feet, and is of true Berkshire type.

The brood sows in this herd are a grand lot. They have size and Berkshire conformation, strong in back, loins, and feet. These sows are mostly from the Longfellow Robin Hood and Berryton Duke families.

The young pigs in this herd were as good thrifty lot of youngsters as we have seen anywhere this season. They were all Berkshires and look as if they were all cast in the same mold. They had good Berkshire heads, wide, level backs and loins, with good legs and feet.

Mr. Neilson has some mature sows and gilts bred for fall farrow to Berryton Boy that he will sell for less than they are worth to cut down the size of his herd. These sows are good ones and can be bought worth the money. Write him for prices.

Jones Bros' Herefords.

At Council Grove, Kans., is located one of the largest and best herds of Herefords in the West. This great herd of 350 pure-bred cattle is owned and managed by Marlon and George W. Jones Jr., under the firm name of Jones Brothers, who are giving their entire time to the management of the ranch and herd.

Such breeding females is not often found as has been collected on this ranch. Animals that do not come up to Jones Brothers' high standard are sent to market, and none but those of the highest class can find a place in the breeding herd.

Messrs. Jones are breeding for bone, scale, finish, and easy feeding qualities, and we have never seen a herd of this size where those desirable qualities are manifest to such a degree as can be found here. Among the breeding matrons are daughters of Beau Brummel, Beau Brummel Jr., Corrector, Hesold 2d, Hesold 29th, Douglas, Earl of Shadeland 2d, and Horace Hardwick.

But the best cows that we saw, with the most desirable qualities, such as bone, scale, finish, rich color, good coats, thick fleshed backs, and strong, vigorous, breezy appearance, were those by Lincoln 2d, who headed this herd for a number of years.

Those who are familiar with Hereford history will remember Lincoln 2d, who won first in class and reserve senior champion in his 2-year-old form, at the American Royal, 1899, after he had been purchased by Messrs. Jones for \$1,000 to head their great herd. As has been stated, he proved to be a remarkable breeding animal, siring equally good males and females. Two of his sons, Lincoln 7th and Lincoln

30th, are now doing excellent work on the herd. Lincoln 7th is recognized as the head of the herd, and is the equal of Lincoln 2d as a sire and as an individual. His dam is Snowdrop by St. Elmo 3d. Sir Rupert and Simpson, who is a grandson of Beau Brummel, are also being used. From such matings the young stock is of the most desirable quality, and everything on the place is developed under range conditions, and are the kind that will go out and make good, wherever they may be placed. Watch for future advertising in THE KANSAS FARMER and for first-class cattle write Jones Brothers, of Council Grove, Kans.

Last Call for Hastings' Sale of Poland-Chinas.

On Tuesday, August 4, J. F. Hastings, of Edgerton, Kans., will sell a select draft of 45 head from his richly bred herd of Poland-Chinas, consisting of 14 tried sows in their breeding prime—25 choice, well-grown fall yearling gilts, and 6 very fancy fall yearling boars. Among the proven sows are 2 by Meddler, 1 by Keep On, 1 by Corrector 2d, 1 by Top Chief, 1 by Top Roller, and 2 by Take Warning. Among these is the famous Onion Skin, said to be one of the best Keep On sows living. She has been bred to Meddler 2d for an

Harrow While You Plow

Make one job out of the two, and get your ground in finest condition by harrowing when the soil is first turned up.

KRAMER'S Rotary Harrow Plow Attachment

enables you to do this. Regular rotary harrow which attaches to any gang or sulky plow. It levels, pulverizes and makes a mulch of the "moist soil" that is not possible after the ground dries and "sets." Draft only slightly heavier—you'll be surprised to see how little. Everybody needs this great time and labor saver. Write for circular No. 33

THE E. M. KRAMER CO., Paxton, Illinois

WHY BUY A CORN-BINDER

When You Can Purchase a SLED-CUTTER for One-Teenth the Price.

Runs easy, and cuts and gathers corn, cane, Kafir-corn, or anything which is planted in rows

Ask your Implement Dealer for it or send

\$10.00

—TO—

Green Corn Cutter Co., TOPEKA, KANS.

Fully Protected by Patents.

early fall litter. The others are safe in service to King Edward and sons of Perfection E. L. and Next in Line.

The fall gilts are extra good ones and richly bred. They are by Grand Perfection 2d, Perfect Challenger, and Corrector 2d, a brother of the \$1,000 Corrected. Part of these will be bred for fall litters to good sires.

The males are an outstanding lot of strong individuals of the best breeding. There are 2 by Spellbinder and out of a Top Chief dam, 3 by Next in Line, Jam Sweet Perfection by Chief Perfection 2d (a full sister to the \$6,000 America) and 1 by Perfection E. L. out of an Ideal Sunshine dam.

This is one of the best offerings Mr. Hastings has presented to the public and he cordially invites all lovers of good hogs to be his guest on sale day, which will be Tuesday, August 4. Write for a catalogue and arrange to attend for there are sure to be bargains.

Dispersion of America's Oldest Angus Herd.

We have received word that the long established, fashionably bred, and high class herd of Anderson & Findlay will be dispersed on the farm near Iola, Kans., on Thursday, November 5. This is the oldest established herd in America, and this firm has the distinction of having imported the first females of the breed brought to the United States and of having exhibited the first animals of the breed at the fairs of this country. When the history of Angus cattle in America is written, Anderson & Findlay will be found to play an important part therein. They have furnished the foundation for numerous herds and high class bulls to head many herds and some of the highest priced animals of the breed sold at public auction in America, have been bred by Anderson & Findlay. The families represented in the herds are Blackbirds, Prides, Ericas, Queen Mothers, Coquettes, Lady Idas, and other famous ones, and the celebrated bulls, Imp. Basuto, Imp. Eros, Imp. Pacific, Imp. Conqueror, Imp. Monitor of Glamis, Imp. Elberfeld, Imp. Elburg, and others of note have been used in the herd. Breeders generally will be interested in this dispersion. Mr. Anderson is a very old man, residing at Lake Forest, Ill. Mr. Findlay has his entire time occupied as manager of the Capitol Freehold Land & Investment Co. and as therefore neither of the principal partners in the concern can give their time or attention to the business, a dispersion is made necessary. The farm on which the cattle are maintained is offered for sale in order to close the partnership. Particulars concerning the farm and herd can be obtained by addressing T. J. Anderson, Gas, Kans., or W. C. McGavock, sale manager, Springfield, Ill.

W. E. Epley's Poland-Chinas.

One of the good herds of Poland-China swine in Southern Nebraska is the Walnut Grove herd owned by W. E. Epley, Diller, Neb. Mr. Epley in starting his herd bought some of the best individuals he could get of the large, smooth, strong-bone families, directly or indirectly from the noted herds of John Blain and Albert Smith. When we saw this herd a short time ago we were very much pleased with the size, style and individual merit of the two herd boars and brood sows it contained. As a whole they were large, wide, smooth, and deep, with strong, wide backs and loins and well hammed, with legs and feet that will carry all the weight one can feed onto them.

In the herd boar, Blue Valley Model 44078, sired by Exception, he by Expansion Jr. by old Expansion. Mr. Epley has one of the good ones of the breed. This fellow has the size and finish when fed out to make a show sow that would be a strong competitor in the best of company. This boar is assisted by the yearling Blue Valley Grand 49273, sired by 1st Look, he by Grand Look, dam Blue Valley Look, sired by Blain's Combination. This is a very promising young hog, a large, smooth, mellow fellow with good back, loin, ham, and legs. Grand Look, the grand-sire of this yearling, as all breeders know, was one of the best show boars that ever faced a judge, winning seventeen first and champion prizes in 1906.

One of the good brood sows in this herd is Princess 106398, sired by Cyclone 2d 38660 and out of Jennie 2d 68073. This is a very large show sow and good breeder, farrowing 68 pigs in six lit-

ters. Another good brood sow is White Legs, sired by Blain's Combination 34865 and out of Chloe 87084. This is a large, blocky, typical Poland-China sow. One of the good yearling sows is Black Beauty, sired by Growthy Perfection by L. and W. Perfection, dam Mattie Hutch by old Hutch. This is a large, smooth sow that ought to feed into something fancy. Another good yearling is Blue Valley Lulla 2d 118618, sired by Exception by old Expansion.

With the individual merit and breeding in this herd Mr. Epley is producing a good lot of pigs that will be of credit to the breed as well as the breeder. Mr. Epley will have a fall sale October 28, when he will sell the choice pigs from this herd.

Watch this paper for his sale notice later on.

E. D. Morris's Poland-Chinas.

One of the good breeders of Poland-China hogs is E. D. Morris, of Bern, Kans. Mr. Morris has been breeding Poland-China hogs for a number of years and has a good breeding herd of large, smooth, strong-boned sows from the Tecumseh and Nemo L. Dude families. Some of the things a breeder will notice first in this herd is the large, smooth sows with good heads, strong, wide, arched backs and loins, with good legs and feet, the kind of sows that raise the pigs that make the money for the feeder. In the herd boar, Major Bob, sired by Major M., he by Blain's Tecumseh, Mr. Morris has a good one. He is very large and smooth, with good head and ears, wide, deep body and loin, with a long, wide ham running down to his hocks, with legs and feet that will carry all the weight you can feed onto them. With this kind of breeding animals in his herd Mr. Morris can and is producing a choice lot of pigs that are of credit to the breeder as well as to breed.

Mr. Morris will have a fall and winter sale, when he will sell the tops of his spring pigs and some mature brood sows. Watch for his sale advertisement in this paper later in the season.

Most big orchardists shy at planting early apples. Don't be scared if you have Malden's Blushes. They are in demand. Whiteker Brothers, Topeka, can scarcely be overstocked with them.

Ackenback Bros' Polled Durhams.

The best herd of Polled Durhams that we have seen anywhere in the West is owned by Ackenback Bros., Washington, Kans. The Ackenback Bros. have been breeding Double Standard Polled Durhams for a number of years. Their aim has been to produce the beef animal in its best form and in this we can say they have been successful, for the uniformity of the whole herd showed a master hand in its management.

At the head of this herd for five years was the grand bull Belvedere X27112-195058, sired by Grand Victor, the two-year-old bull that J. H. Miller sold for \$1,500 for export to South America. The Ackenback Bros. have twenty-four daughters of Belvedere in their breeding herd, so sold the old bull a short time ago to head the herd of D. C. Van Nice, of Richland, Kans. In the two-year-old bull, Belvedere 3d, a son of the old bull, the Ackenbacks have a better bull than his sire. He is long, low, wide and smooth, with a fancy head, level and wide over the loin and rump, low in flank, with long, thick quarters and solid red in color, weighing a ton. This bull is for sale because there are so many of his sisters retained in the herd. Here is a chance to get one of the good bulls of the breed at a price far less than he is worth.

At the head of this herd now is the young bull Orange Cup, sired by Golden Gauntlet. This is a very promising yearling and we believe will make one of the grand bulls of the breed. He is low, wide and smooth, with Shorthorn type and character and a very mellow handler.

With the individual merit and breeding of the cows in this herd the Ackenback Bros. are producing a high class lot of beef cattle. This farm is also the home of one of the best Berkshire herds in the West. The same judgment in selecting and mating with the proper care in feeding that was used with the Polled Durhams was used in handling the Berkshires. At the head of this herd is the boar Berkshire Bacon, a son of Lord Bacon. This is a large, long, smooth hog, with fancy

head, wide, level back and loin, good ham and legs, and what is best of all he is a good breeder. We saw some of his fall pigs that were good show pigs. The breeding sows in this herd are all from the Premier and Maron Duke families.

Parties wishing Polled Durham cattle or Berkshire pigs should write these parties when they will get good stock and just treatment.

Centralizer to Change System.

The Lincoln, Neb., News reports an important conference held in that city recently by managers of all the central stations of the Beatrice Creamery Company. Exclusive alterations in the methods of gathering cream, handling the butter product, as well as changes in equipment at both factories and receiving stations are now under advisement, the entire proposition calling for an outlay of from \$200,000 to \$300,000.

Instead of letting the agencies of the company out on a commission basis, as has been done in many localities during the past few years, it is proposed to place a salaried man at practically all receiving stations to push the interests of the company and educate the patrons in the production of butter cream, and the advantages of more frequent deliveries. One of their most important duties will be to see that the cream receives the best attention from separator to churning plant.

A Popular Auctioneer.

Col. Thos. E. Deem, of Cameron, Mo., is one of the rising young auctioneers of Missouri, and a gentleman who is meeting with a marked success along the lines of his chosen profession. He has a liberal clientele among the best breeders of his State and each successive season calls for a widening of his territory. Some few years ago Col. Deem, conceived the idea of embarking in the auction field, but before he offered his services to the breeding public in that capacity he felt the need of a thorough training in the arts and relative elements of "selling live stock at auction."

He participated in the "Jones National School of Auctioneering and Oratory" completing all the branches taught in that institution and graduated with honors from there he came back home and began his life work in the neighborhood where he was raised, the successes that he has achieved in this small sphere has attracted the attention of breeders of distant territory and they are calling for his services in their annual auctions.

Col. Deem not only possesses those qualifications acquired from study and experience, but has a natural adaptability for his work and this is one of the essentials to success in any line of human endeavor. If you have not listed your auctioneer for your coming sale it may pay you to get in communication with him and he will cheerfully give you any information with reference to his terms, dates, and experience, etc.

It has been our opportunity to attend many sales where he officiated and have observed that he invariably makes good—the fact that he can repeat is proof positive that his work is satisfactory.

Newspaper Men Banquet in St. Joseph.

On Thursday evening of last week the St. Joseph "Ad" Club gave their first annual banquet at the Hotel Metropole in that city.

There were about 200 newspaper men and guests in attendance and all seemed to have a jolly good time.

The St. Joseph "Ad" Club is composed of a bunch of real live ones whose prime purpose seems to that of boosting St. Joseph, and if there is a knocking living within the gates of that city he had better right now get down in sack cloth and ashes in repentance and promise to forever hold his peace.

Advantages of Alfalfa.

Alfalfa has again proven itself the king of drouth resisting forage plants during the exceedingly dry season just passed, which adds one more to its many claims upon the attention of the progressive stockman.

The firm of McBeth & Dallas, of Garden City, Kans., are reputable dealers in alfalfa and other field seeds and are prepared to ship vigorous seed in carload or bushel lots promptly, and will quote prices on request.

Orchardists need not be alarmed if they have a big crop of Maiden's Blush apples. There is a market for all these. Write to Whiteker Brothers, Topeka, and get full information.

PURE-BRED STOCK SALES.

Shorthorns.

- Oct. 5—A. O. Stanley, Sheridan, Mo.
Nov. 25—E. D. Ludwig, Sabetha, Kans.
Feb. 17—J. F. Stodder, Wichita, Kans.
Feb. 17—J. C. Robinson, Mgr., Wichita, Kans.

Herefords.

- Sept. 15, 16—J. F. Gulick, Jasper, Mo.
Sept. 29—Mrs. S. W. Hudson, Sibley, Mo.
Oct. 30—J. E. Wert, Clark, Mo.

Red Polls.

- Oct. 7—J. B. Davis, Fairview, Kans.

Aberdeen-Angus.

- Nov. 5—Dispersion of Anderson & Findlay herd at Iola, Kans., W. C. McGavock, Mgr., Springfield, Ill.

Poland-Chinas.

- Aug. 4—J. Hastings, Edgerton, Kans.
Sept. 3—T. P. Crabb, Moberly, Mo.
Sept. 7—Ross Bros., Otterville, Mo.

- Sept. 9—R. E. Maupin, Pattonsburg, Mo.
Sept. 10—Leslie McCormick, Laddonia, Mo., and C. D. Porter, Vandalla, Mo., at Vandalla, Mo.
Sept. 11—W. W. McKay, Laredo, Mo.
Sept. 12—Ed McDaniel, Parsons, Kans.
Sept. 22—B. F. Ishmael, Laredo, Mo.
Sept. 23—Knorr Bros., Pleasant Hill, Mo.
Sept. 24—A. K. Sell, Fredonia, Kans.
Sept. 26—J. A. Jenkins, Conway Springs, Kan.
Sept. 26—P. L. Clay, Broken Arrow, Okla.
Sept. 28—W. L. Wright, Jr., Rosendale, Mo.
Sept. 29—J. H. Harvey & Son, Maryville, Mo.
Sept. 30—B. H. Colbert, Tishomingo, Okla.
Sept. 30—W. E. Ramer & Sons, Shelbyville, Ind.

- Oct. 1—W. J. Wright, Jr., Rosendale, Mo.
Oct. 2—J. M. Devinia, Cameron, Mo.
Oct. 3—Lee Stanford, Lyons, Kans.
Oct. 3—Andrews Stock Farm, Kearney, Mo.
Oct. 5—L. D. Arnold, Enterprise, Kans.
Oct. 5—E. A. Vanscoye, Mon Ida, Kans.
Oct. 5—A. O. Stanley, Sheridan, Mo.
Oct. 6—J. M. Baker, Elm, Mo.
Oct. 7—F. E. Muller, Hamilton, Mo.
Oct. 9—Barkley Bros., Louisburg, Kans.
Oct. 9—Eli Zimmerman, Fairview, Kans.
Oct. 10—C. Crofford & Drummond, Norton, Kans.
Oct. 10—H. H. Harshaw, Butler, Mo., at Harrisonville, Mo.

- Oct. 10—N. R. Riggs, Lawson, Mo.
Oct. 10—C. D. Swain, Robinson, Kans.
Oct. 10—A. & P. Schmdtz, Alma, Kans.
Oct. 10—Smith Brooks, Clarinda, Iowa.
Oct. 12—Fred Collet, Lincolnville, Kans.
Oct. 12—E. E. Axline, Oak Grove, Mo.
Oct. 12—D. A. Moats, Polo, Mo.
Oct. 12—Andrew Johns, Rosendale, Mo.
Oct. 13—H. H. Crawford, Rea, Mo.
Oct. 13—O. E. Wade, Rising City, Neb.
Oct. 14—G. W. Allen, Tonganoxie, Kans.
Oct. 15—W. R. Webb, Bendena, Kans.
Oct. 15—M. W. Adams, Lincoln, Kans.
Oct. 15—Thos. Collins, Lincoln, Kans.
Oct. 15—G. E. Hayden & Son, Newkirk, Okla.
Oct. 15—Myers & Son, Clifton Hill, Mo.
Oct. 16—G. M. Hull, Burchard, Neb.
Oct. 17—Scott & Singer, Hiawatha, Kans.
Oct. 17—F. C. Royston, Canute, Okla.
Oct. 17—Stryker Bros., Fredonia, Kans.
Oct. 17—J. F. Burnham, Fayette, Mo.
Oct. 19—Frank Michael, Erie, Kans.
Oct. 19—W. H. Griffiths, Clay Center, Kans.
Oct. 19—Herman Groninger, Bendena, Kans.
Oct. 19—W. E. Adams, Elk Falls, Kans.
Oct. 20—L. P. Fuller, Morrowville, Kans.
Oct. 20—A. R. Enos, Lost Springs, Kans.
Oct. 20—Jno. McKerie, Dawn, Mo.
Oct. 20—J. L. Darst, Huron, Kans.
Oct. 20—Bolton & Aaron, Leavenworth, Kans.
Oct. 20—Davidson & Chrysler, DeWitt, Neb.
Oct. 21—John Blain, Pawnee City, Neb.
Oct. 21—Leon Calhoun, Potter, Kans.
Oct. 21—Jno. Blaine, Pawnee City, Neb.
Oct. 21—A. B. Hale, Cameron, Mo.
Oct. 22—W. H. Bullen & Son, Belleville, Kan.
Oct. 22—J. A. Harnes, Hamilton, Mo.
Oct. 22—T. B. Pitcher & Son, Topeka, Kans.
Oct. 23—A. P. Young, Lexington, Mo.
Oct. 23—Carl Jensen & Son, Guide Rock, Neb., at Belleville, Kans.
Oct. 23—S. W. Coleman, Sedalia, Mo.
Oct. 23—Everett Hayes, Hiawatha, Kans.
Oct. 24—T. F. Walker, Alexandria, Neb., at Fairbury, Neb.

- Oct. 24—G. L. Hurler, Coleta, Ill.
Oct. 24—J. H. Hamilton & Son, Guide Rock, Neb.
Oct. 24—Reischick, Wittrock & Wyatt, Falls City, Neb.
Oct. 24—H. T. Wray & Sons, Hopkins, Mo., at Maryville, Mo.
Oct. 26—Geo. J. Hibbs, Pattonsburg, Mo.
Oct. 26—D. S. Weil, Clay Center, Kans.
Oct. 27—C. E. Tennant, New Hampton, Mo.
Oct. 27—Logan & Gregory, Beloit, Kans.
Oct. 27—W. H. Johnston, Frankfort, Kans.
Oct. 27—Homer L. McKelvie, Fairfield, Neb.
Oct. 28—Cavett Bros., Phillip, Neb.
Oct. 28—R. E. Maupin, Pattonsburg, Mo.
Oct. 28—C. Pilcher, Glasco, Kans.
Oct. 29—F. D. Fulkerson, Brimson, Mo.
Oct. 29—Thos. F. Miller & E. J. Hays, York, Neb.
Oct. 29—Klaus Bros., Bendena, Kans.
Oct. 30—Geo. W. McKay, Laredo, Mo.
Oct. 31—F. D. Page, Orrick, Mo.
Oct. 31—J. B. Hamilton, Spickard, Mo.
Nov. 4—Henry Metzinger & B. F. Porter, Caldwell, Kans.

- Nov. 5—John Book, Talmage, Kans.
Nov. 6—C. S. Nevius, Chiles, Kans.
Nov. 6—J. E. Bower, Abilene, Kans.
Nov. 6—J. E. Summers, Clifton Hill, Mo.
Nov. 6—Kivett Bros., Burr Oak, Kans.
Nov. 7—D. C. Stayton, Blue Springs, Mo.
Nov. 9—Herbert Griffith Clay Center, Kans.
Nov. 10—N. E. Copeland, Waterville, Kans.
Nov. 10—Aytch L. Perrin, Buckner, Mo.
Nov. 10—H. H. Harshaw, Butler, Mo.
Nov. 11—J. W. Beauchamp, Bethany, Mo.
Nov. 11—J. W. & H. F. Pelphrey & Sons and Jewell Bros., at Humboldt, Kans.
Nov. 12—Schneider & Moyer, Nortonville, Kan.
Nov. 12—H. O. Sheldon, Wichita, Kans.
Nov. 12—J. R. Sparks, Hunter, Okla.
Nov. 13—Frank Zimmerman, Centerville, Kan.
Nov. 14—J. E. Bundy & S. N. Hodgson, Parkersburg, Kans.

- Nov. 14—Geo. B. Rankin, Marion, Kans.
Nov. 16—Wm. Wingate, Trenton, Mo.
Nov. 17—C. G. Mills, Pleasant Hill, Mo.
Nov. 17—R. Crowther, Golden City, Mo.
Nov. 18—Geo. F. Beezely, Girard, Kans.
Nov. 19—Leyhe & Purcell, Marshall, Mo.
Nov. 20—Sensintaffer Bros., Brookfield, Mo.
Nov. 23—F. A. Dawley, Waldo, Kans.
Nov. 24—A. P. Wright, Valley Center, Kans.
Nov. 25—F. F. Oerly, Oregon, Mo.
Nov. 25—F. G. Nies & Son, Goddard, Kans.
Nov. 26—D. E. Crutcher, Drexel, Mo.
Nov. 27—J. H. Harvey & Son, Maryville, Mo.
Nov. 28—J. D. Willfoung, Zeandale, Kans., at Manhattan, Kans.

- Nov. 28—C. T. Coates, Cleveland, Okla.
Dec. 5—G. W. Roberts, Larned, Kans.
Dec. 7—H. N. Holdeman, Meade, Kans.
Jan. 19—T. A. McCandless, Bigelow, Kans.
Jan. 21—H. H. Harshaw, Butler, Mo., at Sedalia, Mo.
Jan. 25—Frank Michael, Erie, Kans.
Jan. 27—Homer L. McKelvie, Fairfield, Neb.
Jan. 28—W. H. Johnston, Frankfort, Kans.
Feb. 3—F. G. Nies & Son, Goddard, Kans.
Feb. 4—W. W. Martin, Anthony, Kans.
Feb. 4—H. O. Sheldon, Wichita, Kans.
Feb. 9—Kivett Bros., Burr Oak, Kans.
Feb. 9—Henry Metzinger and B. F. Porter, Caldwell, Kans.

- Feb. 10—Lemon Ford, Minneapolis, Kans.
Feb. 11—C. S. Nevius, Chiles, Kans.
Feb. 12—Geo. Wedd & Son & C. S. Nevius, at Spring Hill, Kans.
Feb. 12—D. A. Wolfersperger, Lindsey, Kans.
Feb. 13—Frank Georgia, Mankato, Kans.
Feb. 17—John Book, Talmage, Kans.
Feb. 18—J. C. Larrimer, Wichita, Kans.
Feb. 18—J. E. Bower, Talmage, Kans.
Feb. 21—J. W. Hoyle, Dwight, Kans.
Feb. 24—Logan & Gregory, Beloit, Kans.
Feb. 25—H. H. Harshaw, Butler, Mo.
Feb. 25—W. A. Prewett, Asherville, Kans.
Feb. 26—C. H. Pilcher, Glasco, Kans.

- Nov. 28—C. T. Coates, Cleveland, Okla.
Dec. 5—G. W. Roberts, Larned, Kans.
Dec. 7—H. N. Holdeman, Meade, Kans.
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Jan. 21—H. H. Harshaw, Butler, Mo., at Sedalia, Mo.
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Jan. 27—Homer L. McKelvie, Fairfield, Neb.
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Feb. 21—J. W. Hoyle, Dwight, Kans.
Feb. 24—Logan & Gregory, Beloit, Kans.
Feb. 25—H. H. Harshaw, Butler, Mo.
Feb. 25—W. A. Prewett, Asherville, Kans.
Feb. 26—C. H. Pilcher, Glasco, Kans.

- Aug. 20—H. L. Stites, Pilot Grove, Mo.
Sept. 2—F. L. Bowman, Kinston, Mo.
Sept. 8—A. F. Russell, Savannah, Mo.
Sept. 10—B. W. Hale, Laddonia, Mo.
Sept. 10—Maupin & Applegate, Shelbina, Mo.
Sept. 11—C. A. Wright, Rosendale, Mo.
Sept. 11—W. R. Turner & Son, Shelbyville, Mo., at Shelbina, Mo.
Sept. 24—J. W. Taylor, Edwardsville, Kans.

- Sept. 30—John Showalter, Cook, Neb.
Oct. 1—Ditmars Bros., Turney, Mo.
Oct. 7—J. B. Davis, Fairview, Kans.
Oct. 7—W. H. Diffenderfer, Lost Springs, Kans.
Oct. 7—W. J. Tucker, Elk City, Kans.
Oct. 8—F. J. Miller, Wakefield, Kans.
Oct. 16—Lynch & Addy, at Independence, Mo.
Oct. 16—Forest Ray, Sheridan, Mo.
Oct. 17—W. J. Constant, Grant City, Mo.
Oct. 19—J. E. Ellsworth, Formosa, Kans.
Oct. 20—Sweany Bros., Kidder, Mo.
Oct. 21—E. D. Ludwig, Sabetha, Kans.
Oct. 21—T. S. Larrowe, Miltonvale, Kans.
Oct. 21—Pearl H. Pagett, Beloit, Kans.
Oct. 22—Ol Nordstrom, Clay Center, Kans.
Oct. 22—W. T. Hutchinson, Cleveland, Mo.
Oct. 23—H. G. Warren, Inland, Neb.
Oct. 23—Hopkins Bros. & Sanstead, Holdrege, Neb.
Oct. 23—J. C. Monk, Ridgway, Mo.
Oct. 26—Watts & Dunlap, Martin City, Mo., at Independence, Mo.
Oct. 27—E. S. Watson, Torney, Mo.
Oct. 27—R. B. Adams & Son, Thayer, Kans.
Oct. 27—O. N. Wilson, Silver Lake, Kans.
Oct. 28—S. A. Hands, Thayer, Kans.
Oct. 28—Grant Chapin, Green, Kans., at Manhattan, Kans.
Oct. 23—W. H. Wheeler & Sons, and W. H. Miller, Cameron, Mo.
Oct. 29—Chas. Leibhart, Marquette, Neb.
Oct. 29—G. W. Colwell, Summerfield, Kans.
Oct. 29—Geo. M. Hammond & K. S. A. C., Manhattan, Kans.
Oct. 30—Thompson Bros., Garrison, Kans.
Oct. 30—Burton Hahn, Norton, Kans.
Oct. 30—J. E. Rowe, Stockham, Neb.
Oct. 31—E. C. Gwinner, Holdrege, Neb.
Oct. 31—J. E. Jones, Clyde, Kans.
Nov. 3—E. M. Myers, Burr Oak, Kans.
Nov. 4—B. F. Porter, Mayfield, Kans., at Caldwell, Kans.
Nov. 4—H. Metzinger, Caldwell, Kans.
Nov. 5—J. F. Stodder and Marshall Bros., Burden, Kans.
Nov. 6—B. F. Roberts and Harter, Hebron, Neb.
Nov. 6—Coppins & Worley, Potwin, Kans.
Nov. 9—S. R. Murphy, Savannah, Mo.
Nov. 10—W. L. Addy & Son, Parnell, Mo.
Nov. 11—Chester Thomas, Waterville, Kans.
Nov. 11—J. W. Beauchamp, Bethany, Mo.
Nov. 13—T. I. Woodall, Fall River, Kans.
Nov. 17—L. D. Padgett & Segrist, Beloit, Kans.
Nov. 20—A. S. Alkin, Parsons, Kans.
Nov. 21—Lant Bros., Parsons, Kans.
Nov. 28—J. Harvey & Son, Marysville, Kans.
Jan. 19—Jas. L. Cook, Marysville, Kans.
Jan. 25—W. C. Whitney, Agra, Kans.
Jan. 26—Ward Bros., Republic, Kans.
Jan. 27—J. C. Logan, Onaga, Kans., at Havensville, Kans.
Jan. 28—Samuelson Bros., Manhattan, Kans.
Feb. 1—W. T. Fitch, Minneapolis, Kans.
Feb. 2—Pearl H. Pagett, Beloit, Kans.
Feb. 3—John W. Jones & Son, Concordia, Kans.
Feb. 4—J. E. Jones, Clyde, Kans.
Feb. 5—Grant Chapin, Green, Kans., at Manhattan, Kans.
Feb. 6—G. M. Hammond and K. S. A. C., Manhattan, Kans.
Feb. 9—B. F. Porter, Mayfield, Kans., at Caldwell, Kans.
Feb. 9—Thompson Bros., Garrison, Kans.
Feb. 9—H. Metzinger, Caldwell, Kans.
Feb. 10—T. E. Goethe, Leonardville, Kans.
Feb. 11—Ola Nordstrom, Clay Center, Kans.
Feb. 11—J. F. Stodder and Marshall Bros., Burden, Kans.
Feb. 12—L. E. Kretzmeier, Clay Center, Kans., at Emporia, Kans.
Feb. 13—Frank Georgia, Mankato, Kans.
Feb. 15—J. A. Rathbun, Downs, Kans.
Feb. 16—D. O. Bancroft, Downs, Kans.
Feb. 17—R. G. Bollenburger, Woodston, Kans.
Feb. 18—John W. Jones & Son, Concordia, Kans.
Feb. 18—E. M. Myers, Burr Oak, Kans.
Feb. 19—H. B. Miner and A. T. Cross, Guide Rock, Neb., at Superior, Neb.
Feb. 23—A. B. Skadden & Son, Frankfort, Kans.
Feb. 23—Wm. Sutter, Liberty, Neb.
Feb. 25—Jas. M. Wilhams, Home, Kans.

The Lincoln Top Sale Circuit.

- Oct. 5—A. Wilson, Bethany, Neb.
Oct. 6—Ford Skeen, Auburn, Neb.
Oct. 7—W. M. Putnam, Tecumseh, Neb.
Oct. 8—R. F. Miner, Tecumseh, Neb.
Oct. 9—Elmer Lamb, Tecumseh, Neb.
Oct. 10—F. C. Crocker, Filley, Neb.

Central Kansas Sale Circuit.

- Oct. 6—N. J. Fuller, Garnett, Kans.
Oct. 7—J. B. Davis, Fairview, Kans.
Oct. 7—J. F. Staudt, Ottawa, Kans.
Oct. 8—H. R. Girlich, Wellsville, Kans.
Nov. 9—C. R. Green, Spring Hills, Kans.

Southeastern Kansas Sale Circuit.

- Nov. 11—Samuel Drybread, Elk City, Kans.
Nov. 12—Frank Drybread, Elk City, Kans.
Nov. 13—J. J. Baker, Elk City, at Thayer, Kans.
Nov. 14—O. W. Simerly, Parsons, Kans.

Berkshires.

- Aug. 20—Kinlock Farm, Kirksville, Mo.
Aug. 21—C. E. Sutton, Lawrence, Kans.
Aug. 22—Missouri Berkshire Association, at Jefferson City, Mo.
Sept. 18—T. F. Guthrie, Strong City, Kans.
Oct. 15—American Royal, Kansas City, Mo.
Oct. 17—A. C. Dugan, at Blackwell, Okla.
Oct. 27—C. A. Robinson, Kirksville, Mo.

O. I. C.

- Sept. 24—Combination sale, St. Joseph, Mo., I. M. Fisher, Mgr., box K, Hastings, Neb.
Sept. 30—Combination sale, Cameron, Mo., I. M. Fisher, Mgr., box K, Hastings, Neb.
Oct. 1—Combination sale, Independence, Mo., I. M. Fisher, Mgr., box K, Hastings, Neb.
Oct. 8—Combination sale, Sedalia, Mo., I. M. Fisher, Mgr., box K, Hastings, Neb.
Oct. 10—D. C. Stayton, Blue Springs, Mo.
Oct. 13—J. E. Simpson, Sheridan, Mo.
Oct. 15—Combination sale, Independence, Mo., I. M. Fisher, Mgr., box K, Hastings, Neb.
Oct. 22—Combination sale, Hastings, Neb., I. M. Fisher, Mgr., box K, Hastings, Neb.
Oct. 27—Combination sale, Holdrege, Neb., I. M. Fisher, Mgr., box K, Hastings, Neb.
Oct. 30—Combination sale, Concordia, Kans., I. M. Fisher, Mgr., Box K, Hastings, Neb.
Nov. 4—Combination sale, Sioux City, Iowa, I. M. Fisher, Mgr., box K, Hastings, Neb.
Nov. 4—D. C. Stayton, Blue Springs, Mo.
Nov. 18—A. T. Garth, Larned, Kans.
Dec. 10—S. W. Artz, Larned, Kans.
Feb. 19—Isaac Briggs, Minneapolis, Kans.
Oct. 13—A. E. Simpson, Sheridan, Mo.
Feb. 16—J. C. Robinson, Mgr., Wichita, Kans.
Nov. 23, 24, 25—Draft breeds registered horses at Springfield, Ill., W. C. McGavock & Co., Mgr.

Bad Symptoms.

The woman who has periodical headaches, backache, sees imaginary dark spots or specks floating or dancing before her eyes, has gnawing distress or heavy full feeling in stomach, faint spells, dragging-down feeling in lower abdominal or pelvic region, easily startled or excited, irregular or painful periods, with or without pelvic catarrh, is suffering from weaknesses and derangements that should have early attention. Not all of above symptoms are likely to be present in any case at one time.

Neglected or badly treated and such cases often run into maladies which demand the surgeon's knife if they do not result fatally. No medicine extant has such a long and numerous record of cures in such cases as Dr. Pierce's Favorite Prescription. No medicine has such a strong professional endorsement of each of its several ingredients—worth more than any number of ordinary non-professional remedies. The very best ingredients known to medical science for the cure of woman's peculiar ailments enter into its composition. No alcohol, harmful, or habit-forming drug is to be found in the list of its ingredients printed on each bottle-wrapper and attested under oath.

In any condition of the female system, Dr. Pierce's Favorite Prescription can do only good—never harm. Its whole effect is to strengthen, invigorate and regulate the whole female system and especially the pelvic organs. When these are deranged in function or affected by disease, the stomach and other organs of digestion become sympathetically deranged, the nerves are weakened, and a long list of bad, unpleasant symptoms follow. Too much must not be expected of this "Favorite Prescription." It will not perform miracles; will not cure tumors—no medicine will. It will often prevent them, if taken in time, and thus the operating table and the surgeon's knife may be avoided.

Women suffering from diseases of long standing, are invited to consult Doctor Pierce by letter, free. All correspondence is held as strictly private and sacredly confidential. Address Dr. R. V. Pierce, Buffalo, N. Y. Dr. Pierce's Medical Adviser (1000 pages) is sent free on receipt of 21 one-cent stamps for paper-covered, or 31 stamps for cloth-bound copy. Address as above.

Advertisement for Dr. Miles' Anti-Pain Pills. Includes text: 'If you have Headache Try One', 'They Relieve Pain Quickly, leaving no bad After-effects', '25 Doses 25 Cents Never Sold in Bulk'. Also features an illustration of a hand holding a bottle of the pills and a hand pointing to the text 'TAKE ONE of the Little Tablets AND THE PAIN IS GONE'. A list of ailments is provided: NEURALGIA, SCIATICA, RHEUMATISM, BACKACHE, PAIN IN CHEST, DISTRESS IN STOMACH, SLEEPLESSNESS.

VARICOCELE

A Safe, Painless, Permanent Cure GUARANTEED. 30 years' experience. No money accepted until patient is well. CONSULTATION and valuable BOOK FREE, by mail or at office. DR. C. M. COE, 915 Walnut St., Kansas City, Mo.

Combination Sales.

- Feb. 16, 17, 18—J. C. Robison, Mgr., Towanda, Kans., at Wichita, Kans.
Oct. 15—American Aberdeen-Angus Association breeders' sale, at American Royal, Kansas City, Chas. Gray, Live Stock Record Bldg., Chicago, sales manager.
Dec. 1—American Aberdeen-Angus Breeders' Association combination sale at the International Exposition, Chas. Gray, Live Stock Record Building, Chicago, sales manager.



Pearl Adams is taking special work in penmanship. Eva Thompson is working in the office of the city attorney. Nellie Belt is doing stenographic work for a few days with the Orient railway.

Julia Brique is taking advanced algebra preparatory to teaching the coming fall term. Nora Rinker carried off the honors for greatest improvement in the combination course during the past month.

F. D. Carruth will leave about September 1 to take charge of the shorthand and bookkeeping departments of the Pendleton, Oregon, high school.

The penman of the school is engrossing diplomas for J. A. Patterson, Bertha Regar, L. M. Woods, Samuel Wallace, and O. C. Peck.

Among the many requests for catalogues, one day the past week, were two from Forest City, N. C., and one from Damascus, Va.

Prof. G. E. Spohn of the Madison, Wisconsin, Business College was among the callers of the past week.

We are pleased to see John Manley, a former student, again in Topeka. John has been attending school in Chicago, and will now have charge of the State Education Department of the Y. M. C. A. for Kansas.

Geo. Gillies, a graduate of the night school, now secretary of the Cyphers Company, Buffalo, N. Y., at a salary of four thousand dollars per year, has been visiting relatives in Topeka.

Adolph Nattsen, accountant with the C. R. I. & P. R. R., Chicago, Ill., called the past week and reports a substantial advance in salary. Nattsen was a good student and deserves favors.

M. A. Albin, who some time ago took a position as instructor with the Walker-Behnke Business College of Portland, Oregon, is considered the most popular teacher in that large school.

Kenneth Anderson, stenographer for the Consolidated Steamship Lines of New York City, while on his vacation a few days ago stopped in Topeka to see old school friends. Kenneth has held positions in four of the largest cities in the United States but likes New York best of all.

Four requests for students to take positions were received in one forenoon of the past week. From the Gavitt Medicine Co., the Mail and Breeze, the Capital Iron Works, and the Business Specialty Co. These places were filled respectively by Edward Brunt, bookkeeper, Nora Williams, stenographer, Jennie Courter, stenographer, and Cora Emery, stenographer.

Other students who have recently taken positions in the city are: James Patterson, bookkeeper Gustafson Plumbing Co.

Bessie Sawyer, stenographer and clerk Capital Building & Loan Co.

Lee Woods, bookkeeper and clerk, Edison Light, Heat and Power Co.

Ida Travis, head bookkeeper Peoples Ice Co.

Wm. Crow, stenographer Otto Kuehne & Co.

Gladys Rogan, stenographer Smith Automobile Manufacturing Co.

Gus St. Louis, clerk Santa Fe General offices.

Ethel Pollard, stenographer Secretary A. F. & A. M.

Chas. Thompson, stenographer and ticket seller, Santa Fe depot.

E. G. Witter, collector Remly Lumber Co.

Chas. Bowles, bookkeeper, Santa Fe offices.

L. C. Elliott, clerk Santa Fe General offices.

Floy Higgins, stenographer Wheeler Hardware Co.

Faustema Painter, bill clerk Smith Trust Mfg. Co.

John Meeks, clerk Santa Fe General offices.

Lucy Mills, bookkeeper People's Ice Co.

Julia Mueller, stenographer W. A. Taylor & Co.

Clyde Kilmer, clerk Santa Fe general offices.

Herman Morse, stenographer Santa Fe offices.

Trudie Hogeboom, bill clerk Mills Dry Goods Co.

Ella Sage, bookkeeper Topeka Cold Storage Co.

Conrad Heere, stenographer and clerk Shawnee Fire Insurance Co.

Clifford Hatfield, clerk Santa Fe offices.

J. Ditto, clerk Santa Fe offices.

John Jolly, stenographer Gavitt Medical Co.

John Pearl, clerk Santa Fe General offices.

Samuel Root, clerk Santa Fe general offices.

Pat Browne, stenographer Square Deal Real Estate Co.

Cora Thomas, bookkeeper Peoples Ice Co.

T. P. Sage, clerk Santa Fe general offices.

Table with columns: Open, High, Low, Closed, and sub-columns for WHEAT and CORN.

WHEAT—Receipts past 48 hours, 653 cars; shipments, 196 cars. Receipts same time last year, 190 cars; shipments, 54 cars.

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Poland-Chinas AT AUCTION Edgerton, Kans., Tuesday, August 4. 45 RICHLY BRED ONES 45. By champion and prize-winning sires of the breed; 14 proven sows, that are extra good ones—2 of these are by Meddler, 1 by Corrector 2d, 1 by Keep On, 1 by Top Roller, 1 by Top Chief, 2 by Take Warning.

LAND BARGAINS IN TEXAS AND ELSEWHERE. 25,000 acres in Pan Handle country at \$8.00 to \$20.00 per acre. 22,000 acres in South Texas consisting of rice, cotton, sugar-cane, and all kinds of fruit lands at \$15.00 to \$25.00 per acre.

Special Want Column

"Wanted," "For Sale," "For Exchange," and small want or special advertisement for short time will be inserted in this column without display for 10 cents per line of seven words or less per week.

CATTLE

ALYSDALE SHORTHORNS—Offer 2 bulls, 10 females. The bulls are "Lothair," by Prince Consort, dropped August 21, 1907, and "Sylvester," by Prince Consort, dropped September 2, 1907.

HORSES AND MULES

FOR SALE—At the Topeka fair grounds on Saturday, August 1st, 10 head of choice bred driving horses. One Kentucky bred jack, and one imported Percheron stallion.

SWINE

FOR SALE—A few very choice Poland-China fall boars in good breeding condition. F. A. Tripp, Meriden, Kans.

SEEDS AND PLANTS

PURE BRED SEED WHEAT—Karkoff and Malakoff. Varieties giving the heaviest yields. Seed bought from Manhattan Experiment Station, 1908. Recleaned and sacked, \$1.50 per bushel.

MISCELLANEOUS

SHEPHERD DOGS FOR SALE—Have a choice lot of well bred puppies. Prices right Mrs. A. E. Harness, Speed, Cooper Co., Mo.

WANTED TO BUY—New crop Meadow Fescue or English Blue Grass seed. If you have any to offer, please correspond with us. The Barteldes Seed Co., Lawrence, Kans.

PURE "REARDED FIFE" seed wheat, grown on sod. Inquire of Wallace Gibbs, Kinsey, Kans.

WANTED TO BUY—New crop Meadow Fescue or English Blue Grass seed. If you have any to offer, please correspond with us. The Barteldes Seed Co., Lawrence, Kans.

NEW HONEY—Fancy, \$10 per case of two 60-pound cans. A. S. Parson, Rocky Ford, Colo.

JOB PRINTING—Write us for prices on anything in the job printing line. Address B. A. Wagner, Mgr., 625 Jackson Street, Topeka, Kans.

TYPEWRITER—LATEST MODEL OLIVER. Used less than a month. Good reason for selling. A bargain at \$65. Address, J. L. Allen, Topeka, Kans.

reluctant to turn them loose while there is a prospect of adding to the weight. The market to-day is unevenly lower on steers again, caused mainly by a heavy run at Chicago to-day, and lower prices there. The supply of quarantines here is light, and is not a factor in depressing the market.

The Kansas City Live Stock

Kansas City, Mo., July 27, 1908. The cattle market continued to soften last week, in spite of moderate receipts, grass killing steers getting most of the decline, feeders a quarter lower, while fed steers held nearly steady.

THE MARKETS

Kansas City Grain and Produce

Kansas City, Mo., July 27, 1908. It was fairly active in the grain pit to-day, but the market was bearish. Better weather in the Northwest and good receipts of wheat at all the leading Western markets and weaker cables caused a general disposition to sell.

REAL ESTATE

LAND FOR SALE—Three upland farms in Jefferson County. One highly improved. Also wheat land in Gove county. J. F. True, Perry, Kans.

MR. FARMER AND BUSINESS MAN—List with us your farms, ranches, merchandise, hardware, drug stock, rental and city property, mills and elevators, lumber yard, heavy barn, horses, cattle, mules. Anything you may have to sell or trade, list with us. We advertise you—stuff and get you a quick deal. Send full description with first letter. The Western Exchange Co., El Dorado, Kans.

CASH FOR YOUR REAL ESTATE OR BUSINESS

no matter where located. If you desire a quick sale send us description and price. NORTHWESTERN BUSINESS AGENCY, R. 312 Bank of Commerce Bldg., Minneapolis, Minn.

SAY—If you want to buy a model farm home that will feed your family regardless of dry or wet weather, or floods, write, F. L. Williams, Agrícola, Kans.

FINE alfalfa, wheat and stock farms for sale. Circular free. Warren Davis, Logan, Kans.

FARMS for sale in Catholic community; \$25 per acre and up. Ed George St. Paul, Kans.

TWO HOMES CHEAP—180 good improvements, bottom, timber, orchard, alfalfa, route, phone; price \$6500. 200 acres improved, smooth, 180 cultivated, land and location good. Garrison & Studebaker, McPherson, Kans.

"Do You Want to Own Your Own Home?" If so write for catalogue to Hurley & Jennings, Emporia, Kans.

QUARTER SECTION of fine land in Sherman County, close to Goodland, to trade for part horses, cattle or mules. T. J. Kennedy, Osawatie, Kans.

WRITE J. D. S. HANSON, HART, MICH., for best list of fruit, grain and stock farms.

SELL YOUR REAL ESTATE

quickly for cash; the only system of its kind in the world. You get results, not promises; no retaining fees; booklets free. Address, Real Estate Salesman Co., 488 Brace Block, Lincoln, Neb.

MISSOURI FARMS FOR SALE

Everman has a farm for every man. Write for description and price list.

John W. Everman, Callatin, Mo.

ALFALFA GRAIN and STOCK RANCH

With cattle and ranch equipment or separately at a bargain price. 1200 acres, well located and improved. 2-story, 9-room house, large cattle barn, 1000 horse and horse barn with feed lots, scale, and numerous hog and poultry houses. 400 acres in cultivation, 80 acres alfalfa. Two-thirds of this ranch is alfalfa land. Abundant living water. Good orchard. All fenced and cross fenced. 20 acres alfalfa hog tight. One and one-half miles from R. H. town. Big corn and wheat market. \$17.50 per acre for quick sale of land. 250 head of cattle.

S. P. LANGLEY, Owner, Morland, - - - Kans.

Stray List

Week Ending July 16. Stafford County—J. B. Kay, Clerk. COLT—Taken up by J. F. Stuck in St. John city, one yearling bay horse colt. Left hind foot white valued at \$30.

For Week Ending July 30. Greeley County—Curtis Major, Clerk. MARES AND COLT—Taken up May 12, 1908, by A. Dyberg, in Colony, two small brown mares and a colt; no marks or brands visible; valued at \$35.

STALLION—Taken up by the above on same date, one small bay stallion, white spot in forehead; valued at \$25.

move freely, and a good many stockers and feeders are included, at \$3@4.40. Oklahoma feeders sold to-day at \$4, light weights. Shipments to the country last week amounted to 300 carloads, and this trade will grow each week from now on. Hog prices declined 20c last week, under

the influence of a determined bear campaign by the packers and in spite of moderate receipts. The run is 4,000 head to-day, market about steady at the close, after falling weaker a part of the session. Speculating reasons are given for the attitude of packers, together with the increasing portion of grassy stuff included, which they claim has been selling too close to good hogs. Heavy weights still lead, although shippers have also paid top price for good, medium weight butchers. Top to-day is \$6.50, bulk \$6.30@6.45, light weights up to \$6.40, which prices are about a quarter higher than at this time last year.

The mutton market lost the first half of last week, but regained a part of the loss last two days, closing a quarter lower for the week. Supply is 4,000 head to-day, market stronger, top lambs \$6.25, with fancy lambs quotable at \$6.40, wethers to-day at \$4.50, ewes \$4.25, stock and feeding sheep \$3@4. The market appears healthy, and quickly responds from any depression under reduced supplies.

J. A. Rickart.

South St. Joseph Live Stock.

South St. Joseph, Mo., July 27, 1908.

The cattle movement as indicated by receipts at Western markets is not large but is apparently fully up to all demands of the beef trade. The supplies are now coming largely from the ranges of the West and Southwest and the proportion of fully fed, fat beef cattle from corn belt sections is historically light. The market is not in satisfactory condition to the selling interests, and prices have been working lower rapidly during the past ten days. Declines within this time have amounted to 30¢@50¢ and have fallen with full force upon everything outside of the very best grades of fed natives. However, in comparing prices now with those prevailing at the high time of the spring account should be taken of the fact that the trade is getting a different class of cattle at present and pound for pound on the hoof they are not worth as much as they were two months ago. This market is getting scarcely any full fed native steers, the bulk being fed on grass and having to sell considerably under strictly dry fed grades. Fed steers here are selling largely at \$5.75@6.50, while fully fat kinds would sell readily at \$7@7.50. Cows and heifers are selling largely at \$3@3.75. Calves are high, choice veals selling up to \$6.50. There is but little trade in stockers and feeders but there is a fair demand for right good kind and there should be some increase in call for this class of cattle from now on.

Hog supplies continue fairly liberal as to numbers, but is running short in weight. The market has been of a saw-saw character of late and seems to be following in the appearance at present of being a manipulated market. Fluctuations in prices are quite sudden and wide 10¢@15¢ variations from day to day having been common in the last two weeks. While prices may look high to the buying interests and the consumer, they are not relatively high compared with the cost of feed to the producer. Ordinarily this season of the year would see light weights of good quality selling at a premium, but there is a marked scarcity of fully finished strong weights, and an unusual proportion of unfinished light; hence, the smooth medium and heavy weights continue to sell at a premium. On to-day's market the bulk of hogs sold at \$6.25@6.35 with tops at \$6.40.

The arrivals of sheep at this point continue very light, and in fact are not seasonably heavy at any of the markets. Prices have been showing a strength turn of late and with the coming on of the season for filling feedlots it is possible that the demand for good fat muttons may be such as to cause further strength in prices. The feeder demand is still somewhat problematic and it appears that prices must be much lower than last fall if there is to be the big demand for lambs to go back into feedlots.

WARRICK.

DUROC-JERSEYS

DEEP CREEK DUROCS (Spring pigs, either sex, noted families of the breed. Up-to-date Durocs at prices to move them. C. O. Anderson, Manhattan, Kas.

STROH'S HERD OF DUROC-JERSEYS
70 spring pigs for sale, mostly sired by Hogate's Model, the sweepstakes boar at Nebraska State Fair, 1906 and out of popular breeding dams. Correspondence solicited.
J. STROH, R. 4, De Witt, Neb.

GEO. KERR'S DUROCS.

Pigs for sale sired by such boars as Lincoln Chief, Leader, Lincoln Top. Out of dams from the Improver 26, Proud Advance, Top Notcher, Wonder and Ohio Chief families.
R. R. 3, Box 90, Sabetha, Kas.

MADURA DUROCS.

BROOD SOWS—Some fine brood sows bred to Major Roosevelt and Miller's Nebraska Wonder, he by Nebraska Wonder.
FRED J. MILLER, Wakefield, Kas.

Vick's DUROCS are bred for usefulness. Choice young stock for sale by such great boars as Vick's Improver 4785, Red Top 3224, Fancy Chief 24923 and other noted sires. Correspondence invited. Visitors coming to Junction City and telephoning me will be called for. W. L. VICK, Junction City, Kas.

SPRING CREEK HERD DUROC-JERSEYS
75 choice spring pigs of both sexes for sale, by 7 noted sires and out of popular breeding dams. Tried sows and gilts bred to farrow in August and September. Boars in service, Raven's Pride 63145 and Nordstrom's Choice 76741. Ola Nordstrom, Clay Center, Kas.

GAYER'S DUROCS: 36 choice fall gilts and 14 topsey fall boars by Golden Chief, a good son of Ohio Chief. These will be sold cheap to make room for my spring crop. Also 1 good yearling boar, \$25.
J. H. GAYER,
R. R. 1, Cottonwood Falls, Kas.

Fairview Herds—Durocs, Red Polls
20 high grade Red Polled cows and heifers, 40 Duroc-Jersey swine, mostly males, will be sold at my fall sale on October 7, 1908. Nothing for sale now. Stock doing fine.
J. B. DAVIS, Fairview, Brown Co., Kas.

WOOD'S DUROCS

Good hogs are good property now. Don't you want some? A few boars and gilts of 1907 crop. Nice lot of spring pigs just right age and weight to ship.
W. A. WOOD, - - Elmdale, Kas.

DUROC-JERSEYS

PEERLESS STOCK FARM

DUROC-JERSEY HOGS FOR SALE.
R. G. SOLLENBERGER, Woodston, Kas.

Howe's DUROCS. 100 early spring pigs, the best I ever raised. Improver, Top Notcher, Sensation and Gold Finch blood lines. Call or write.
J. U. HOWE,
Wichita, Kas.

DEER CREEK DUROCS

100 pigs of March and April farrow by sons of Ohio Chief, Tip Notcher and Kant Be Best. Ready for shipment after July 1.
BERT FINCH, Prairie View, Kas.

Jackson's Durocs

Special Bargains in fancy, well grown spring pigs, both sexes, and choice fall males richly bred; 2 of these are double cross Ohio Chief. Also 1 good herd boar, a grandson of Desoto 15155. 2 extra good registered Shorthorn bulls for sale.
O. L. JACKSON, New Albany, Kas.

SPECIAL!

I have a car of long yearling bulls, a car of bull calves, a car of yearling heifers and a car of heifer calves for sale. These cattle are all in good growing condition and are mostly reds. They were sired mostly by Baron Ury 2d 124970, Bold Knight 17064 and Headlight 2d 248806.
C. W. Taylor, R. 2, Enterprise, Kas.

K. & N. Herd Royally Bred Duroc-Jersey Swine

Have a few gilts that I will sell at reasonable prices, bred for April farrow. Also a few fall boars of September, 1906, farrow. Write for prices and description.
R. L. WILSON, Chester, Neb.

CHESTER-WHITES

CLOVER RIDGE CHESTER WHITES
Choice pigs from the Garnett and Captain families. The large smooth strong boned, easy feeding kind. Correspondence solicited.
E. S. CANADY, R. R. 2, PERU, NEB.

OHIO IMPROVED CHESTERS

Ninety pigs of February and March farrow, and sixteen fall boars and gilts. The large deep smooth bodied strong boned easy feeding kind. I pay express, and ship on approval.
N. R. ROGERS, PERU, NEB.

Closing Out Herd O. I. C.

Including two champion herd boars. Tried brood sows and choice bunch of spring pigs ready to ship. Write for prices. Correspondence solicited. John Cramer, Beatrice, Neb.

O. I. C. SWINE

Fall boars and gilts, also spring pigs. They are bred right and will be priced right. Let me know your wants. S. W. ARTZ, Larned, Kas.

O. I. C. BARGAINS

Bred sows and gilts all sold. Have a fine bunch of spring pigs for which I am booking orders. Write your wants and get prices.
W. S. GODLOVE, Onaga, Kas.
Prop. Andrew Carnegie-herd-O. I. C. swine.

BERKSHIRES

MAPLE HEIGHTS HERD BERKSHIRES

Kansas Longfellow, champion Nebraska State Fair, 1907, and Berrington Boy in service. Have some choice sows and gilts bred for fall litters, for sale. Nice lot of spring pigs to choose from. Write me. J. M. Nielson, Marysville, Kas.

Ridgeview Berkshires

—FOR SALE—
One aged and one yearling boar, and spring pigs of both sexes
MANWARING BROS.,
Lawrence, Kansas

Guthrie Rancho Berkshires

The Guthrie Rancho Berkshire herd, headed by Berrington Duke, assisted by Revelation, General Premier and Sir Ivanhoe (all three winners). Berkshires with size, bone and quality. Individuals of style and finish. You will find our satisfied customers in nearly every state in the Union.
T. F. GUTHRIE, Strong City, Kas.

Knollwood Berkshires

Headed by Pacific Duke-56691, dam Marjorie 37491 by Baron Duke 284 50000, a son of Baron Lee 4th, the sire of Lord Premier and Dutchess 120th 28675, grand dam of Premier Longfellow. Stock of all ages for sale. All stock guaranteed as represented.
E. W. MELVILLE, Eudora, Kas.

HORSES AND MULES

ROBISON'S PERCHERONS

FOR SALE—Two extra good 2-year-old stallions; and some good young mares bred to Casino.

J. C. ROBISON, Towanda, Kas.

BERKSHIRES

King's Berkshires

Have weight, quality and constitution developed by rustling for the best pork producing food on earth, alfalfa and blue-grass, supplemented with a light ration of grain and millfeed. They are bred right, and best of all they are priced right. Write for anything in Berkshires to,
E. D. KING, Burlington, Kas.

POLAND-CHINAS

CENTER GROVE POLANDS

Choice well grown fall yearling gilts, sold bred or open. Also early spring, both sexes. Stock guaranteed and richly bred. Prices reasonable.
J. W. Peiphrey & Son, Humboldt, Kas.

Stalder's Poland-Chinas.

I have pigs for sale from the leading strains of the country. Prices reasonable. Write for full particulars.
O. W. STALDERS, Salem, Neb.

KEEP ON PRINCE

by Keep On; dam, Sweet May by Chief Perfection 2d; now owned jointly by R. A. Stockton and J. M. Devlin. An 800-pound boar in show flesh. The get of this boar will be the feature of our fall sale at Cameron Mo., October 2. R. A. Stockton, Lathrop, Mo.; J. M. Devlin, Cameron, Mo.

SUNFLOWER HERD.

POLAND-CHINAS—Herd boars, Meddler's Defender (119147) by Meddler (99999), dam Excitement (289586) by Corrector (63379); Allen's Corrector (128618) by Corrector (63379), dam Sweet Brier (261780) by Chief Perfection 2d (42559); Kansas Chief (126983) by Chief Perfection 2d (42559), dam Corrector's Gem (250720) by Corrector (63379). G. W. Allen, Route 4, Tongonoxie, Kas.

FAIRVIEW STOCK FARM.

Special bargains in choice Poland China gilts, sold bred or open, and a few extra fall boars by prize winning sires. Fall sale September 24.
A. K. Sell, Fredonia, Kas.

JONES' COLLEGE VIEW POLANDS.

Several first class boars that are herd-headers; from 6 to 12 months old. Prices reasonable.
W. A. JONES & SON, Ottawa, Ks.
Formerly at VAN METER, Ia., and breeders of CHIEF TECUMSEH 2d.

JOHN BOLLIN,

Route 5, Leavenworth, Kas.
Breeds and Sells Popular Poland-Chinas
The State and World's Fair winning boars, Nemo L's Dude and The Piquet, in service. Bred sows and serviceable boars for sale.

Highview Breeding Farm

Devoted to the Raising of
Big Boned Spotted Poland-Chinas
The biggest of the big. The prolific kind. Big bones, big hams, big spots. Young stock for sale.
H. L. FAULKNER, Prop., - Jamesport, Mo.

ABERDEEN-ANGUS

10 FANCY ANGUS BULLS 10

Blackbirds, Heatherblooms, Drumlin, Lucys Minas and other popular families. 15 long yearling bulls, suitable for farm use or ranchmen at bargain prices. A few choice heifers and cows with calves at foot, some bred to Champion 1to.
SHROPSHIRE SHEEP.
Early spring Shropshire ram lambs, sired by Imp. English rams and from choice Canadian ewes. Dandies.
SUTTON FARM, Lawrence, Kas.
Visitors always welcome. Phone us to meet you.

SHORTHORNS

Stewart & Downs,

SHORTHORNS.
1 BULL—SCOTCH TOPPED, of serviceable 1 BULL age, with plenty of bone and finish, also a few choice heifers. Chief herd bulls: Forest Knight by Gallant Knight and Victor Archer by Archer. Prices reasonable. Call or write
Stewart & Downs, Hutchinson, Kas.

HORSES AND MULES

Mules For Sale

30 average 3-year-old mules for sale.
JOHN B. GREER, - - Marion, Kas.

PIKE COUNTY JACK FARM

Largest importer and breeder of Mammoth Jacks in the United States. Every stall in my barn has a big Mammoth Jack, 15 to 17 hands high, 1000 to 1200 lbs.; that I will sell on one and two years time to responsible parties. If my Jacks are not just as I represent them I will pay all railroad expenses.
J. UKE M. EMERSON, Bowling Green, Mo.

HOLSTEIN-FRIESIANS

Rock Brook Holsteins

Special offer on three bulls ready for service. Grandsons of world's champion, Farcasio Lad. Also a few younger bulls at very low prices. Correspondence solicited. 100 head in herd.
ROCK BROOK FARM,
Henry C. Glassman, Prop. Sta. B,
OMAHA, NEBRASKA.

East Side Dairy Farm Holsteins

Now offers three or four choice registered cows; an opportunity for someone wanting foundation stock to start a herd. Also a few choice bull calves 4 to 5 months. Prices reasonable. Address F. J. Searle, Okaloosa, Kas.

BRAEBURN HOLSTEINS AND BERKSHIRES.

A few bargains in bull calves. Some choice bred spring pigs and boars ready for service. H. B. Cowles, Topeka, Kas. Ind. Telephone, 1096.

Holstein-Friesian Cattle

Herd headed by Sir Johanna Aagge Lad 34964. His four nearest dams averaged 85.9 lbs. milk one day, 23 6 lbs. butter seven days, 17.824 lbs. milk one year, 727 lbs. butter one year. He is assisted by Calantha Karnlike 47877, dam Colantha 4th's Farcasio, A. R. O., 21.13 lbs. butter in seven days as senior 2-year-old, by Farcasio Lad, out of Colantha 4th, dam of the world's record cow—27,482 lbs. milk one year, 1,247.82 lbs. butter one year. Correspondence solicited. B. L. Bean, Cameron, Mo.

JERSEYS

LINSCOTT'S JERSEYS

Established 1878. Registered in A. J. C. C.
BULLS—In The Kansas Farmer for May 28, is an article on Pure Bred Dairy Cattle for Kansas READ IT. I am offering registered Jersey bulls of excellent individual quality and carrying the blood of the greatest Jerseys in the world. Price \$50. They cannot be duplicated anywhere. A number to pick from. Tabulated pedigrees and descriptions sent for the asking.
E. J. LINSCOTT, Holton, Kas.

JERSEY Cattle O. I. C. Swine

One 4-year-old St. Lambert Jersey bull, tracing to Princess 2d, with butter record of 46 lb. 12 1/2 oz. Also choice young stock both sexes. O. I. C.'s, both sexes, all ages, at right prices. T. O. Brown Reading, Kas.

HEREFORDS

Maplewood Herefords

5 bulls, all tops, from 12 to 16 months old; and a few choice females, by the 2400-pound Dale Duplicate 2d, son of the great Columbus. Stock guaranteed. Prices reasonable. A. Johnson, Clearwater, Kas.

POLLED DURHAMS

Polled Durhams

FOR SALE.
A choice lot of young Double Standard Polled Durham bulls by Kansas Boy X2585, S.H.197989, Senator X5940, 283005 and the grand bull, Belvedere X2712, 195058. Inspection invited.

D. C. VanNice, -:- Richland, Kas.

RED POLLS

LUBURN HERD OF RED POLLED CATTLE

Herd now numbers 115 head. Young bulls for sale.
GEO. GROENMILLER & SON,
Route 1, Pomeroy, Kas.

Red Polled Cattle, Poland-China Swine.

Best of breeding. Write or come and see.
Chas. Morrison & Son, R. 2, Phillipsburg, Ks.

Foster's Red Polls.

Some choice young bulls and heifers, also a few good cows for sale. Prices reasonable.
CHAS. FOSTER & SON, Eldorado, Kas.

LET US TELL YOU THE STORY OF Old Caney Valley

THE RICHEST REGION IN THE TEXAS GULF COAST COUNTRY
An Alluvial River Bottom Built Up By a Mighty Stream—Twenty to Forty Feet of Soil—Never Overflows

IF you are a progressive farmer, and appreciate soil fertility and productiveness and the opportunities which come for money making, with the biggest possible yield of salable produce to an acre of land, then you will be interested in talking to us about this splendid old river basin, which we are placing on the market, in a general way, for the first time in all its history.

Caney Valley is a strip of land approximately seventy-five miles long by ten miles wide, with its south opening at the Gulf of Mexico, between the Colorado and Brazos Rivers. It was formerly the bed of the Colorado, but through ages of successive overflows, the valley and river banks were built up to such a height that the water of the stream could no longer find an outlet there, and the river cut a new channel miles away, leaving here a spot of wonderful soil fertility, untroubled by freshets and overflows, and giving all the benefits and advantages of a river bottom without any of its disadvantages.



Caney Valley Corn—It Yields 50 to 80 Bushels Per Acre, and You Can Grow a Crop of Potatoes or Some Other Profitable Crop After Your Corn is Harvested.

SOIL 20 TO 40 FEET DEEP.

The soil throughout the Caney Valley is 20 to 40 feet deep. It is as rich as any other valley soil on earth. It is free from gumbo or wax, is easily worked, and if properly tilled, yields enormously every season. It produces a most wonderful profusion of crops, and it has been successfully tested in more varieties of farm products than any other land in America.

CLIMATE UNEXCELLED.

The Caney Valley climate is not equaled in any other State in America, and is unexcelled in the Gulf Coast. The growing season is twelve months long. The winters are never cold, the thermometer seldom reaches the freezing point, while the summers are so tempered by the Gulf breeze that they are always pleasant, and an industrious man can work the season through without discomfort. The climate is healthful in the extreme and free from consumption, pneumonia, catarrh, and all similar troubles which are so frequently met with in the colder States.

DEVELOPMENT HAS BEGUN.

Within the last ten years a number of plantations have been improved, however, and they now present to the visitor the most striking evidence of the possibilities of Caney Valley. Progressive farmers have made fortunes in a few years in this wonderfully productive region.

There are a dozen or more plantations now being operated in the valley on thoroughly modern lines, comprising areas of from 1,000 to 3,000 acres each, and their owners are netting \$50 to \$100 per acre per year for every acre cultivated.

WHAT CANEY LAND WILL GROW.

Caney Valley land will produce successfully corn, cotton, sugar cane, potatoes, cow-peas, alfalfa, fruits, melons, onions, truck of all sorts, pecans, English walnuts, and, in fact, practically any product that can be grown inside the boundaries of the United States, and the yield will be greater and cost of production less than anywhere else. Corn, under proper cultivation, will yield from 50 to 80 bushels per acre, and after harvesting a crop of corn a crop of potatoes or some other profitable crop can be grown on the same ground in the same season. Alfalfa will yield six to ten tons per acre, and will sell from \$14 to \$18

per ton, while hogs and other live stock can be grown and put into market condition on alfalfa pastures at a cost lower than in any other section of the United States. Cotton will yield one to one and one-half bales per acre, and will sell for \$50 per bale each year. Sugar cane will yield a net profit of \$25 per acre with one planting in two to five years. Potatoes will yield 100 to 150 bushels per acre, and you can grow two crops per year and give the soil two months in which to rest. All the fruits and trucks can be grown with handsome profits, while pecans and other nuts yield crops of wonderful values.

BUY OLD CANEY LAND AT \$25.00 TO \$40.00 PER ACRE.

We are anxious to tell you more about this wonderfully rich region, and if you will write us, telling us what features interest you most, we will give you more information and send you descriptive literature. Fill out the coupon and mail to-day.

Address all Correspondence to

GRAY REALTY CO.,

Southern Office,
EAGLE LAKE, TEXAS,
Herbert Hurd, Mgr.

202 Century Building,
KANSAS CITY, MO.

CUT OUT COUPON AND MAIL TO-DAY.

GRAY REALTY COMPANY,
Century Bldg., Kansas City, Mo.

I am interested in Caney Valley. Please send me descriptive literature and advise me when the next homeseekers' Excursion will leave Kansas City.

Name.....
Town..... State.....

SHORTHORNS

TENNEHOLM SHORTHORNS.
Herd headed by the Dutchess of Gloster bull, Gladiator 261035 and Sainey 275678, a Cruickshank Butterfly. Cows of Scotch and Scotch topped Bates breeding. 1 yearling Barmpton bull (a good one) for sale. Will make tempting prices on a few females. E. S. Myers, Chanute, Kans.

PONY CREEK HERD OF SHORTHORNS.

Herd headed by the Scotch bulls, Sybils Viscount 253398 and Bashful Conqueror 2d 251506. The cows in this herd are mostly Scotch or Scotch topped from the popular and well known families such as the Victorias, Phyllis, Cowslip and Young Marys. Young bulls and heifers from this mating for sale. Correspondence solicited. Visitors always welcome, for it is a pleasure to show stock.
E. D. LUDWIG, Sabetha, Kans.

Prospect Farm Shorthorns

The oldest Shorthorn breeders in Kansas. The largest herd of Cruickshanks in Kansas. Herd headed by Violet Prince 145647 and Orange Commander 220890. Young stock of both sexes and some cows for sale. Quality and prices right.

H. W. McAFEE,
Bell Phone 59-2. Topeka, Kansas

SHORTHORNS

New York Valley Shorthorns and Berkshires
A large number of my Shorthorns must be sold before winter to make room; including my calves sired by Baron Rupert 242287 ranging in age from 6 to 20 months old. And have for sale sows bred to Field Marshall and Lee's Masterpiece, and boars of serviceable age; also 110 May and June pigs to pick from. Come and select your show stock, or write J. T. Bayer, Yates Center, Kans.

Greendale Stock Farm

25 YOUNG BULLS by Imp. Ardathan Mystery and Best-of All for sale at bed rock prices. Can also offer some good Berkshire swine and Shropshire rams. Correspondence solicited.
COL. ED GREEN, Prop.,
Florence, Kan.

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JAS. W. SPARKS
Live Stock Auctioneer
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Twenty Years selling all breeds.

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A specialty of Pure Bred Live Stock sales. My charges are moderate. Dates upon application.

JOHN BRENNAN
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My life work has been breeding and selling pure-bred stock.

Jas. T. McCulloch,
Live - Stock - Auctioneer
Clay Center, Kansas.

I am making a study of your herd and best interests from a public sale standpoint. I am conducting sales for many of the best breeders in Northern Kansas and want to make your next sale. Selling pure-bred live stock at auction is my business.

AUCTIONEERS

D. B. ROGERS,
Live Stock Auctioneer.
Brookfield, - - - - - Missouri
Am now booking dates for the coming season. Write or wire me for same. Also a breeder of Ducroc Jersey hogs and Hereford cattle.

L. R. Brady,
Live - Stock - Auctioneer
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R. L. HARRIMAN
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