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KANSAS FARMER.

Established in 1863.

Published every Thursday by the
KANSAS FARMER CO., - - TOPEKA, KANSAS

E. B. COWGILL.....President
J. B. MCAPHER.....Vice President
D. C. NELLIS.....Secretary and Treasurer

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E. B. COWGILL.....Editor
J. B. MCAPHER.....Associate Editor
H. A. HEATH.....Advertising Manager

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ADVERTISING RATES.

Display advertising, 15 cents per line, agate (fourteen lines to the inch). Continuous orders, run of the paper, \$1.54 per inch per week.

Special reading notices, 25 cents per line. Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per agate line for one year.

Annual cards in the Breeders' Directory, consisting of four lines or less, for \$16.00 per year, including a copy of the Kansas Farmer free. Special rates for displayed live stock advertising.

Special Want Column advertisements, 10 cents per line of seven words per week. Cash with the order. Electrotype must have metal base.

Objectionable advertisements or orders from unreliable advertisers, when such is known to be the case, will not be accepted at any price.

To insure prompt publication of an advertisement, send cash with the order; however, monthly or quarterly payments may be arranged by parties who are well known to the publishers, or when acceptable references are given.

All advertising intended for the current week should reach this office not later than Monday. Every advertiser will receive a copy of the paper free, during the publication of the advertisement.

Address all communications to
KANSAS FARMER CO.,
116 West Sixth Ave., Topeka, Kans.

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The American Hereford Record, Vol. XXVII, is received. It contains entries 185,001 to 205,000 inclusive, with illustrations of prominent representatives of the breed.

A neat booklet on "Alfalfa Growing" by F. S. White, is published by the Frisco System, St. Louis, Mo. It will pay to send a postal card and get a copy of this and other agricultural and horticultural literature published by the Frisco Company.

The commercial value of railway operating property in the United States, computed by the Census Bureau, for the year 1904, was \$11,244,852,000. Pennsylvania ranks first among the several States with a valuation of \$1,420,608,000. New York is second; Illinois, third; Ohio, fourth; Minnesota, fifth; Indiana, sixth, and Kansas is seventh with a railroad property worth \$356,356,000.

The annual value of the forest products of the United States, as enumerated in the Twelfth Census, is nearly

575 million dollars. If to this were added the value of the firewood, farm material, and other forest products for which no returns are available, a very much larger figure would be shown. Thus, as a direct source of wealth the forests of the country rank nearly with the mineral products as second to the farms.

The "Gateway" is a finely written and a beautifully illustrated magazine devoted to introducing the reader to Central California. Its avowed purpose is to candidly present the facts as to that peculiar and attractive country. The resources of Stockton and San Joaquin County are presented by able artists and writers. All interested persons should write to the Stockton Chamber of Commerce, Stockton, California.

BORAX FOR ANTS.

A lady reader writes from the short-grass country, that used to be, saying, "Times have been so good here in the last few years that even ants, as well as other floating population, have come here to stay with us. We shall be obliged if the KANSAS FARMER will tell us how to get rid of ants in the house."

We have submitted this question to an experienced and capable housekeeper, who replies, "Keep powdered borax scattered around and the ants will leave."

The KANSAS FARMER dislikes to give the borax trust this free advertisement, but believes the remedy to be effectual and cheap.

AMERICAN INSECTS.

When people of other States want work well done it is not unusual that they send to Kansas for the workers. This is true as to scientific as well as industrial work. An illustration is at hand in a sumptuous volume which covers the entire American insect world, including moths, butterflies and beetles, to which separate volumes are often devoted. Written in a style to interest the general reader, the arrangement is systematic and reasoned, and it is probably the most valuable handbook of the subject for the technical student or amateur collector. Habits, life history, relations to man, to other animals and to plants are given special prominence. It is distinguished by much new matter, the results of the author's ingenious observations, and by many original pictures illustrating species not before figured in general insect books.

It is the work of Vernon L. Kellogg, an Emporia boy, who, after graduating from the State University, and proving his industry and ability by doing excellent entomological work in Kansas, was called to the chair of entomology in the great Leland Stanford University, in California. Professor Kellogg has been busy since he left the Sunflower State as witnesses the book on American Insects, which he has written with scrupulous attention to accuracy, system and comprehensiveness, and, at the same time, has expressed in such good English that it can be understood by and will be interesting to the general reader. The nature of the book is well illustrated in the following from page 547:

"The most interesting, however, of the familiar American ants are the 'slave-makers' and their 'slaves.' Three species of slave-makers occur in North America, of which two belong to the family under present discussion. These are Formica sanguinea, represented by five subspecies, and Polyergus rufescens, the shining slave-maker, represented by two subspecies. The third slave-making species, Tomognathus americanus, is a rare Myrmicid. The slaves of F. sanguinea are other smaller species of the same genus, especially F. subsericea, F. nitidiventris, F. suboescens, while the slaves of Polyergus are the same species of Formica and the additional one, particularly common as a slave form, F. schaufussi. Communities of the slave-making species are occasionally found in which there are no slaves; when slaves are

community undertakings, while the slaves often seem to dominate, or at least to be quite as important as their would-be rulers in the determination of the course of events in the compound community. So far does this dependence go in the case of certain foreign ants that the originally dominant species loses its workers, and is thus absolutely dependent on the auxiliary species for the maintenance of the community. In the general division of labor in the compound community the fighting is always done, at any rate chiefly, by the slave-makers."

The book is profusely illustrated with as fine specimens of the engraver's art as can be produced. It is an excellent work to have in the library. Henry Holt & Company, New York, are the publishers. The price of the book is \$5, but the KANSAS FARMER hopes to arrange for a discount on this price for its subscribers.

THE CORN.

Kansas has probably never been favored with better conditions for making a corn crop than have prevailed thus far in 1905. All except the very late corn has passed the critical stage. This, as all farmers know, occurs when the tassels appear. At this period the demands for moisture are enormous. Should there be a lack of moisture, accompanied by a hot wind, the tassels die and no pollen is produced. No pollen, no corn. But with abundance of moisture at this period pollen is produced in great abundance, ears are set profusely and the start is made in the development of the grain.

From the setting of the ears until the corn is made, the plant draws heavily upon the soil for moisture and other elements of fertility, but a postponement of the rain for a few days is not as disastrous as at the critical period.

Thus far the moisture content of the soil has been well sustained. Many farmers say that "early corn is made."

Of course this is the time for extravagant claims for the crop. It is too early to name the exact number of bushels, but that there is to be above the average crop is thought to be well assured.

THREE DAYS IN THE GROVE.

The people of Tonganoxie and vicinity indulged, last week, in a three-days' relaxation from the strenuous labors of the season and came together in a beautiful grove under the auspices of the Old Settlers and the Grand Army of the Republic.

The morning of the first day, August 2, was given to opening exercises concluding with "Reminiscences of Early Days," by Judge Wellhouse.

In the afternoon, Hon. Edwin Taylor read a thoughtful paper on "Equality." This will be printed in the KANSAS FARMER soon. It was followed by "Farmer" Smith, of McPherson County with reminiscences.

The evening was given to an address by the only, the imitable, T. A. McNeal, of Topeka, on "Citizenship." Mr. McNeal has the happy faculty of making his audience laugh half of the time and of pounding his excellent ideas

(Continued on page 821.)



E. R. NICHOLS, PRESIDENT, KANSAS STATE AGRICULTURAL COLLEGE, MANHATTAN, KANS.

State Agricultural Institutions

An education is the greatest thing in the world. It is the young man's capital and the old man's bank. Acquired in youth its profits are constant through life. It can not be taken away though it may be constantly added to. If the foundation has been laid along proper lines it not only increases the joy of living, but it multiplies the earning capacity of its possessor a hundred times and makes him a man among men and a good citizen whose worth is much greater than his earning capacity stated in mere dollars and cents.

Ideas in education have varied, though always prominent since civilization gave it a name. Formerly it was thought necessary to train the mental faculties only and of these the memory chiefly. This answered the purpose of an education when the few people who were educated at all found all their requirements met in it. With the rapid development of the world and the necessities of civilized life has come a consequent demand for education, and an increase in the number of systems. As new requirements arose, new systems were devised to meet them and the experience of the ages past has crystalized itself into

Kansas Agricultural College for Students and the Experiment Station for Farmers Interesting Facts and Views Compiled

By I. D. Graham

wholly impracticable and of little comparative value. The man who can take a pound of iron and hammer it into some useful shape, shows the results of his previous training which is in itself a partial education. The returns of his labor are small, but they have a value and the man receives compensation. On the other hand, the man who could take a pound of iron, convert it into steel and manufacture it into watch springs, has perhaps done no greater labor physically than the first one, but his labor has been immensely more profitable and the difference in the returns received by the two is just the difference between a training and the lack of it.

To-day parents who have themselves lived in ignorance with its consequent hard physical labor, appreciate the value of an education for their children and are making every effort to secure

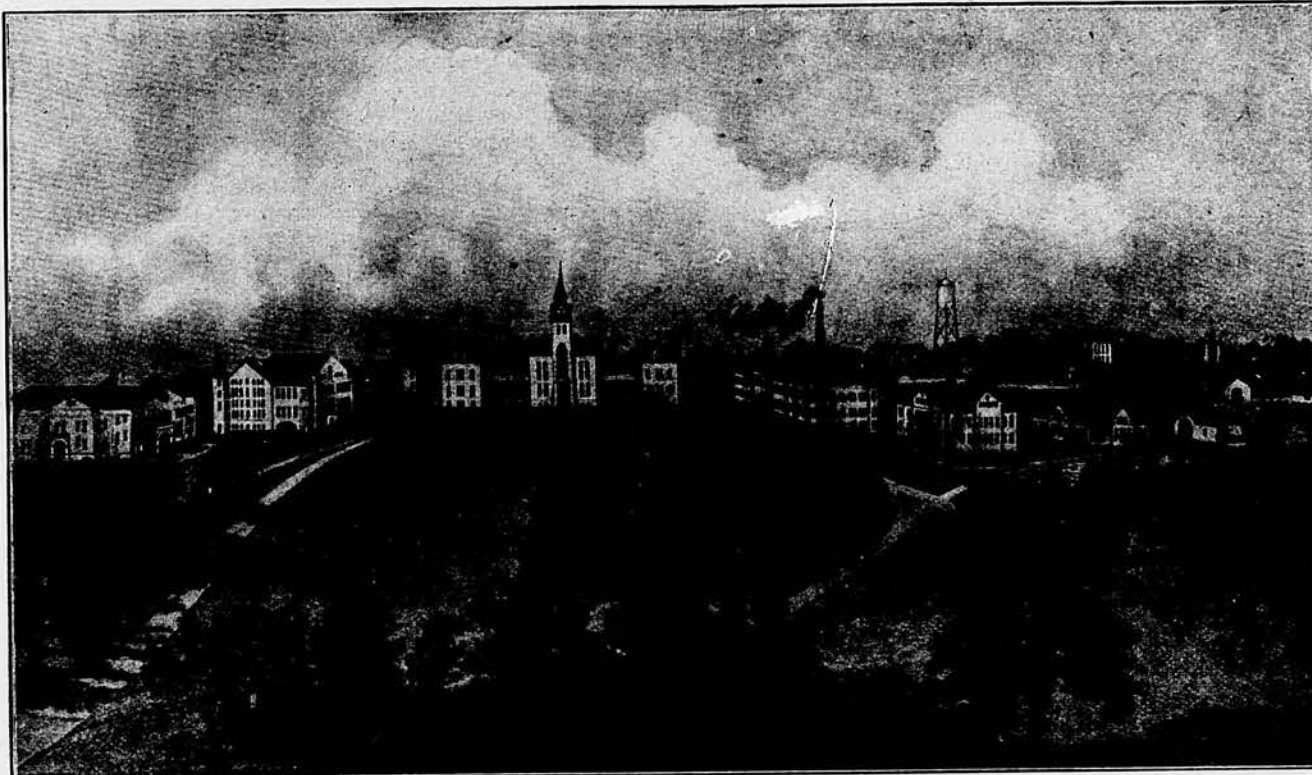
in perfect harmony and at the same time. He must be placed where his education shall not consist of a training of his memory only. His brain power must be developed so that he can really think—can originate ideas of value to himself and the world. His eyes must be taught to see things as they really exist, his ears to hear that he may understand and his hands to do the will of his mind. This can only be accomplished by surrounding him with conditions where he can see and handle and do things for himself under competent instruction.

It is of such conditions and of an institution which supplies them that we wish to speak.

All Kansans are proud of Kansas. They are proud because they live in a State which does things. They are proud of the vastness of her area, her enormous productions and the activity

on which a part of the support of the College is provided. Under the provisions of the original act it became necessary for the State to erect and maintain all buildings and provide for certain expenses of the College. The law requires that this endowment shall never be diminished; that any loss it may sustain shall be reimbursed by the State, and that the interest derived from it shall be used for the support and maintenance of a college where the leading object shall be, and "Without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

Under this act the State of Kansas established the State Agricultural College in the year 1863, upon a foundation already made by a religious denomination. During the first ten years of its existence its course of study partook largely of the nature of the classical courses of the institution which it supplanted, and it was not until 1877 that students began to be gradu-



A GENERAL VIEW, STATE AGRICULTURAL COLLEGE, MANHATTAN, KANS.

ideals which are generally accepted, but whose approach is restricted in many ways.

Statistics show that an education is absolutely necessary to every man and woman who would succeed. Even the laborers in the large factories are required by their employers to know more than formerly, but in turn they are paid more for their services. The man without education reaches the limit of his earning capacity at a very early age, and almost as soon as he becomes a voter he is compelled to realize that his earning ability will never be greater. The educated man, on the other hand, never reaches the limit of his earning capacity. It may be true that in his younger years this capacity has not been more remunerative than that of the unskilled laborer, and the difference between his abilities and those of the partially trained man may not become appreciable for several years afterward. But the satisfaction is ever present with him of knowing that he never can reach the limit of his abilities in this direction so long as the human machinery remains intact and in working order.

Of course these statements appeal to the materialistic views of life, but this is an age of materialists and any question regarding education that has not for an important item in its consideration the amount of bread and butter it will produce, may be decided to be

it. One of the chief difficulties which they encounter is the determination of the kind of training that is best suited to their sons and daughters. The learned professions must be equipped by recruits and these must come through the preparatory schools and universities. Trade schools have been successfully operated in many countries for recruiting the ranks of those engaged in the trades and manual arts.

These are well because necessary. But the true object of an education is the training of the citizen; the making of men and women who, while they are amply able to provide the necessities of life shall add to the wealth of the country and become leaders in thought and action; who shall make the world better and wiser and nobler because they have lived.

The need of the times is more gentlemen and ladies to the acre—men and women who will be models after whom others may pattern and whose lives will enrich the history of earth. Such men are possible only through that training which we call education. And such education is reached only by that system which places the whole boy at school, not a part of him. In order to train the future citizen for the high duties and responsibilities that will be required of him, he must be placed where his mental, moral and physical natures shall be trained

and mental qualities of her citizens. Their greatest pride, however, centers about her educational institutions. With a magnificent common school system, dominated by the State Agricultural College, which is the largest of its kind in the world, her citizens have reason to be proud and to know that the cause of this pride is largely the result of this same system of education. Kansas is an agricultural State preeminently, and it is but natural and right that her greatest institution should have largely to do with this foundation industry which has brought prosperity to her people. Knowing that a brief description of the Kansas Agricultural College will be of interest and value to all her citizens, and especially to our readers, we give some essential facts concerning it.

ITS FOUNDATION.

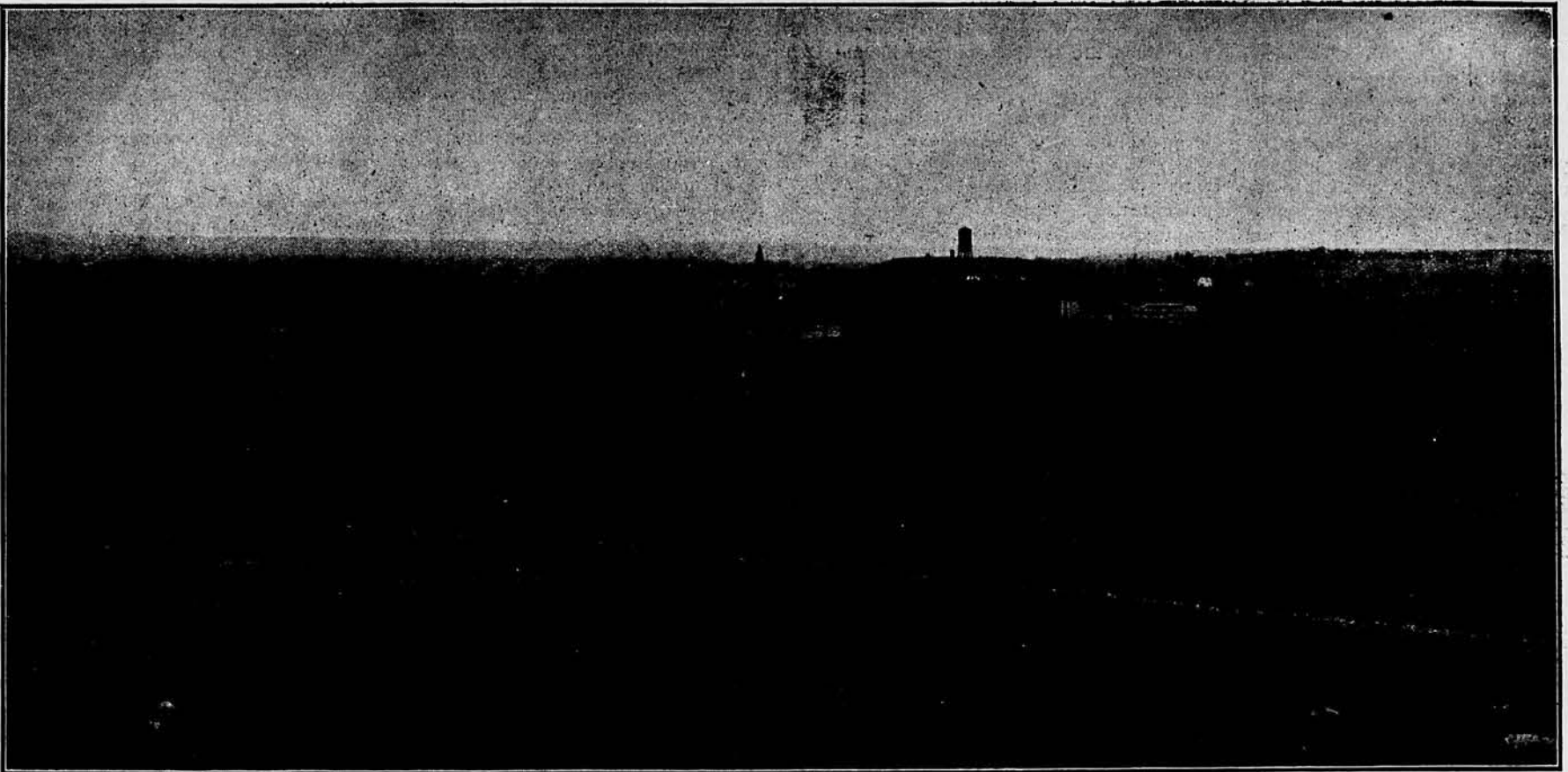
The Kansas State Agricultural College was founded during the War of the Rebellion by an act of Congress which gave to each State then existing 30,000 acres of land for each of its representatives in Congress. Under the provisions of this act Kansas was entitled to 90,000 acres, but actually received only 82,313.52 acres selected from the public domain. This land has been judiciously handled and sold to settlers, and the fund resulting from it is now approximately one-half million dollars, from the interest

ated in a scientific course in line with the objects of the institution. These objects are now announced as follows:

First. It gives a substantial education to men and women. Such general information and discipline of mind and character as help to make intelligent and useful citizens are offered in all its departments, while the students are kept in sympathy with the callings of the people.

Second. It teaches the sciences applied to the various industries of farm, shop and home. Chemistry, physics, botany, entomology, zoology and mechanics are made prominent means of education to quick observation and accurate judgment. Careful study of the minerals, plants and animals themselves illustrates and fixes the daily lessons. At the same time lessons in agriculture, horticulture, engineering and household economy show the application of science; and all are enforced by actual experiment.

Third. It trains in the elements of the arts themselves, and imparts such skill as to make the hands ready instruments of thoughtful brains. The drill of the shops, gardens, farm and household departments is made a part of the general education for usefulness, and insures a means of living to all who make good use of it. At the same time it preserves habits of industry and manual exertion, and cultivates a taste for rural and domestic pursuits.



VARIETY TESTS OF SMALL GRAINS AT KANSAS EXPERIMENT STATION AT MANHATTAN.

Fourth. It seeks to extend the influence of knowledge in practical affairs beyond the College itself. For this purpose, farmers' institutes have been organized in nearly every county of the State, in which from one to three members of the Faculty share with the people in lectures, essays and discussions upon topics of most interest to farmers and their families. These institutes have brought the College into direct sympathy with the people and their work, so as to make possible a general dissemination of the truths presented. Members of the Faculty are also prominently connected with the State associations for the promotion of agriculture, horticulture, and natural sciences, and education in general. Correspondence as to farmers' institutes or any question of practical interest in agriculture or related sciences is desired.

The Industrialist, published by the College, edited by the Faculty, and furnished to each student, gives a wide circulation to matters of interest in the College.

SOME RESULTS.

With this brief statement of the objects and history of the institution, it is not our purpose to discuss educational methods, but to show something

of the results that have been attained in the forty-two years of the history of this great institution. In this length of time there have been in attendance thousands of students of both sexes who have received a training that has been of benefit to themselves and the State, but who have not completed the required four years course of study. Statistics concerning these students are of course not available, but out of the vast number who have enrolled, 1,023 have graduated. The first ten years of the history of the institution shows a record of only 49 graduates, since which time the number has gradually increased until the maximum was reached in 1905, when 102 received their degrees. Prior to 1877 the course of study was classical and any summary of results is unfair to the College when the lifework of these students is counted as representing the attainment of the objects of the College. It is a pleasant thing to be able to say, however, that of the 969 living graduates, 75 per cent are engaged in occupations for which they were directly trained while in the College. This statement includes the graduates in the classical course before mentioned as well as the large classes of late years which have not

had time to engage in any occupation. It is a matter of pride also to be able to state that all of these graduates have been successful in life and most of them conspicuously so. The College now numbers about fifty of its children among the employees of the United States Department of Agricul-

ture, while about half that number are employed as professors and instructors in other agricultural colleges. The writer is firm in his belief that the Kansas Agricultural College graduates more students in its four years course in agriculture than do all other like institutions in the United States combined. As the facts, however, are not readily available, the statement will be modified to include only the agricultural colleges in the Mississippi Valley.

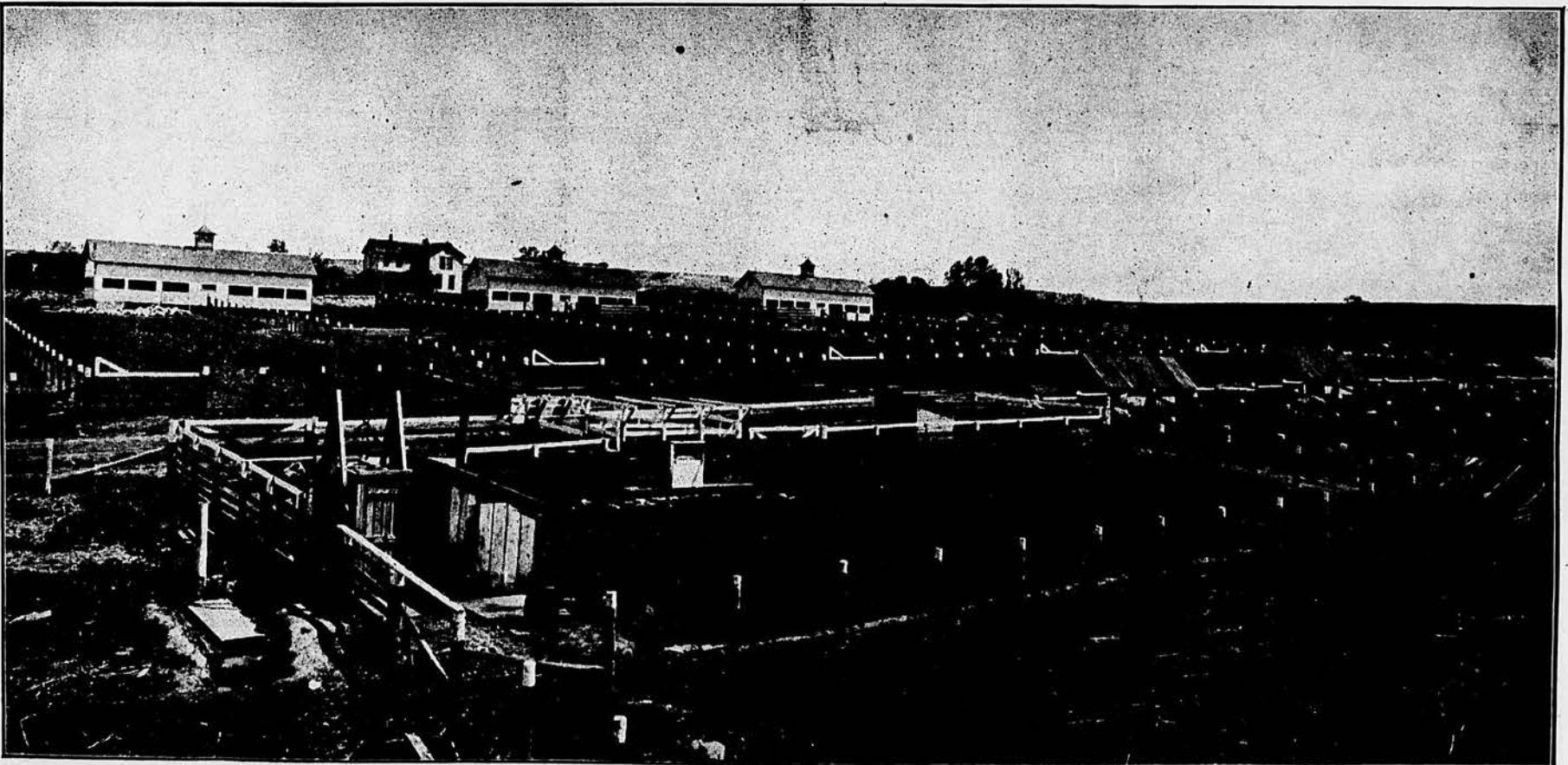
GRADUATES OF THE STATE AGRICULTURAL COLLEGE IN THE DIFFERENT COURSES.

	Agricul- ture.	Mech. Engr.	MEN		Archl- tecture	WOMEN		
			Elec. Engr.	General Science		General Science	Domest. Science	
1900.	9	5	..	18	18	16	10	
1901.	8	3	..	19	18	12	12	
1902.	11	3	2	17	5	14	14	
1903.	14	7	3	10	7	13	13	
1904.	23	10	13	20	6	30	30	
1905.	29	6	13	15	1	40	40	

Formerly the College had only one

INDUSTRIAL TRAINING.

This institution is preeminently industrial in its aims, methods, and tendencies. While the pure sciences, mathematics and other studies are rigorously taught, there is constantly present a practical atmosphere which incites the student to an application of the principles taught, and thus lends interest and value to the work. In nearly every term of the four-year course the student gives one hour per day to industrial training of one kind or another. This awakens and deep-



GENERAL VIEW EXPERIMENTAL FEED LOTS, EXPERIMENT STATION, MANHATTAN, KANS.

ens sympathy with industry and toil, impresses the student with the essential dignity of labor, thus educating toward the industries instead of away from them, and lays a good foundation for a life-work in industrial and technical lines. Even should students not all return to the farm, the shop, or to housewifery, the wider knowledge afforded them and the broader sympathies engendered can not but redound to their good, and to the advantage of society at large and the industrial classes in particular.

There have also been added short courses in agriculture, dairying and domestic science, the object of which

permanent local institutes where the farmers meet to discuss their business and home life to their mutual advantage.

Among other marked results may be mentioned the growth of the material equipment of the College. Formerly the College owned one hundred acres of land available for its immediate uses. It now owns 430 acres of land, valued at \$50,000, and leases 150 acres, making a total of 580 acres at Manhattan and about 4,000 acres in the Fort Hays Experiment Station, which will be referred to later. The erection of a magnificent new physical science hall at a cost of \$70,000, the

about them by their daily handling. For instance, the College owns Short-horn, Angus, Hereford, Red Polled, Holstein, Jersey, Ayrshire and Guernsey cattle; Poland-China, Berkshire, Duroc-Jersey, Yorkshire and Tamworth swine; Shropshire, Southdown, Cotswold, Rambouillet sheep, and Percheron horses. With these different breeds experiments in breeding are conducted, students are taught the art of feeding for beef or dairy, for ham or bacon, for wool or mutton as the course may require. To illustrate the quality of this class of apparatus, the following list of the cattle and swine is given:

The College authorities have placed the College farm at the disposal of the station for experimental work. While the farm crops, the orchards and gardens, the live-stock and the mechanical resources of the College are necessary for the proper training of its students, each and all of them is utilized to the best possible advantage in experimental work for the determination of new facts and the increase of human knowledge. Many of the professors in the College are in charge of their several departments in the Experiment Station, though the Experiment Station itself is a separate institution maintained by a distinct fund which can not be

PURE BRED CATTLE AT THE KANSAS STATE AGRICULTURAL COLLEGE.

Name.	Sire.	Dam.	Breeder.
Ravenswood Admiration 186157.....	Lavender Viscount 124755.....	Scotch Missivo, v. 41, p. 597.....	T. J. Wornall, Liberty Mo.
Easter Lily, v. 50, p. 760.....	Laird of Linwood 127149.....	Miss Phyllis 3d, v. 45, p. 332.....	T. B. Babst, Dover, Kans.
Mary of Elderlawn v. 49, p. 861.....	Gallant Knight 124468.....	Betsy Daly 2d.....	T. K. Tomson & Son, Dover, Kans.
Queen of Eureka Valley, v. 59.....	Earl of Valley Grove 142569.....	Harriet Dean 9th.....	John Warner, Manhattan, Kans.
Dimple, v. 57.....	Bonnie Belles Prince 149127.....	Queen Jessica, v. 42, p. 507.....	E. A. Burleigh, Knox City, Mo.
College Lily, v. 59.....	Ravenswood Admiration 186157.....	Easter Lily v. 50, p. 760.....	K. S. A. C.
College Queen, v. 59.....	Ravenswood Admiration 186157.....	Queen of Eureka Valley, v. 59.....	K. S. A. C.
College Mary, v. 62.....	Ravenswood Admiration 186157.....	Mary of Elderlawn, v. 49, p. 861.....	K. S. A. C.
Queen's Admiration.....	Ravenswood Admiration 186157.....	Queen of Eureka Valley, v. 59.....	K. S. A. C.
Axtell of Osborne 38360.....	Axtell of Estill 23688.....	Queen Laura 22534.....	W. O. Parks, Atchison, Kans.
Rosial of Manhattan 46370.....	Pacific 34821.....	Rosial 4th 32764.....	Anderson & Findlay, Allendale, Kans.
Barcola 64189.....	Conqueror of Aberlour 34794.....	Darling 5th 22763.....	K. S. A. C.
Rutger Leda VI 45063.....	Expand 30634.....	Rutger Leda 3d 32882.....	C. K. Sutton, Russell, Kans.
Sunflower Gyp 57375.....	Hale Lad 30645.....	Sunflower Gypsy Girl 40004.....	Parrish & Miller, Kansas City, Mo.
Sunflower Lady Stewart 63771.....	Hale Lad 30645.....	Sunflower Ella Stewart 2d 30798.....	Parrish & Miller, Kansas City, Mo.
Grendel.....	Best Blood 61366.....	Sunflower Gyp 57375.....	K. S. A. C.
Soldier Creek Columbus 4th 253179.....	Columbus 17th 91364.....	Nasturtium 90584.....	F. Rockefeller, Belvidere, Kans.
Perfection Maid 116691.....	McKinley 68926.....	Perfection Lady 52335.....	Steele Bros., Belvoir, Kans.
Eloeeve 153357.....	True Briton 76068.....	Eva 46501.....	J. M. Foster, Topeka, Kans.
Miss Gibbs 141708.....	Preordination 71783.....	McLivia 84010.....	D. L. Taylor, Sawyer, Kans.
Collista.....	Excello 114621.....	Agatha 116000.....	K. S. A. C.
Belva 167114.....	Excello 114621.....	Perfection Maid 116691.....	K. S. A. C.
College Lady 209714.....	Soldier Creek Columbus 4th 153179.....	Perfection Maid 116691.....	K. S. A. C.
College Eva 209713.....	Soldier Creek Columbus 4th 153179.....	Eloeeve 153357.....	K. S. A. C.
College Columbus 209712.....	Soldier Creek Columbus 4th 153179.....	Miss Gibbs 141708.....	K. S. A. C.
Perfection 13040.....	Actor 1781.....	Lily Pond 10426.....	Chas. Morrison, Phillipsburg, Kans.
June 1st 15186 r. 2.....	Harris 3948.....	June R. 2, 12492.....	B. F. Miller, Prescott, Kans.
Upshot 8th L. 3, 15999.....	Harris 3948.....	Rozilla L. 3 11803.....	B. F. Miller, Prescott, Kans.
Belle 20763.....	Cyclone Davis 8003.....	June 1st R. 2.....	K. S. A. C.
College June 22466.....	Cyclone Davis 8003.....	June 1st R. 2.....	K. S. A. C.
Una 23064.....	Cyclone Davis 8003.....	Upshot 8th 15999.....	K. S. A. C.
College June 2d 22963.....	Cyclone Davis 8003.....	June 1st 15186.....	K. S. A. C.
Maplecroft De Kol Champion 35194.....	Shadeland Paul De Kol 28165.....	Maplecroft De Kol Perfection 39194.....	E. J. Tefft, Earlville, N. Y.
Duke of Home Farm 30633.....	Colantha 4th's Lad 28940.....	Empress of Home Farm 54967.....	W. B. Barney, Hampton, Ia.
College Mechthilde 56797.....	Gerben Mechthilde Prince 24766.....	Gold Leaf 2d 10170.....	C. F. Stone, Peabody, Kans.
College Gerben 56796.....	Gerben Mechthilde Prince 24766.....	Gold Leaf Gerben Mechthilde 44071.....	C. F. Stone, Peabody, Kans.
Beulah Gerben of M 65707.....	College Emperor 28754.....	College Gerben 56796.....	K. S. A. C.
College Mechthilde 2d 70928.....	College Emperor 28754.....	College Mechthilde 56797.....	K. S. A. C.
Empress Josephine Wartena 71139.....	Wartena Pauline De Kol 27574.....	Empress Josephine 3d Mechthilde 2d 57468.....	C. F. Stone, Peabody, Kans.
College Pel 75706.....	Wartena Pauline De Kol 27574.....	Princess Pel Gerben 63691.....	C. F. Stone, Peabody, Kans.
Pride of Manhattan 75708.....	Wartena Pauline De Kol 27574.....	Lady Truth Pride 61772.....	C. F. Stone, Peabody, Kans.
College Josephine 75707.....	Wartena Pauline De Kol 27574.....	Empress Josephine 3d Mechthilde 2d 57468.....	C. F. Stone, Peabody, Kans.
College Gertrude 77033.....	Duke of Home Farm 30633.....	College Gerben 56796.....	K. S. A. C.
College Josephine Del Kol 77032.....	Josephine Mechthilde Sid De Kol 35086.....	Empress Josephine Wartena 71139.....	C. F. Stone, Peabody, Kans.
Brown Elsie's Grandson 60412.....	Diploma 2d 36374.....	Elsie's Brown Bessie 206813.....	H. C. Taylor, Oxfordville, Wis.
Miss Ita 152841.....	Brown Bessie's Rioter 43560.....	Itilda 107281.....	H. C. Taylor, Oxfordville, Wis.
Marigold Tapestry 159151.....	Marigold St. Heller 52567.....	Miss Minute 144908.....	H. C. Taylor, Oxfordville, Wis.
Bovina of College Hill 175818.....	Recorder 29239.....	Miss Minute 144908.....	H. C. Taylor, Oxfordville, Wis.
Miss Elsie Brown 183027.....	Brown Elsie's Grandson 60412.....	Miss Minute 144908.....	K. S. A. C.
Tipp's Lassie 183366.....	Sultana's Jersey Lad 55391.....	Tip's Marigold 183365.....	Jas. Cooper, Nashville, Tenn.
Riverside Princess 183365.....	Riverside Oonan 62522.....	Oonan Princess Fan 183564.....	C. T. Graves, Matland, Mo.
Riverside Ethelred 183566.....	Riverside Oonan 62522.....	Ethelred of Deerlick 150064.....	C. T. Graves, Matland, Mo.
Cooper's Lass 183367.....	Sultana's Jersey Lad 55391.....	Chris Bogis 2d 183363.....	Jas. Cooper, Nashville, Tenn.
Bonnie Barbarossa 189229.....	Brown Elsie's Grandson 60412.....	Bovina of College Hill 175818.....	K. S. A. C.
College Marquis 18636.....	Marquis of Woodroffe 12945.....	Maggie of Woodroffe 10837.....	K. S. A. C.
Star of Hillview 1145.....	Royal George 591.....	Maude 1010.....	A. Kennedy & Son, Vernon, Ont.
Maggie of Woodroffe 10837.....	Glencairn of Maple Grove 6973.....	Woodroffe Dairymaid 3437.....	J. G. Clark, Ottawa, Ont.
Glenora Belle 14089.....	Conrad's Heir of Glenora 11996.....	Belle of Rosamund 2337.....	R. S. Brooks, Brantford, Ont.
Bangora.....	White Prince 5550.....	Star of Hillview 1145.....	K. S. A. C.
College Maude 18637.....	Marquis of Woodroffe 12945.....	Star of Hillview 1145.....	K. S. A. C.
Bessie.....	Marquis of Woodroffe 12945.....	Glenora Belle 14089.....	K. S. A. C.
College Marquis 2d.....	Marquis of Woodroffe 12945.....	Maggie of Woodroffe 10837.....	K. S. A. C.
Balanta.....	Sir Fantine 4416.....	Countess Vesta 11822.....	K. S. A. C.
Correct 28493.....	Correction 28466.....	Pet 4th 67073.....	Winn & Maston, Maston, Kans.
Chief's Jewell 7782.....	Oxford Chief 24704.....	U. S. Jewell A. 7781.....	G. W. Kelly, Abilene, Kans.
College Belle 2d 77789.....	College Chief 32811.....	College Belle 77783.....	K. S. A. C.
College Queen 2d 77787.....	College Chief 32811.....	College Queen 77784.....	K. S. A. C.
College Queen 3d 77788.....	College Chief 32811.....	College Queen 77784.....	K. S. A. C.
College Lady.....	Kansas King 77796.....	Quality 59642.....	Chas. Morrison, Phillipsburg, Kans.
College Queen 2d 68589.....	College Chief 32811.....	College Queen 77784.....	K. S. A. C.
College Queen 3d 68590.....	College Chief 32811.....	College Queen 77784.....	K. S. A. C.
Clover Leaf 74083.....	Royal Prince 55172.....	Martha Washington 56861.....	C. A. Stannard, Emporia, Kans.
Martha Brummel 32094.....	Beau Brummel 74006.....	College Martha 74085.....	K. S. A. C.
Martha Brummel 2d 82095.....	Beau Brummel 74006.....	College Martha 74085.....	K. S. A. C.
Martha Brummel 3d 82096.....	Beau Brummel 74006.....	College Martha 74085.....	K. S. A. C.
College Martha 3d 82090.....	Beau Brummel 74006.....	College Martha 2d.....	K. S. A. C.
College Martha 4th 92091.....	Beau Brummel 74006.....	College Martha 2d.....	K. S. A. C.
College Sarah 61610.....	Kansas Banner 25623.....	Sarah M. 61604.....	K. S. A. C.
College Gem 2d 61614.....	Manhattan Boy 25625.....	College Gem 61612.....	K. S. A. C.
Sunflower Lassie 86052.....	Manhattan Boy 25625.....	College Sarah 61610.....	K. S. A. C.
Sunflower Lassie 2d 86054.....	Manhattan Boy 25625.....	College Sarah 61610.....	K. S. A. C.
College Fancy.....	Fancy Wonder 14406.....	Fancy Nineteen 40554.....	John W. Jones, Delphos, Kans.
Manhattan's Topsy 5012.....	Marclas Pride 1584.....	Elsie 3d 2842.....	H. H. Chase, Brewer, Ia.
Sunflower Topsy 5727.....	Maple John 2492.....	Manhattan's Topsy 5012.....	K. S. A. C.
Kansas Topsy 5724.....	Maple John 2492.....	Manhattan's Topsy 5012.....	K. S. A. C.
Miss Kansas 5726.....	Cedarvale Marcus 4526.....	Miss Fair One 5082.....	Jas. Atkinson, Des Moines, Ia.
Kansas Jessie 5725.....	Cedarvale Marcus 4526.....	Cedarvale Jessie 3463.....	Jas. Atkinson, Des Moines, Ia.
Hattie K.....	Bouncer 1520.....	Kansas Hattie 1577.....	K. S. A. C.
Sorrel Ann 1793.....	King Hugo 1476.....	Lulu Richland 1478.....	Kelley Bros., Mineral Point, Wis.
Bricktop 1782.....	King Hugo 1476.....	Maude S. 3d 1407.....	Kelley Bros., Mineral Point, Wis.

is to provide a training more or less technical in its nature for those who are unable to take the regular course and a full training.

Among the important methods used by the College to benefit the people for whom it was established, has been the holding of farmers' institutes. For many years the institutes were limited to ten in number and were provided for out of the meagre income of the College. Now the number has grown indefinitely and is provided for by a direct State appropriation. These are highly appreciated by the communities in which they are held and generally result in the organization of

Auditorium costing \$40,000, the Dairy Hall costing \$15,000 and the improvement of Mechanics Hall and equipment are among the notable recent improvements observed by the visitor. Chief among the results obtained in late years, however, may be enumerated the work on the Experiment Station, the consequent interest of the citizens of Kansas in the College, and the increased attendance of students.

It is vastly more expensive to maintain an institution of this kind than any other for the reason that the farm itself, the buildings, cattle and hogs and machinery are each necessary as illustrations where the student learns

THE DEPARTMENTS OF INSTRUCTION.

Only a few departments of instruction have been alluded to and no detail will be given here. These are all explained fully in the forty-second annual catalogue and our only further reference to them and the other equipment of the institution will be found in the illustrations accompanying this article.

THE EXPERIMENT STATION.

In March, 1887, Congress passed the bill known as the Hatch bill, establishing an experiment station in connection with each agricultural college, and providing an annual appropriation of \$15,000 for its maintenance.

used for any other purpose.

What the College is to the young man who is preparing himself for the battle of life by the acquisition of facts which are new to him, the experiment station is to his father whose school days are past. When these stations first began their work, the people of the country, and even the professors in charge, had but dim ideas of what their proper sphere of usefulness should be. Much good work was done during the earlier years of the Station, but much was also of little or no value because of the lack of necessary knowledge and skill on the part of the experimenters. The

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result was that the work of the Experiment Station was looked upon with mild amusement or open scorn by the "practical" farmer. In the few brief years since the first opening of these experiment stations, these sentiments have changed so that there are no institutions in the State more highly valued by those for whom they are maintained, than are these same experiment stations. Counted in dollars and cents the work done has been of enormous value both in positive and negative results. It is sometimes possible to learn as much from an experiment which has failed as from one that has been a conspicuous success. To illustrate, the agricultural department of the Experiment Station at Manhattan, now has under way a series of tests of varieties of winter grains which include 22 varieties of wheat, 2 of rye, 2 of oats, 4 of barley, 1 of emmer, and 1 of Einkorn. The spring crop experiments include 4 varieties of wheat, 31 of oats, 21 of barley, 3 of emmer, 13 of flax, 18 of millet, 2 of buckwheat, 21 of soy-beans, 23 of cow-peas, 2 of field peas, 3 of navy beans, 40 of cane, 15 of Kafir-corn, 5 of beets, 22 of different species of meadow grasses and legumes, and 26 mixtures of the same.

In addition, a series of comparative variety tests are being made with farmers of the State, the purpose being to test and find the value of varieties of farm crops best suited to the soil and climate of different portions of the State. There are eleven points where these tests are being made by the farmers under instructions from the Department of Agriculture at Manhattan, and with no compensation except the increase of their own knowledge and the crops they harvest. These points are Lawrence, Paola, Eaton, Havana, Sedan, Harper, Great Bend, Garden City, Brewster, Hill City, and Glen Elder.

It is only possible to mention here the names of the experiments under way and give the assurance that the results will be published in the bulletins which are distributed free to all farmers in Kansas who ask for them. These experiments now include rotation of crops, dates of planting, fertilizers, sod crops, renewal of alfalfa, clover and grass crops, inoculation of alfalfa and other legumes, cultivation of corn, preparation of seed bed for corn, late forage crops, plant breeding and seed selection and the adaptation of wild grasses as farm crops. As an illustration of the variety of tests in grains the following results which have just been determined are given below:

The farm department of the Kansas State Agricultural College finished threshing small grains July 17. All grains yielded well, and the wheat especially was of excellent quality. Several loads delivered at the Manhattan mill averaged sixty-one pounds per bushel. The largest producing crop of grain harvested was the winter barley. The following are some of the varieties of different kinds of grain which gave the largest yields:

Record No.	Winter Variety	Yield per acre, bushels.
Grains:	of grain	
570	Turkey wheat	47.8
367	Fultz wheat	44.1
382	Kharkov wheat	44.1
380	Turkey wheat	43.9
377	Zimmerman wheat	43.7
585	Mull wheat	43.6
366	Bearded Flie wheat	43.5
369	Minnesota No. 529 wheat	42.9
375	Winter macaroni wheat	42.8
368	Malakoff wheat	42.6
378	Red Winter wheat	40.4
373	Defiance	38.4
376	Monster rye	38.7
368	Semi-winter barley	81.6
361	Tennessee winter barley	70.1
586	Winter Turf oats	46.6
109	Winter emmer	45.6
Spring Grains:		
15	Marcaroni wheat	18.7
680	Early Java wheat	14.0
95	Common Six-rowed barley	47.8
579	U. S. No. 7969 barley	47.8
44	Mansury barley	45.2
687	Six-rowed Ellis barley	43.2
195	Bonanza barley	43.0
42	Texas red oats	71.6
2	Sixty-day oats	60.7
665	Kherson oats	59.9
24	Emmer	36.1

The College has seed of the following varieties of grains for sale: Zimmerman, Red, Malakoff, Turkey No. 380, Kharkov, and Defiance winter wheats; Tennessee and Semi-Winter barley; Sixty-Day and Kherson oats; Bonanza, Common Six-rowed, and



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Following are some of the various kinds of Keen Kutter Tools: Axes, Adzes, Hammers, Hatchets, Chisels, Screw Drivers, Auger Bits, Files, Planes, Draw Knives, Saws, Tool Cabinets, Scythes, Hay Knives, Grass Hooks, Brush Hooks, Corn Knives, Eye Hoes, Trowels, Pruning Shears, Tinners' Snips, Scissors, Shears, Hair Clippers, Horse Shears, Razors, etc., and Knives of all kinds.

If your dealer does not keep Keen Kutter Tools, write us and learn where to get them.



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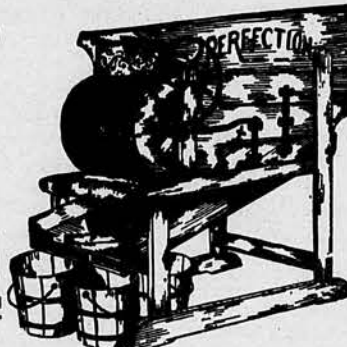
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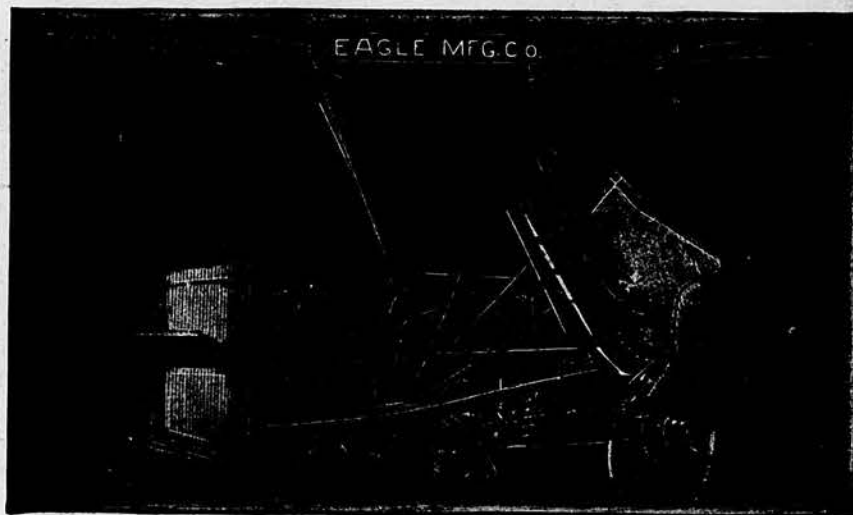
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It is useless to plant foul and undeveloped seeds or grains. The prosperous farmer plants only the best of seed and saves the small undeveloped grain for his chicken feed. Belong to that class and clean, separate and grade your seed to sow and grain to sell on a "Perfection." Because: It is the only machine that will make three grades and will separate: Wheat from rye, wheat from oats, wheat from barley, wheat from cheat, wheat from cockle, wheat from mustard, weeds from alfalfa, barley from rye, barley from oats, barley from chest, oats from rye, oats from dock, buckwheat from dock, flax from all grain, clover from millet, clover from mustard, clover from timothy, clover from red top, clover from blue grass, ripple from clover, pigeon grass from clover, all buckhorn from the first grade of clover, alfalfa, millet, etc. And because: The grain which was awarded first prize at the St. Louis Exposition was cleaned and graded by a "Perfection." Manufactured by

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Mansury barley; and common spring emmer. The varieties of winter emmer and winter macaroni wheat have not yet been increased so that they can sell seed. A comparison of yields of the winter varieties of barley, emmer, and macaroni wheat with the yields of the spring varieties of these grains is greatly in favor of the winter varieties.

The department of Botany, together with the farm and chemical departments, carries on work in plant breeding. Wheat breeding has been carried on by this department since 1899. Work of Mr. Burbank shows that the most striking and valuable results in plant-breeding can come from hybridization. All of the work in the hybridization of plants at the Station is done by the botanical department. After hybrids are originated here, and have been tested, they are then transferred to the farm department for field trials. In all, 181 wheat hybrids have been originated by the botanical department since the work began. Of these a large number have failed to come up to the requirements, and have been discarded as fast as their undesirability has been demonstrated. This year thirty-four wheat hybrids were grown on the experimental plots, the fittest survivors up to date. In addition to the breeding of wheat hybrids, extensive tests of new varieties from all over the world are made, in what are known as "acclimatization plots," to test their character and behavior under our climatic conditions. In this way an intimate botanical study of each variety is possible. For the past two years oats and barley have been taken up for breeding purposes in the same manner as wheat, and during the present season a number of oat hybrids have been made.

The practical availability of cereal hybrids depends, however, upon a thorough knowledge of their behavior. To learn all that is possible to find out about cereal hybrids is an essential preliminary to success. To this end crosses have been made between divers genera, such as wheat, rye, oats and barley, several of which have been successful, and are now under observation.

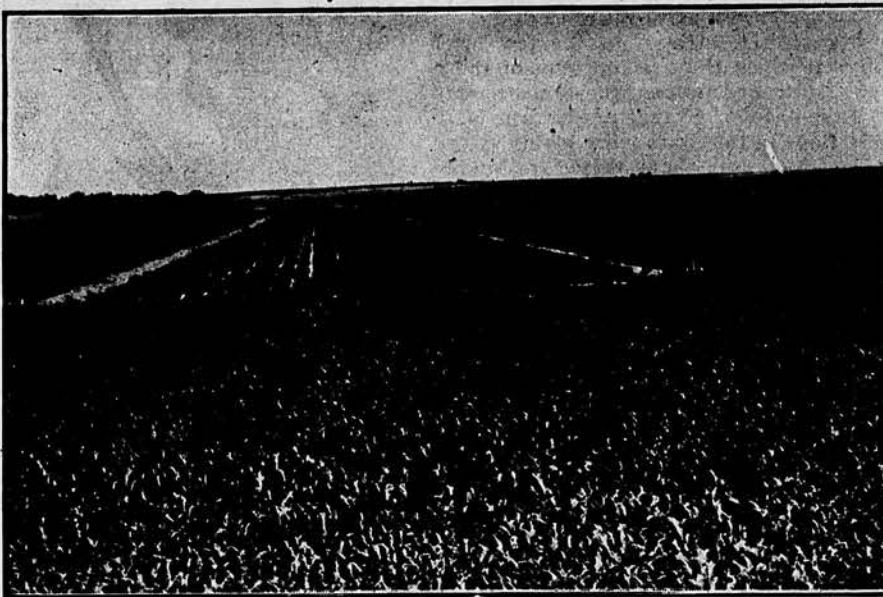
Successful and extremely interesting crosses were effected last year between a hard red winter wheat and several varieties of spelt and of emmer. The object being the breeding of hardier and more drouth-resistant wheats—characters found in spelts and in emmers, but combined with undesirable characters that have to be eliminated, through crossing, and subsequent selection of the progeny.

Corn has been the object of experiment for six years, chiefly with the object of increasing the protein content. The present outlook of these experiments is favorable. The crossing of different varieties of corn for the production of new types is also an important work in this department.

An experimental grass garden containing over 500 plats is devoted to the botanical study of as large a number of economic grasses as can be collected together. In this way the behavior of new introductions is thoroughly studied from the botanical standpoint, previous to recommending them for further trial on a large scale.

A large botanical garden of economic, condimental, and medicinal herbs is maintained, and also a botanical garden of ornamental flowering plants native to the Great Plains region, which is useful in showing the availability of numerous native and consequently thoroughly acclimated plants, to the purposes of home improvement.

The botanical department has one of the largest collection of seeds in the West, and this is constantly in use in the work of detecting adulterations in seed samples submitted for examination. This is a line of work developed by the department within the last two years, and bids fair to become one of the most important activities. Already many seed firms are beginning to send in their samples of alfalfa and other forage seeds for examination and test. The securing of absolutely pure seed becomes increasingly



IRRIGATED FIELDS, FORT HAYS EXPERIMENT STATION.

important to the farmer as the value of land rises. Not a seed should go into the ground that is not the variety intended to be planted.

A collection of sets of weeds has been made by the botanical department intended to be furnished at cost to schools, road-overseers, etc., for the education of the people in the various species of native and introduced weeds, with the best mode of dealing with the same.

THE FORT HAYS BRANCH STATION.

In 1901 the Legislature of Kansas accepted the grant of the Fort Hays military reservation which had been made by Congress the previous year, on condition that the State would establish and maintain upon it branches of the State Normal School and of the Experiment Station. The 7,600 acres thus received was divided so that the Experiment Station received about 3,500 acres, including those portions most desirable for agricultural purposes. Situated west of the 99th meridian, this Station occupies a field entirely different from any other of the kind in the country, and the results obtained will be of immense value not only to the people of Western Kansas, but to those of other States and Territories lying within the so-called semi-arid region as well. This Fort Hays Station is the largest experiment station in the world and its possibilities can only be guessed at though the work done in the brief time since the land became a station shows most interesting results.

Perhaps the first thing that impresses the visitor is the thrifty growth and large size of the trees which grow along the banks of the creek bordering the Experiment Station grounds. Many of these are of enormous size and are somewhat startling to one whose preconceived notions have pictured this as a desert. Perhaps the next impression received by the observer is that this heavy timber growth practically ceases at the boundary lines of the Experiment Station grounds.

This is accounted for by the fact that the military and later, the custodians, have taken special care to protect these forests against the ravages of fire and of people in search of wood. Outside the limits of the Station grounds there is very little timber along this creek. This difference in the appearance of the forest along the different sections of the creek gave the experimenters a hint as to the possibilities in forestry and work has begun along these lines.

FORESTRY AND ORCHARDS AT FORT HAYS.

The first horticultural work at this Station was started in the spring of 1903, at which time a wind break of osage, locust, and cottonwood was set out in a strip one-fourth of a mile long. These trees are now doing nicely, standing from four to ten feet high.

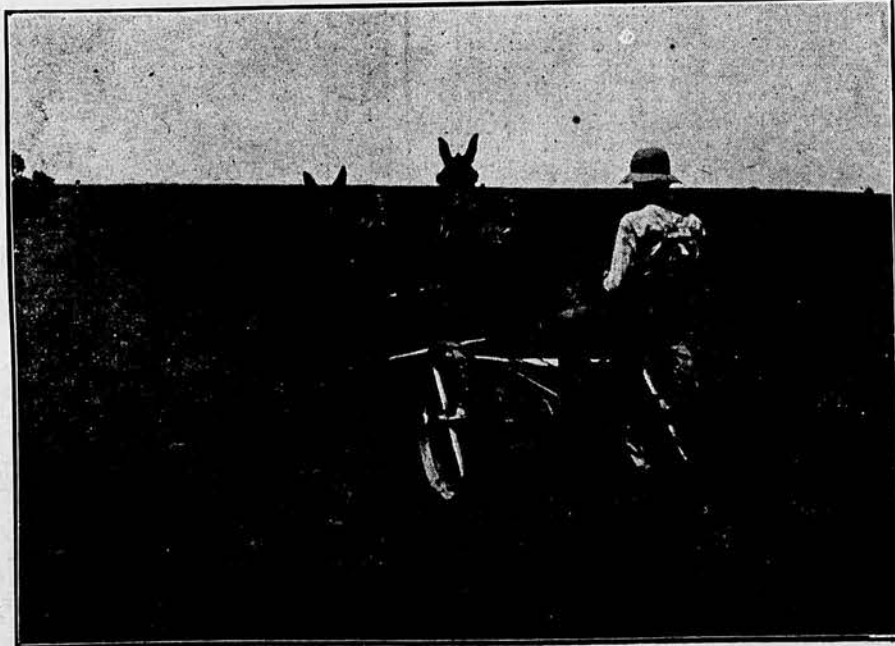
A plat of evergreens consisting of several varieties of cedars and pines, set out at the same time, today show that the Scotch and Austrian pines are better suited to this section of the State than any of the cedars.

A variety orchard of 300 trees—consisting of apple, plum, and peach, was also set out in the spring of 1903, and gives promise of a good orchard. The peaches would have produced their first fruit this season, had not the buds been killed last winter.

With grapes, a variety test was begun in 1903. All vines are now thriving, and have made a large vine growth. The August Giant and Noah appear to be best suited to climatic conditions here. The Noah produced its first fruit this year.

In the spring of the present year, several tracts of yearling forest trees were set out, containing in all about 8000 trees. These varieties are those that are known for their quick growth or durability as post timber. Among them are catalpa, osage, honey locust, Russian mulberry.

From the growth and general behavior of the trees set out thus far at the Station, it is thought that the honey locust and catalpa will prove to be the



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best trees for general planting, as they are hardy and make a quick growth, producing post material within a few years after planting. As fast as time and means will permit, it is the intention of the Experiment Station to do all in its power to interest farmers and people of the West, in tree-planting; both for pecuniary reasons, and as a means toward influencing climatic conditions of that section of Kansas for the better. The question of the benefit of a wind break around the farms, to break the force of the sweeping and hot winds that almost continually exert a drying influence on the soil, is an undisputed one.

GARDENS.

Until the spring of 1905, no experimental garden work was done. There is now in progress a variety test of some twenty-five vegetables with from three to five varieties of each vegetable. All varieties grown are those that are known in the eastern part of the State for their hardiness.

One garden is located in an ideal garden spot. Half of it is mulched with wheat straw, and one-half kept well cultivated. At the present time enough vegetables have not been gathered to give definite results, but with one or two exceptions, the mulched portion of the garden is showing up very favorably.

A duplicate of this garden is located on high ground, where soil and conditions are different. Vegetables that may prove themselves in this garden will certainly show their hardiness.

Variety tests of strawberries are in progress. One-half of one plat is mulched with straw. Present indications show the cultivated section doing far better than the part mulched.

A small patch of Irish potatoes was put in this spring to test the mulching with straw versus cultivating, and spraying versus not spraying. While the yield from the patch, which has just been dug, was not very good, a very decided result was shown. The mulched potatoes gave a yield about twice that of the cultivated portion. The potatoes sprayed twice with Bordeaux mixture lacked but a few pounds of doubling the yield from those not sprayed. The vines not sprayed were killed out quite early by blight and potato beetle.

Under irrigation, a "Farmer's Garden" is experimented with to show the result of well manured and irrigated, and not manured and irrigated. The result is showing up quite favorably for the portion that was manured.

As most farmers—and many of the homes in this Western country—have windmills and but few people grow enough vegetables for their own use, the Station will next spring endeavor to demonstrate what can be done in a windmill garden. While the garden work is in progress at the Station, a series of instructive articles will appear in the local papers telling what is being done with this garden, and giving suggestions for other gardeners to act on regarding their own work.

THE STATE PUBLIC PARK.

One provision of the congressional bill, by which Kansas became possessed of the Fort Hays Military Reservation, was the establishment of a public park on a portion of the land. This has been done by setting apart land along Big Creek where the natural timber has been spared the demolition visited upon adjacent woods. It is one of the natural beauty spots of Western Kansas and is being improved all the time.

The present year, the Station Horticultural Department has set out some 2,500 trees to aid the landscape effect, and enhance the beauty of the park approaches and drives. Among these trees appear hackberry, elm, cottonwood, mulberry, catalpa, locust, golden willow, cedars, pines, and walnut. The season being quite favorable for the work, the plantings have prospered well.

Where the old timber stands, the grounds are sodded evenly, making an ideal outing place. The park has won public recognition in this part of the State, and is popular for picnics or public gatherings. The Old Settlers' organization holds its annual gatherings

there, and this year has set apart August 31 for its harvest picnic.

Some of these old settlers can point out historical spots in the woods of Big Creek, made famous by the presence of prominent people. One place was once a favorite camping place of General Custer. Other locations furnish legends of Indian camps and fights. Could some of the old veterans of the forest trees but speak, one could be highly entertained by the tales they could recount.

This Station is located in a region supposed to be very deficient in rainfall though the record of precipitation for the first seven months of the present year shows as follows:

January, .50; February, .55; March, .36; April, 1.80; May, 2.70; June, 3.90; July, 3.30.

A complete meteorological record similar to that kept at Government stations is maintained here and the knowledge thus gained together with that found as to the nature of the soil goes far to determine what is possible in the way of experimentation. Following are some of the results already obtained which are now published for the first time:

WINTER WHEAT.

Three hundred acres of winter wheat have just been harvested and nearly all stored in the granary. This includes a test of 380 varieties. Thirty-three of these varieties were grown on one-acre plats, ten on 1-10-acre plats, and the rest on 1-100-acre plats or less.

Experiments in rotation are made to determine what effect summer fallow, Kafir-corn, oats, soy-beans, and barley have on the yield of succeeding wheat crops. Each of the above is to be continued on the same plat every fourth year for a series of years. The following gives the yields for 1905:

Plat.	Area.	Treatment.	Yield per acre Bushels.
6.....	7 A.	Fallow '04, wheat '05.....	21.30
7.....	7 A.	Kafir-corn '04, wheat '05.....	8.04
8.....	7 A.	Oats '04, wheat '05.....	7.52
9.....	7 A.	Soy-beans '04, wheat '05.....	7.54
10.....	7 A.	Barley '04, wheat '05.....	3.91

Considerable work is being done in selecting and establishing new varieties from crossed wheats. Also making variety tests in the variety garden on 1-100 acre plats.

The following table gives the yields from varieties grown on one-acre plats:

No.	Variety.	1903.	1904.	1905.	Average for 3 yrs.
1.....	Common Turkey.....	38.75	10.23	4.30	17.76
3.....	Imported Turkey.....	39.10	10.13	5.80	18.24
4.....	Kharkof.....	40.90	11.75	4.70	19.11
5.....	Belogilina.....	38.24	9.16	5.23	17.54
6.....	Ulta.....	36.35	10.36	4.81	17.17
7.....	Crimean.....	40.61	10.23	4.00	18.28
8.....	Ghirka.....	35.68	8.40	3.35	15.81
9.....	Fadi.....	19.88	3.04	2.21	8.37
10.....	Yaroslaf.....	4.44	2.48	3.91	4.27
11.....	Crimean.....	23.20	4.46	3.93	12.86
16.....	Crimean.....	37.09	10.69	4.53	17.73
28.....	Crimean.....	36.18	8.53	4.97	16.56
29.....	Crimean.....	33.15	10.73	5.94	16.60
30.....	Ghirka.....	28.44	8.40	5.80	14.34
31.....	Ulta.....	37.76	10.18	5.90	17.91
32.....	Fadi.....	18.06	3.43	4.70	8.73
33.....	Kharkof.....	35.28	10.12	6.80	17.23
34.....	Turkey.....	34.84	9.56	5.49	16.63
35.....	Crimean.....	36.27	11.13	4.73	17.38
36.....	Banat.....	36.94	11.40	4.15	17.50
37.....	Theissa.....	40.97	8.16	4.50	18.21
38.....	Bacskai.....	36.40	10.16	5.08	17.21
39.....	Weissenberg.....	39.52	11.02	7.02	19.18
40.....	Pesterboden.....	36.59	8.05	5.60	16.75
41.....	Fadi.....	24.29	2.35	3.80	10.23
42.....	Kharkof.....	39.50	12.08	4.76	18.78

Tests to determine the best methods of preparing the seed bed, and the proper time for plowing for winter wheat, are installed. Cultivation trials are made to determine what tillage, if any, is best for winter wheat during the growing season.

IRRIGATION.

Irrigation experiments are in progress with corn, potatoes, sugar-beets and alfalfa, though this year the sugar-beets were destroyed by the fall web-worm. With these, subsoiling, deep and shallow plowing are also tested.

Corn is not usually considered a profitable crop in this section though here it has made good yields both in 1903 and 1904; and this season the prospects are very promising. Methods of preparing the seed-bed, and tests of varieties are being made.

WORK IN PROGRESS.

WINTER WHEAT.

Rotation experiment; to determine the effect of Kafir-corn, oats, barley, soy-beans, and fallowing every fourth

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Macaroni Wheat.—Rate of seeding test. Time of seeding test. Increase plats, 25 acres. Variety tests.

Flax.—Time of seeding test, 6 acres. Rate of seeding test, 5 acres. Variety tests.

Oats.—Increase plats, 20 acres. Variety tests.

Barley.—Variety tests: 17 1-acre plats; 5 one-tenth-acre plats; 12 hundredth-acre plats.

Emmer.—Rate of seeding test, 4 acres. Time of seeding test, 4 acres. Variety tests.

CORN.

Deep listing versus shallow listing, 8 acres.

No.	Variety.	1903.	1904.	1905.	Average for 3 yrs.
1.....	Common Turkey.....	38.75	10.23	4.30	17.76
3.....	Imported Turkey.....	39.10	10.13	5.80	18.24
4.....	Kharkof.....	40.90	11.75	4.70	19.11
5.....	Belogilina.....	38.24	9.16	5.23	17.54
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37.....	Theissa.....	40.97	8.16	4.50	18.21
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41.....	Fadi.....	24.29	2.35	3.80	10.23
42.....	Kharkof.....	39.50	12.08	4.76	18.78

Deep plowing versus shallow plowing, 8 acres.

Plowing versus plowing and packing, versus plowing, packing and harrowing before planting corn, 10 acres.

Trials of methods of cultivation, 35 acres.

Trials of varieties of corn, 4 acres.

HORTICULTURE.

Fruits.—Orchard, planted 1903 and 1905. Berries and grapes, same.

Garden.—Tests in manuring versus not manuring. Plats on upland and bottom. Farmer's garden and market garden.

Forestry.—Landscape gardening and timber development with stock such as elm, hackberry, honey-locust, cottonwood, catalpa, willow, maple, and varieties of shrubs.

IRRIGATION.

Subsoiling, deep plowing, and shallow plowing.

(Continued on page 822.)

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The Young Folks

CONDUCTED BY RUTH COWGILL.

The Outing of the Gilpins.

John Gilpin was a citizen of credit and renown: A train-band captain eke was he, of famous London town. John Gilpin's spouse said to her dear, "Though wedded we have been These twice ten tedious years, yet we no holiday have seen.

"To-morrow is our wedding-day, and we shall then repair Unto the Bell at Edmonton, all in a chaise and pair. My sister, and my sister's child, myself and children three, Will fill the chaise, so you must ride on horseback after we."

He soon replied, "I do admire, of woman-kind, but one, And you are she, my dearest dear, therefore it shall be done. I am a linen draper bold, as all the world doth know; And my good friend, the calender, will lend his horse to go."

Quoth Mrs. Gilpin, "That's well said; and, for that wine is dear We will be furnished with our own, which is both bright and clear." John Gilpin kissed his loving wife; o'erjoyed was he to find. That, though on pleasure she was bent, she had a frugal mind.

The morning came, the chaise was brought, but yet was not allowed To drive up to the door, lest all should say that she was proud. So three doors off the chaise was stayed, where they did all get in— Six precious souls—and all agog to dash through thick and thin!

Smack went the whip, round went the wheels; were never folks so glad; The stones did rattle underneath, as if Cheaside were mad. John Gilpin, at his horse's side, seized fast the flowing mane; And up he got, in haste to ride, but soon came down again;

For saddle-tree scarce reached had he, his journey to begin. When, turning round his head, he saw three customers come in. So down he came; for loss of time, although it grieved him sore, Yet loss of pence, full well he knew, would trouble him much more.

'Twas long before the customers were suited to their mind. When Betty screaming came down stairs, "The wine is left behind!" "Good lack!" quoth he; "yet bring it me, my leathern belt likewise, In which I wear my trusty sword, when I do exercise."

Now, Mrs. Gilpin (careful soul), had two stone bottles found. To hold the liquor that she loved, and keep it safe and sound. Each bottle had a curling ear, through which the belt he drew; And hung a bottle on each side, to make his balance true.

Then over all, that he might be equipped from top to toe, His long red cloak, well brushed and neat, he manfully did throw. Now see him mounted once again upon his nimble steed, Full slowly pacing o'er the stones with caution and good heed:

But finding soon a smoother road beneath his well-shod feet, The snorting beast began to trot, which galled him in his seat. "So! fair and softly!" John he cried; but John he cried in vain; The trot became a gallop soon, in spite of curb and rein.

So, stooping down, as needs he must, who cannot sit upright, He grasped the mane with both his hands, and eke with all his might. His horse, who never in that sort had handled been before, What thing upon his back had got, did wonder more and more.

Away went Gilpin, neck or naught; away went hat and wig; He little dreamed, when he set out, of running such a rig. The wind did blow, the cloak did fly, like a streamer long and gay, Till loop and button falling both, at last it flew away.

Then might all people well discern the bottles he had slung; A bottle swing at each side, as hath been said or sung. The dogs did bark, the children screamed, up flew the windows all, And every soul cried out, "Well done!" as loud as he could bawl.

Away went Gilpin, who but he! his fame soon spread around, "He carries weight! He rides a race! 'Tis for a thousand pound!" And still, as fast as he drew near, 'twas wonderful to view. How in a trice the turnpike men their gates wide open threw.

And now, as he went bowing down his reeking head, full low, The bottles twain, behind his back, were shattered at a blow. Down ran the wine into the road, most piteous to be seen, Which made his horse's flanks to smoke, as they had basted been.

But still he seemed to carry weight, with leather girdle braced; For all might see the bottle necks still dangling at his waist. Thus all through merry Islington these gambols did he play, And till he came into the Wash of Edmonton so gay.

And there he threw the Wash about on both sides of the way, Just like unto a trundling-mop, or a wild goose at play. At Edmonton his loving wife, from the balcony, spied Her tender husband, wondering much to see how he did ride.

"Stop, stop, John Gilpin! here's the house!" they all aloud did cry; "The dinner waits, and we are tired." Said Gilpin, "So am I!" But yet his horse was not a whit inclined to tarry there; For why? his owner had a house, full ten miles off, at Ware.

So like an arrow swift he flew, shot by an archer strong, So did he fly—which brings me to the middle of my song. Away went Gilpin, out of breath, and sore against his will. Till at his friend, the calender's, his horse at last stood still.

The calender, amazed to see his friend in such a trim, Laid down his pipe, flew to the gate, and thus accosted him: "What news? What news? your tidings tell! Tell me you must and shall! Say, why bare-headed you are come? Or why you come at all?"

Now, Gilpin had a pleasant wit, and loved a timely joke; And thus unto the calender, in merry guise, he spoke: "I came because your horse would come; and, if I well forebode. My hat and wig will soon be here; they are upon the road!"

The calender, right glad to find his friend in merry pin, Returned him not a single word, but to the house went in; When straight he came with hat and wig—a wig that flowed behind, A hat not much the worse for wear—each comely of its kind.

He held them up, and in his turn thus showed his ready wit— "My head is twice as big as yours; they, therefore, needs must fit. But let me scrape the dirt away that hangs upon your face; And stop and eat, for well you may be in a hungry case."

Said John, "It is my wedding-day, and all the world would stare If wife should dine at Edmonton and I should dine at Ware." So, turning to his horse, he said, "I am in haste to dine; 'Twas for your pleasure you came here; you shall go back for mine."

Ah, luckless speech and bootless boast! for which he paid full dear; For while he spake a braying ass did sing most loud and clear; Whereat his horse did snort as he had heard a lion roar. And galloped off with all his might, as he had done before.

Away went Gilpin, and away went Gilpin's hat and wig; He lost them sooner than at first—for why?—they were too big. Now, Mistress Gilpin, when she saw her husband posting down Into the country far away, she pulled out half a crown;

And thus unto the youth she said, that drove them to the Bell, "This shall be yours when you bring back my husband safe and well." The youth did ride, and soon did meet John coming back again. Whom in a trice he tried to stop, by catching at his rein;

But not performing what he meant, and gladly would have done, The frightened steed he frightened more, and made him faster run. Away went Gilpin, and away went post-boy at his heels; The postboy's horse right glad to miss the lumbering of the wheels.

Six gentlemen upon the road, thus seeing Gilpin fly, With postboy scampering in the rear, they raised the hue and cry: "Stop thief! Stop thief!—a highwayman!"—not one of them was mute, And all in each that passed that way did join in the pursuit.

And now the turnpike gates again flew open in short space, The tollmen thinking, as before, that Gilpin rode a race. And so he did, and won it, too, for he got first to town, Nor stopped till where he had got up he did again get down.

Now let us sing, "long live the king," and Gilpin, long live he, And when he next doth ride abroad may I be there to see. —Cowper.

An Old Account of the Landing of the Pilgrims in 1620.

[To most young Americans the story of the beginnings of our Nation is one of fascinating interest. The strange voyage across an unknown sea, and the danger and privations of the life in a new and unexpected country, and above all, the thought of what it was all to lead to—a great world power, of which we are a part—all this appeals to our sense of the romantic and marvelous. The Pilgrims landed at Plymouth on Monday, December 11, old style, December 21, new style, 285 years ago. The following quaint and altogether charming account of the ending of the voyage and of the landing is from Governor Bradford's "History of Plymouth Plantation," the manuscript of which disappeared in 1767,

was discovered in the library of the Bishop of London in 1855 and was returned to Boston six years ago. The month that intervened between the Mayflower's arrival at Cape Cod and the landing at Plymouth was occupied in explorations of the coast and in skirmishes with Indians.]

But to omit other things (that I may be brief), after long beating at sea they fell (November 8-19, 1620) with that land which is called Cape Cod; the which being made & certainly knowne to be it, they were not a little joyfull. After some deliberation had amongst them selves & with ye master of ye ship, they tacked aboute and resolved to stande for ye southward (ye wind & weather being faire) to find some place aboute Hudsons river for their habitation. But after they had sailed yt course about halfe ye day, they fell amongst dangerous shoulds and roving breakers, and they were so farr intangled ther with as they conceived them selves in great danger; & ye wind shrinking upon them withall, they resolved to bear up againe for the Cape, and thought them selves hapy to gett out of those dangers before night overtook them, as by Gods providence they did. And ye next day they gott into ye Cape-harbor wher they ridd in sattle.

Being thus arived in a good harbor and brought safe to land, they fell upon their knees & blessed ye God of heaven, who had brought them over ye vast and furious ocean, and delivered them from all ye perilles & miseries thereof, againe to set their feete on ye firm and stable earth, their proper elemente.

It is recorded in scripture as a mer- cle to ye apostle & his shipwrecked company, yt the barbarians shewed them no small kindness. But these savage barbarians, when they mette with them (as after will appeare) were readier to fill their sides full of arrows then otherwise. And for ye season it was winter, and they that know ye winters of yt cuntry know them to be sharp & violent, & subjecte to cruell & fierce storms. Beside, what could they see but a hideous & desolate windernes, full of wild beasts & wild men?

After some houres sailing, it begane to snow & raine, & about ye middle of ye afternoone, ye wind increased, & ye sea became much rough, and they broake their rudder, & it was as much as 2. men could doe to steere her with a couple of oars. In ye end they gott under ye lee of a smalle iland, and remained ther all yt night in sattle. And this being the last day of ye weeke, they prepared ther to keepe ye Sabbath. On Munday (December 11-21) they sounded ye harbor, and founde it fitt for shipping, and marched into ye land, & found diverse cornfields, & little runing brooks, a place (as they supposed) fitt for situation; at least it was ye best they could find, and ye season, & their presente necessitie, made them glad to accepte of it. So they returned to their shipp again with this news to ye rest of their people, which did much comforte their hearts.

On ye 15 of Desemr. they wayed anchor to goe to ye place they had discovered, & came with in 2. leagues of it, but were faine to bear up againe; but ye 16 day ye wind came faire, and they arrived safe in this harbor. And after wards tooke better view of ye place, and resolved wher to pitch their dwelling; and ye 25. day begane to erecte ye first house for common use to receive them and their goods.

The poem, "Jake Pool, the Stage Driver," has been asked for. We have been unable to find it as yet, and will be grateful if some one will send it to us.

A Puzzled Dad.

Mother—"Willie, you must stop asking your father questions. Don't you see they annoy him?"

Willie—"No'm; it ain't my questions that annoy him. It's the answers he can't give that make him mad."—Philadelphia Ledger.

For the Little Ones

The Cardinal Bird.

Oh, the cardinal bird is a troubadour; The gayest of the gay is he; With a flaming crest a la pompadour He fills all the woods with his glee. My eyes follow on where his notes allure: "Up a tree, up a tree, up a tree."

The symbol of blossom and summertime joy,

He delights both the eye and the ear; Spring send him on as her chief envoy, And he calls as he passes near: "Ahoy, sir! Ahoy, sir! Ahoy, sir! Ahoy! What cheer? What cheer? What cheer?"

"Hello, there! Hello, sir!" he seems to call;

"I'm afraid you are off playing hooky; You're going to fish somewhere, or play ball, Or marbles, I'll bet you a cooky. There comes your father along by the wall— Looky! Looky! Looky!"

Thanks for your courtesy, my bonny bonny bird! You have worked me a ruse complete; My heart with boyhood's heat is stirred, And my aging lips repeat Your tantalizing madrigals, word for word:

"Sweet-sweet, sweet-sweet, sweet-sweet!" —Leroy T. Weeks, Winfield, Kan.

The Japanese Shop.

ABBIE FARWELL BROWN.

It was a wonderful day when Margaret visited the Japanese shop. She went with her auntie, who was going to buy a wedding present for a friend. But it was not the beautiful tall screens, all black and gold, embroidered with wonderful long-legged birds, that pleased Margaret most. No! Nor was it the funny vases, nor the lamps hiding under their colored umbrellas, nor the picture-fans, nor the things made of nice-smelling wood. No, indeed! All the while that her auntie was poking about the store among these many kinds of things, Margaret was staring at something on a table in one corner. It was a Japanese toy garden. And in Japan one of these is put into the guest-room to amuse visitors.

My! But it was a wonderful little garden—a real, truly live garden, with growing trees and plants and moss. But it was all so tiny that it could stand on a little table no wider than Margaret's arm. And though the trees were really truly grown-up trees, a great deal older than Margaret—older even than her auntie, whom Margaret thought very old indeed—they were no taller than Margaret's little hand.

This is the way the garden looked. First, it was almost square and there was a little stone wall all around it, about an inch high. In the middle of the garden was a little hill built of rocks, and on the top of the hill was a lawn of green moss, with a tiny pagoda, or Japanese house, no bigger than a match box. The sides of the hill sloped down, very green and smooth, and at the foot was a little brook of real water, winding around the whole garden. The tiniest little path of sand crept zig-zag down the hill to a bit of a red bridge that crossed the brook, for the people in the house at the top of the hill to use. And all along the brook grew little baby plants, and the wonderful dwarf trees that I told you about. Pine trees they were, most of them, and the pine needles had fallen on the ground and had turned rusty brown, just as everyday pine needles do. Only these were ten times smaller. Margaret wondered who lived in the little house at the top of the hill, and she said to herself:

"O, how I wish I were little enough to live in that dear little house, and play in that sweet little garden, and climb up into those cunning little trees! O, how I wish I could be littler!" And that was something which Margaret had never before wished.

Just then Margaret heard a cough behind her, and looking around she saw that the funny Japanese Man who kept the store was standing right at her elbow. He was smiling very pleasantly, so Margaret said to him:

"O, Mr. Japanese Man! I think that you can tell me who lives in the dear little house and plays in the dear little garden and paddles in the dear little brook. Will you tell me, please?"

The Japanese Man bowed and grinned, and looked at Margaret for a minute without saying anything. And then he went away to the other end of the store. Presently he came back, and he had something in his hands. He set a little Somebody down beside the house on the top of the hill, and it was a tiny little old man made of china stuff, in a long green gown, with a knob of hair on the back of his head, like a lady.

"He live in house, litty ol' man," said the Japanese. "And these his animals; live in garden." As he said this the Japanese Man set down on the bridge the littlest baby white rabbit, and in the brook a tiny-winy duck, which floated on the water, and under one of the trees a wee-wee mouse, with pink ears.

"O!" cried Margaret, clapping her hands. "O, how I wish I could be little enough to play there with them. Are they alive, Mr. Japanese Man?"

The Man grinned more than ever. Then he came close to Margaret and whispered behind his hand, as though it were a great secret:

"No, not alive now. But after dark, when moon shines, and store all empty—all big folks gone away—then all come alive. My—my! Litty ol' man walk down hill, go fishy in brook. Duck say 'Quack, quack!' Litty rabbit hop so-so over bridge. Litty mouse cry 'Wee, wee!' and climb up pine tree. My! Litty girl like to see!"

"O! Have you ever seen?" cried Margaret, with her eyes very wide.

But just then her auntie came back, with the wedding present under her arm, and the Japanese Man bowed politely and walked away to the other end of the store. And though Margaret tried to catch his eye again, he was so busy that he would not look in her direction.

"Come, Margaret," said Auntie, "we must go home now."

"O, Auntie! I want it!" sighed Margaret wistfully.

"Want what? The garden? O, my dear! I can not buy you that," said her auntie sadly, "it costs dollars and dollars. But maybe I could buy you the mouse, or the duck, or the rabbit, or the little old gentleman up there. Would you like one of them, dear?"

"O, no," cried Margaret. "It would be dreadful to take them away from their lovely garden. I wouldn't have one of them for anything. Think how lonesome he would be when it was dark 'and they all came alive!'"

And on the way home Margaret told her auntie the great secret, which the Japanese Man had told her. And her auntie thought it was all very strange indeed, and she said she wished that she too was little enough to play in the wonderful garden with Margaret and that interesting family.

When it was dark Margaret went to bed, and Auntie came in to wish her good night. Margaret held her tight by the hand and would not let her go.

"O Auntie!" she whispered. "Think of the shop, all dark and empty now, with just one moon-beam shining on the little garden in the corner. And the little old man comes alive, pop, like that! And now he goes walking out of his house, down the little path over the hill. And the bunny-rabbit scampers in front of him, hop-pity-hop! Can't you see him? And when they come to the little bridge, the funny duck says 'Quack, quack!' and swims away around and around the garden. And then the little old man sits down under one of the tiny pine trees and begins to fish in the brook. And the wee-wee mouse runs up and down the tree and nibbles the cheese which the old man has in his pocket for bait. O Auntie! I can see it all, just as plainly! I wish I were there."

"I think I can see it too," said Auntie.

"O Auntie, I think I could grow little just as well as they could come alive. Don't you?" said Margaret.

And her Auntie said, "We-el, perhaps."

But she would never take Margaret to the Japanese store after dark, to see whether it could be done. Maybe she was afraid that Margaret might grow little and stay little always—which would have been a dreadful

thing for her auntie. Margaret thinks that she herself would like it very well indeed—to live always in that wonderful garden with the mouse and the duck and the rabbit and the funny little old man.—Ex.

Club Department

OFFICERS OF THE STATE FEDERATION OF WOMEN'S CLUBS.

President.....Mrs. May Belleville Brown, Salina
Vice-President.....Mrs. L. H. Wishard, Iowa
Cor. Secretary.....Mrs. N. I. McDowell, Salina
Rec. Secretary.....Mrs. W. D. Atkinson, Parsons
Treasurer.....Mrs. H. B. Asher, Lawrence
Auditor.....Mrs. Grace L. Snyder, Cawker City

Our Club Roll.

Mutual Improvement Club, Carbondale, Osage County (1905).
Give and Get Good Club, Berryton, Shawnee County (1905).
Women's Literary Club, Osborne, Osborne County (1905).
Women's Club, Logan, Phillips County (1905).
Domestic Science Club, Osage County (1905).
Ladies' Croquet Club, Tully, Rawlins County (1905).
Ladies' Social Society No. 1, Minneapolis, Ottawa County (1905).
Challaco Club, Highland Park, Shawnee County (1905).
Cultus Club, Phillipsburg, Phillips County (1905).
Literature Club, Ford, Ford County (1905).
Seaboard Club, Mission Center, Shawnee County, Route 2 (1905).
Star Valley Women's Club, Iowa, Allen County (1905).
West Side Forestry Club, Topeka, Shawnee County, Route 8 (1905).
Fortnight Club, Grant Township, Reno County (1905).
Progressive Society, Rosalia, Butler County (1905).
Pleasant Hour Club, Wakarusa Township, Douglas County (1905).
The Lady Farmers' Institute, Marysville, Marshall County (1905).
Women's Country Club, Anthony, Harper County (1905).
Taka Embroidery Club, Madison, Greenwood County (1905).
Mutual Improvement Club, Vermillion, Marshall County (1905).
Fremont Reading Club, Cawker City, Mitchell County (1905).
Cosmos Club, Russell, Kans.

[All communications for the Club Department should be directed to Miss Ruth Cowgill, Editor Club Department.]

PROGRAM OF FAMOUS WOMEN.

Frances Willard.

Roll-call—Current events.

I. Her useful life and noble character.

II. History of temperance reform.

III. Reading of poem, "Trust."

IV. In the Hall of Fame.

Because she is very near to our own time and thought, Frances Willard is probably the most interesting of the great women whom we have to study. She has been very much written of, and it will not be difficult to find ample material for the first paper in biography and magazine.

The movement for temperance reform is, comparatively speaking, a very modern one. It is a subject that is enlisting the interest more and more of the world's great thinkers. It is with this movement that the name of Frances Willard will always be linked. A paper reviewing what has been accomplished in this field will be not only interesting and instructive, but also inspiring and suggestive. The poem "Trust," which appeared in the KANSAS FARMER of last week was Miss Willard's favorite poem and one which was very comforting to her.

To be the only woman in the Hall of Fame is no small honor. Senator Beveridge's tribute in the unveiling of the statue will be a very fitting finale to this afternoon's program.

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Every reader of this notice is requested to send to the undersigned a list of his friends in the East who may possibly be interested. Literature regarding your country will be mailed to them, and any questions they ask will be fully answered

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The Home Circle

CONDUCTED BY RUTH COWGILL.

THE SHEARING.

The day they cut the baby's hair
The house was all a-flutter;
Such fuss they made, you would have said
He was a king—the midget!

Some wanted this, some wanted that;
Some thought that it was dreadful
To lay a hand upon one strand
Of all that precious headful.

While others said, to leave his curls
Would be the height of folly,
Unless they put him with the girls
And called him Sue or Molly.

The barber's shears went snip-a-snip,
The golden stuff was flying;
Grandmother had a trembling lip,
And aunt was almost crying.

The men-folks said, "Why, hello, Boss,
You're looking five years older!"
But mother laid the shaven head
Close, close against her shoulder.

Ah, well; the nest must lose its birds,
The cradle yield its treasure;
Time will not stay a single day
For any pleader's pleasure.

And when that hour's work was weighed,
The scales were even, maybe;
For father gained a little man
When mother lost her baby!

—Nancy Byrd Turner in St. Nicholas

More About the Ottawa Chautauqua.

We are glad to add the following sketch of camp life at Chautauqua to the one of last week:

The twenty-sixth session of the Chautauqua Assembly at Forest Park, Ottawa, has gone into history as may be attested by eight tenters of No. 86 Ottawa Avenue.

Fortunate eight! Only one tent stake in water the night of the opening, while the waves of the Marias des Cygnes River surged over the platform of the tabernacle, leaving eleven of the upper tiers of seats as a land mark. Prentiss Hall was in sympathy, and seventy-five tents were removed from the lower level, the citizens of Ottawa coming to the rescue as the tide came in.

The Assembly called off? Not a thought of it.

The opening exercises were taken to the city opera house. The keynote was sounded by the chairman who quoted: "There is a tide in the affairs of men which taken at its flood leads on to fortune." The Chautauqua spirit rose to the emergency and cheered lustily when it was announced that the Fourth of July program would be carried out on the grounds.

The next day a platform was built out over the waters for speaker Darrow, and the audience not accommodated within the seating capacity could sit at anchor in boats beside the building.

Rain, mud, and more rain the first few days caused the waters to recede slowly. As fast as a tier of seats were scored above water, boards were laid at their feet. Later a car-load of shale was carted in to cover slimy foundations, tents were reconstructed and the white city, in the grove, enlarged her borders daily.

Not one speaker failed on the entire ten-days' program, which was said to be the richest ever rendered on that platform.

We were inspired daily by the lectures on Scotch literature by Dr. Colledge, and Wilbur F. Crafts, who has been termed a walking encyclopedia on National reform. Dr. Liff, who has spent thirty years in Utah, gave us interesting chapters in Mormon life.

Lawson's message, the sentiments of Jerome, the learned treatise on "Hamlet," by the famous Wisconsin Governor, have been freely commented on by the press and private parties, and the appearance of Governor Folk, and our own Kansas Executive on the last day was a fitting climax enthusiastically welcomed by sojourners as well as a crowd of visitors.

The Assembly Sabbath on the grounds with open gates was an experiment. Rev. Guy Mark Pearse, the great London preacher, gave the morning sermon, followed by the big Assembly Sunday-School. The afternoon sermon by Dr. Crafts, with sacred concert in the evening, the beautiful cool atmosphere throughout made the day an ideal one.

During the week, character sketches by Rev. Pearse—genius as well as preacher—crayon talks by French and Packard, scientific illustrations of liquid air and wireless telegraphy, Carolina singers, the vitagraph, delightful readings, and music tempered the stress of listening to profound lectures daily.

But what of the eight! Five were old school-teaches, one a music teacher, another a missionary from Alaska, and the last to be mentioned in our big, five-roomed tent was our 11-year-old baby girl. Each absorbed what she could best make use of, and more than one was seen going tentward with the C. L. S. C. books for 1905-6 under her arm.

We go our separate ways filled to the brim with wisdom and understanding and most delightful memories of camp life among the beautiful trees of Forest Park.

CLARA A. GEBHARDT.

A Tribute to the American Woman— Frances E. Willard.

HON. ALBERT J. BEVERIDGE, OF INDIANA, IN THE UNITED STATES SENATE, FEBRUARY 17, 1905, ON THE OCCASION OF THE UNVEILING OF THE WILLARD STATUE IN THE U. S. CAPITOL.

Mr. President: From the beginning woman has personified the world's ideals. When history began its record it found her already the chosen bride of art. The things that minister to mankind's good have, from the very first, by the general judgment, been made feminine—the ships that bear us through storm to port; the seasons that bring variety, surcease of toil and life's renewal; the earth itself, which, through all time and in all speech, has been the universal mother. The Graces were women, and the Muses, too. Always her influence has glorified the world, until her beatitude becomes divine, in Mary, Mother of God.

Mark how the noblest conceptions of the human mind have always been presented in form of woman. Take Liberty; take Justice; take all the holy aspirations, all the sacred realities! Each glorious ideal has, to the common thought, been feminine. The sculptors of the olden time made every immortal idea a daughter of the gods. Even Wisdom was a woman in the early concept of the race, and the unknown genius of the youthful world wrought Triumph itself into woman's form in that masterpiece of all the ages—The Winged Victory. Over the lives and destinies of men the ancients placed Clotho, Lachesis, and Atropos forever spinning, twisting, severing the strands of human fate.

In literature of all time woman has been Mercy's messenger, handmaid of tenderness, creator and preserver of human happiness. Name Shakespeare—Miranda and Imogen, Rosalind, Perdita and Cordelia appear; name Burns—the prayer "To Mary in Heaven"

gives to the general heart that touch of nature which makes the whole world kin; name the Book of Books—Rachel and the women of the Bible, in beauty, walk before us, and in the words of Ruth we hear the ultimate formula of woman's eternal fidelity and faith.

So we see that through all time woman has typified the true, the beautiful, and the good on earth. And now Illinois, near the very heart of the world's great Republic, and at the dawn of the twentieth century, chooses woman herself as the ideal of that Commonwealth and of this period; for the character of Frances E. Willard is womanhood's apotheosis.

And she was American. She was the child of our American prairies, daughter of an American home. And so she had strength and gentleness, simplicity and vision. Not from the complex lives that wealth and luxury force upon their unfortunate children; not from the sharpening and hardening process of the city's social and business grind; not from any of civilization's artificialities, come those whom God appoints to lead mankind toward the light.

Moses dwelt alone on the summit of mystery and human solicitude. The master abode in the wilderness, and there the power descended on Him with which he put aside the tempter. In the forests the father of our country learned liberty's lessons from Nature, liberty's mother; and from the valleys and the heights, the fields and pouring streams, got understanding of the possibilities of this land, a knowledge of its uses, a perception of its people's destiny. We can not imagine Abraham Lincoln coming to us from a palace. No! We can understand him only as he really was—man of the people and the soil, thinking with the people's mind the grand and simple truths, feeling with the people's heart an infinite compassion for and fellowship with all the race.

So, Mr. President, all the saints and heroes of this world have come, fresh and strong from the source of things, by abuses unspooled and unweakened by false refinements. And so came Frances E. Willard, the American woman. The wide, free fields were the playgrounds of her childhood. The great primeval woods impressed her unfolding soul with their vast and vital calmness. Association with her neighbors was scant and difficult, and home meant to her all that the poets have sung of it, and more. It was a refuge and a shrine, a dwelling and a place of joy, a spot where peace and love and safety and all unselfishness reigned with a sovereignty unchallenged. And so this child of our forests and our plains, this daughter of that finest of civilization's advance guard—the American pioneers—early received into her very soul that conception of the home to which as the apostle of universal

A WOMAN'S ORDEAL DREADS DOCTOR'S QUESTIONS

Thousands Write to Mrs. Pinkham, Lynn, Mass., and Receive Valuable Advice Absolutely Confidential and Free

There can be no more terrible ordeal to a delicate, sensitive, refined woman than to be obliged to answer certain questions in regard to her private ills, even when those questions are asked by her family physician, and many



continue to suffer rather than submit to examinations which so many physicians propose in order to intelligently treat the disease; and this is the reason why so many physicians fail to cure female disease.

This is also the reason why thousands upon thousands of women are corresponding with Mrs. Pinkham, at Lynn, Mass. To her they can confide every detail of their illness, and from her great knowledge, obtained from years of experience in treating female ills, Mrs. Pinkham can advise women more wisely than the local physician.

Read how Mrs. Pinkham helped Mrs. T. C. Willadsen, of Waukegan, Ia. She writes:

Dear Mrs. Pinkham:—
"I can truly say that you have saved my life, and I cannot express my gratitude in words. Before I wrote to you telling you how I felt, I had doctored for over two years steady, and spent lots of money in medicines besides, but it all failed to do me any good. I had female trouble and would daily have fainting spells, backache, bearing-down pains, and my monthly periods were very irregular and finally ceased. I wrote to you for your advice and received a letter full of instructions just what to do, and also commenced to take Lydia E. Pinkham's Vegetable Compound, and I have been restored to perfect health. Had it not been for you I would have been in my grave to-day."

Mountains of proof establish the fact that no medicine in the world equals Lydia E. Pinkham's Vegetable Compound for restoring women's health.

womanhood, her whole life was dedicated.

To make the homes of the millions pure, to render sweet and strong those human relations which constitute the family—this was her mission and her work. And there can not be a wiser method of mankind's upliftment than this, no better way to make a nation noble and enduring; for the hearthstone is the foundation whereon the



CLASS IN COOKING KANSAS STATE AGRICULTURAL COLLEGE, MANHATTAN.

State is built. The family is the social and natural unit. Spencer wrote learnedly of "the individual and the State;" but he wrote words merely. The individual is not the important factor in nature or the nation. Nature destroys the individual. Nature cares only for the pair; knows in some form nothing but the family. And so by the deep reasoning of nature itself Frances Willard's work was justified.

But her's was no philosopher's creed. She got her inspiration from a higher source than human thinking. In her life's work we see restored to earth that faith which, whenever man has let it work its miracle, has wrought victory here and immortality hereafter. Such was the faith of Joan, the inspired maid of France; such that of Columbus, sailing westward through the dark; such the exalted belief of those good missionaries who first invaded our American wilderness to light with their own lives on civilization's altar the sacred fire that never dies. The story of Frances Willard's faith in the conquest of evil by the good seems incredible to us who demand a map of all our future before we take a step.

For Frances E. Willard knew no questioning. The Master's message was at once her guaranty and her command. The Bible was to her, in very truth, divine. What immeasurable and increasing influence that one book has wielded over the minds of men and the destiny of the world. If it be the word of God, as we profoundly believe, surely it comes to human ears with all the dignity and peace and power that His word should command. If it be the word of man, then even the doubter must admit that the ancient Hebrews had miraculous skill to cast a spell across millenniums which, strengthening with the years, spreads wider today than ever and embraces the future as far as even the eye of imagination can behold. Not all invention or all statesmanship or all of literature have so touched and bettered human life as this one book. And it was the Bible that gave Francis E. Willard her mission, her strength, her hope, her argument and her inspiration.

Thus prepared and thus equipped she went out into the world and to her work. No method can measure what she did. The half million of women whom she brought into organized cooperation in the Women's Christian Temperance Union is but a suggestion of the real results of her activities. Indeed, the highest benefits her life bestowed were as intangible as air and as full of life. She made purer the moral atmosphere of a continent—almost of a world. She rendered the life of a nation cleaner, the mind of a people saner. Millions of homes to-day are happier for her; millions of wives and mothers bless her; and countless children have grown into strong, upright, and beautiful maturity, who, but for the work of Frances E. Willard, might

have been forever soiled and weakened.

Mother of all mothers, sister of all wives, to every child the lover, Frances E. Willard sacrificed her own life to the happiness of her sisters. For after all, she knew that with all her gifts and all the halo of her God-sent mission, nevertheless the humblest mother was yet greater far than she. But it was needful that she should so consecrate her strength and length of years. For how shall the service of utter unselfishness be achieved save in the utter sacrifice of self? So Frances E. Willard gave up her life and all the rights and glories of it that all of her sisters might lead fuller, richer, happier, sweeter lives themselves.

So, Mr. President, by placing her statue in the hall of our National immortals, a great commonwealth to-day forever commemorates the services of this American woman to all humanity. And the representatives of the American people—the greatest people in this world—in Congress formally assembled to-day are paying tribute to the little frontier American maid who heard and heeded the voices that came to her from the unseen world, and, obeying their counsels, became the first woman of her generation, the most beloved character of her time, and, under God, a benefactress of her race.

THREE DAYS IN THE GROVE.

(Continued from page 811.)

into them all the time. He stands for a better citizenship.

The morning of the second day was wet and the crowd was slow in arriving. Those who came early insisted on hearing again from McNeal and were well repaid for a ride over muddy roads.

The afternoon of the second day tested the endurance of the people of Leavenworth County. With instructions to speak on "Education," E. B. Cowgill, editor of the KANSAS FARMER, read to them for 55 minutes on "Outsiders' Views of Education." That audience was very kind to the speaker, for, instead of mobbing him, they listened attentively to the end of the lecture.

President Murlin, of Baker University, then delivered a magnificent address on "The Greatest Work in the World." Dr. Murlin really rested the audience by the crisp and lively way in which he presented great thoughts on a great subject. After listening to him for an hour none would have wearied had he continued for another hour. It was slowly and with great difficulty that Dr. Marlin got through the crowd of 2,000 people to go to his train. Everybody seemed to have something to say to him.

The educational part of the program was followed by Grand Army addresses. Hon. A. P. Reardon, of Mc-

Louth, read a carefully prepared and patriotic paper on "Obligations to the Old Soldiers." This was followed by an address by "Farmer" Smith, in which he recounted the horrors of Andersonville prison. He gave a pleasing variation, however, by telling of the great prayer meeting in which the petition for water was made, and the great storm during which the wonderful "Providence Spring" broke out within the enclosure. This spring is still flowing.

Congressman Calderhead, of the Fifth Kansas District, spoke at night. In his young manhood he moved onto a piece of government land and built, with his own hands, a cabin 10x14, making all of the furniture except the stove. The settlers had little money, but were rich in all the civilities of life. One of the settlers who wanted a plow had to have fourteen of his neighbors sign the note with him, and then, if suit had been brought, the price of the plow could not have been recovered. Mr. Calderhead spoke of the way in which early prejudices were lost in the experiences of hardship that came both to the soldier and the early settler. Religious, political and social differences were forgotten. The tribute of the speaker to the flag was a thing long to be remembered. The address was scholarly, with a judicious mixture of genial humor.

The third day was given to sports of which the KANSAS FARMER has received no account.

The exercises were interspersed with music throughout. This was contributed by the Baker quartette and by Tonganoxie local talent.

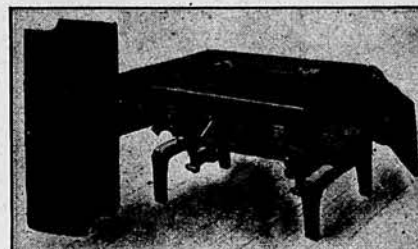
The Amount of Water Used by Growing Corn.

R. W. CLOTHIER.

Some remarkable results are being obtained at the Missouri State Normal School of Cape Girardeau, in an experiment to determine how much water corn will use during its growing season if supplied with all the water its roots will absorb.

The corn is growing out doors in a cylinder 18 inches in diameter and 4 feet high, which is filled with soil. At the bottom of this cylinder is a

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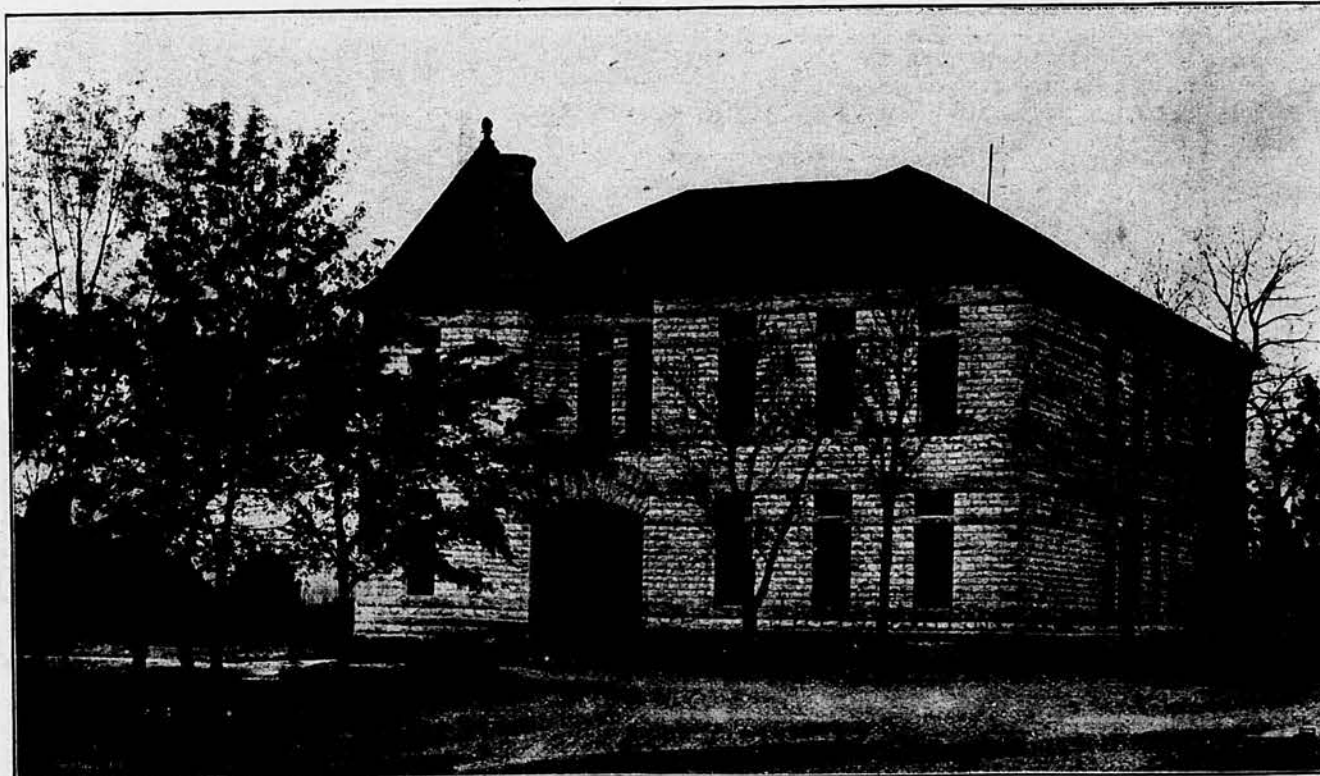
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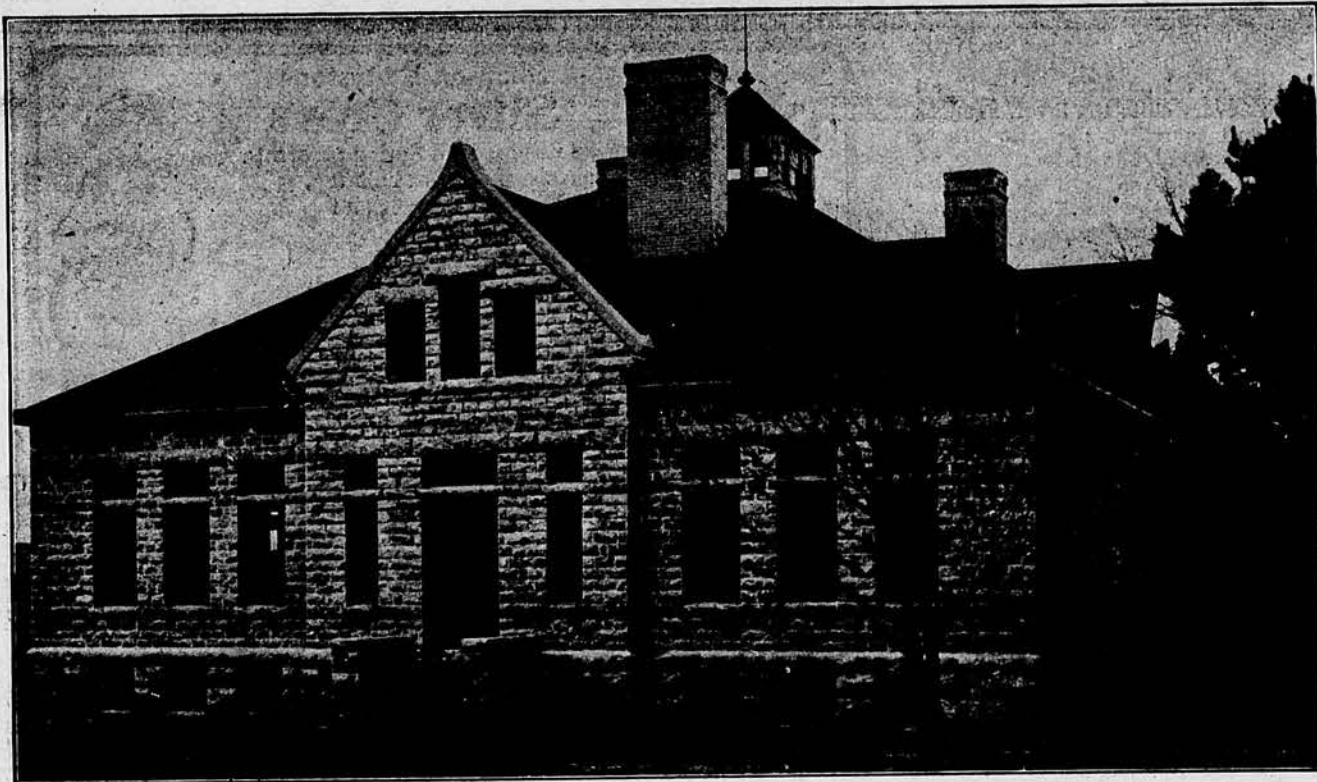
reservoir making connection with the soil in the cylinder, but shut off entirely from any connection with the air. The soil was saturated with water and the reservoir filled. The corn was then planted. As the water passes up through the soil to evaporate at its surface, or as it is used up by the corn, the level of the water in the reservoir becomes lower. By measuring the water that must be added to this reservoir to keep its level constant we have an accurate record of the amount of water that leaves the cylinder both by evaporation and through the corn. The amount evaporated by the soil is measured by a check cylinder in which no corn is growing. The corn was planted May 7th. There are three stalks which at present, July 12th, are just beginning to silk.

The remarkable results spoken of above have been obtained during the last 24 days. During this period there has been a fraction over 7 inches of rainfall, an unusually large amount. But notwithstanding this tremendous rainfall, there has been absolutely no percolation into the reservoir. On the contrary 132 pounds of water have been added to the reservoir to keep its water constantly level. These three stalks of corn have only one-seventh as much soil surface as they would have under usual field conditions, but notwithstanding this fact the results show the enormous amount of water that corn uses when rapidly growing. Each stalk has used daily an average of three pounds of water since they were two feet high. At this rate one inch of rain must fall every 7½ days to supply the demands of the corn.

Nowadays similarity in color and markings is not so much an essential thing in matching horses for a team. The horses must be alike in action, speed, temper and spirit. This is not because of any innate fancy for mismatched pairs in color, but because of the great pleasure and comfort in driving two horses that travel as one. Style, size, and speed go with the other considerations. If likeness in color can be obtained, well and good, but those matching horses will not wait on color if other things are right.



KEDZIE (DOMESTIC SCIENCE) HALL, STATE AGRICULTURAL COLLEGE, MANHATTAN, KANS.



DAIRY HALL, STATE AGRICULTURAL COLLEGE, MANHATTAN, KANS.

STATE AGRICULTURAL INSTITUTIONS.

(Continued from page 817.)

low plowing are tested in connection with "summer" versus "winter," versus no irrigation, on crops such as potatoes, corn, sugar beets; and trials in irrigating alfalfa are also in progress.

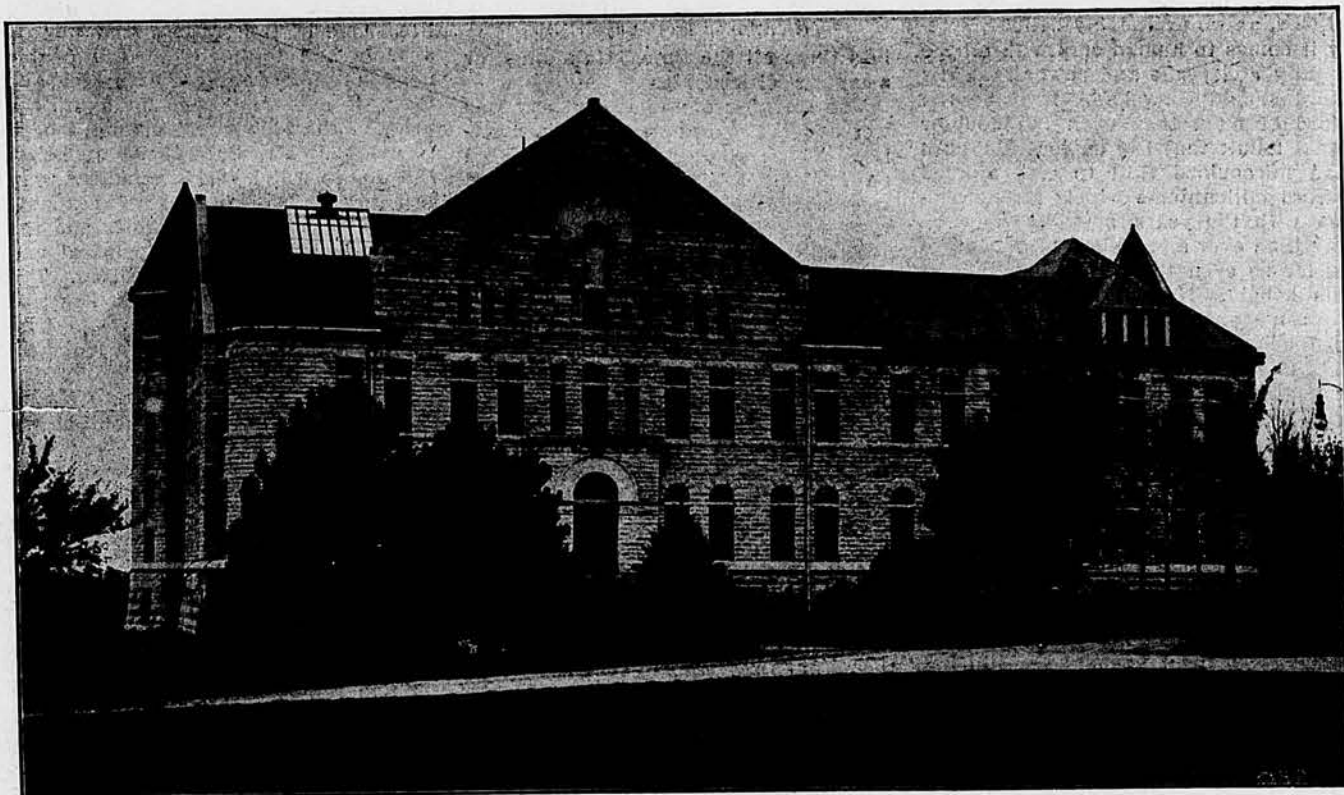
LIVE STOCK.

Feeding Experiments.—Eight lots of 2-year-old steers; each lot fed a different ration of Western-grown feeds.

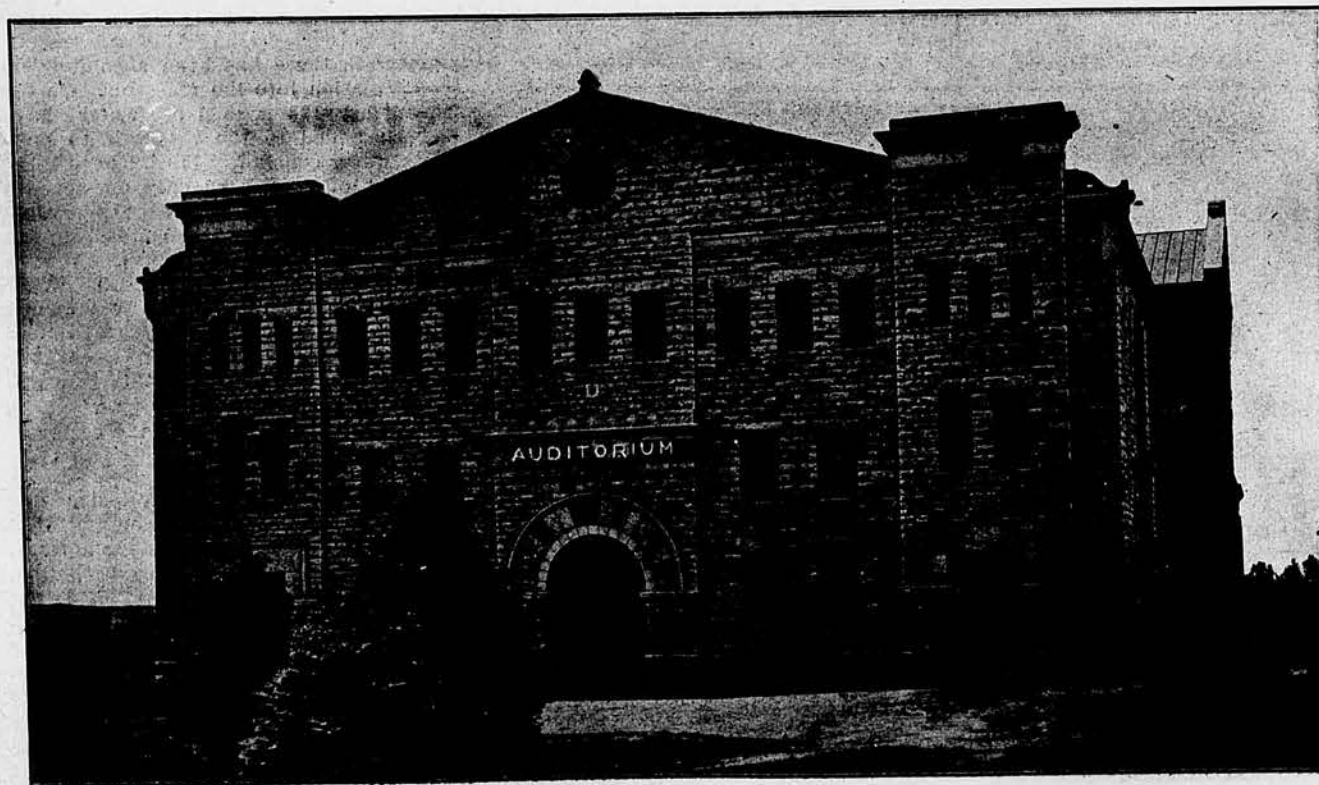
Grading up two herds; Hereford and Shorthorn; beginning with grade females, culling out scrubs, and using pure-bred bulls.

FEEDING EXPERIMENTS.

Western Kansas has long been the home of the cattle industry, but this same cattle industry meant the range cattle business only, where cattle were grown to sufficient maturity to ship to feed lots within the corn belt. Even at this date there is a dearth of cattle at this end of the State, and the experiments undertaken by the Station will have a vast influence doubtless in developing a neglected industry. It has long been the impression of farmers that neither hogs nor cattle could be grown to marketable condition without an abundance of corn, and the Experiment Station undertakes to show that both the abundance of corn and the proper maturing of beef cattle and hogs are within the immediate possibilities of Western Kansas. The fol-



FAIRCHILD (LIBRARY) HALL, STATE AGRICULTURAL COLLEGE, MANHATTAN, KANS.



AUDITORIUM, STATE AGRICULTURAL COLLEGE, MANHATTAN, KANS.

lowing record of feeding experiments is therefore of great interest, although the complete results can not yet be given.

In the latter part of November, 1904, the Station began fattening 64 head of 2-year-old grade Hereford and Shorthorn steers. (Of these, 32 were bought in the Kansas City market, last June; 19 were purchased in the vicinity of Hays, and 13 were raised on the Station farm.) They were divided equally according to weight, color, and individual characteristics, into eight lots of eight steers each and each lot fed a different ration. (The cattle had splendid pasture during the summer; consequently were in good condition when put into the feed lot, and did not gain much during the first month of the experiment.) Their average weight at the beginning was 853 pounds.

The object of the experiment was to make a thorough test with Western-grown feeds to determine the most economical and practical combination as a beef-producing ration. Further, to test very wide, medium, and narrow rations with one that has the proportion of protein and carbohydrates in the feed to approximate the requirements of the feeding standard, even though not a balanced ration.

Lot I was fed corn-and-cob-meal and alfalfa hay.

Lot II was fed ground Kafir-corn meal and alfalfa hay.

Lot III was fed ground wheat and alfalfa hay.

Lot IV was fed corn-and-cob-meal and Kafir hay.

Lot V was fed ground Kafir-corn and Kafir hay.

Lot VI was fed corn-and-cob-meal and sorghum hay.

No. of lot	Grain per 100 pounds gain	Hay per 100 pounds gain	Cost of 100 pounds gain	Nutritive ratio 1:
I	592	667	\$5.13	6.79
II	593	723	8.30	5.86
III	538	789	8.56	5.16
IV	901	1025	7.32	14.98
V	1133	1383	11.37	12.43
VI	1117	1261	9.06	17.29
VII	1174	1425	11.74	14.17
VII	689	800	7.67	9.56

Lot VII was fed ground Kafir-corn and sorghum hay.

Lot VIII was fed a mixed ration, consisting of one-third each of corn, Kafir-corn, and wheat; and alfalfa, Kafir, and sorghum hays.

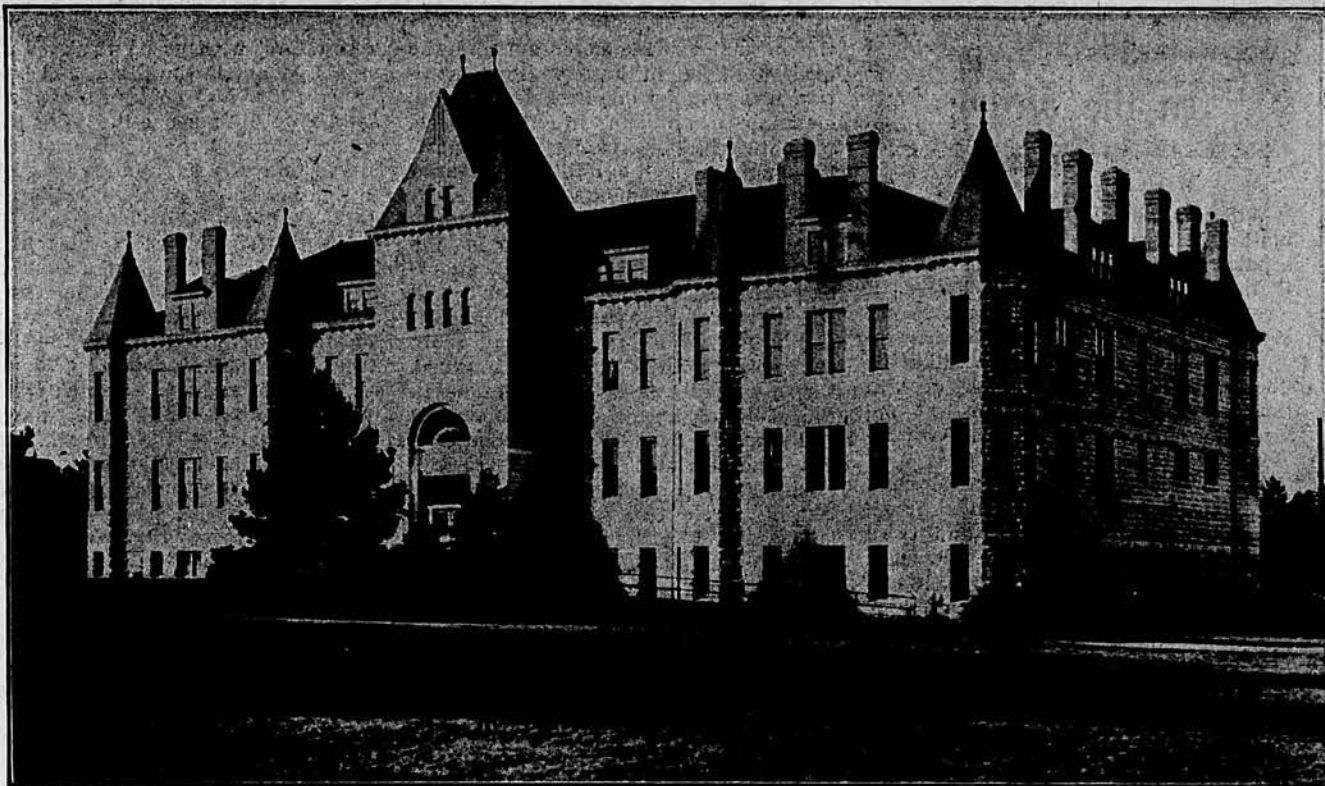
With all the lots, the roughage was fed in the bottom of the feed troughs and grain poured over it. Each lot was

provided with a shed open to the south and the steers had salt and water at will. The feeding was done twice daily, at regular hours—morning and evening.

The advisability of feeding a heavy grain ration is frequently questioned by the practical feeder; especially is this true in the West where corn and other grains are usually scarce—consequently high priced; while on the other hand, alfalfa and other roughage is abundant, also low in price. The feeding was done with this fact before us.

The cattle were started on feed with all the roughage they would clean up, which was an average of 15 pounds per head daily, and a grain ration of 4 pounds per head daily. The quantity of grain was gradually increased and the roughage cut down when necessary. As no hogs were to follow, the question of economy in the feed lot was considered, and all grain was ground in order that the steer would produce the most possible pounds of flesh for each bushel of grain fed.

After feeding the above rations 152 days, it was evident that the poorer lots would not be in marketable condition, so all the steers were weighed individually, three days in succession,



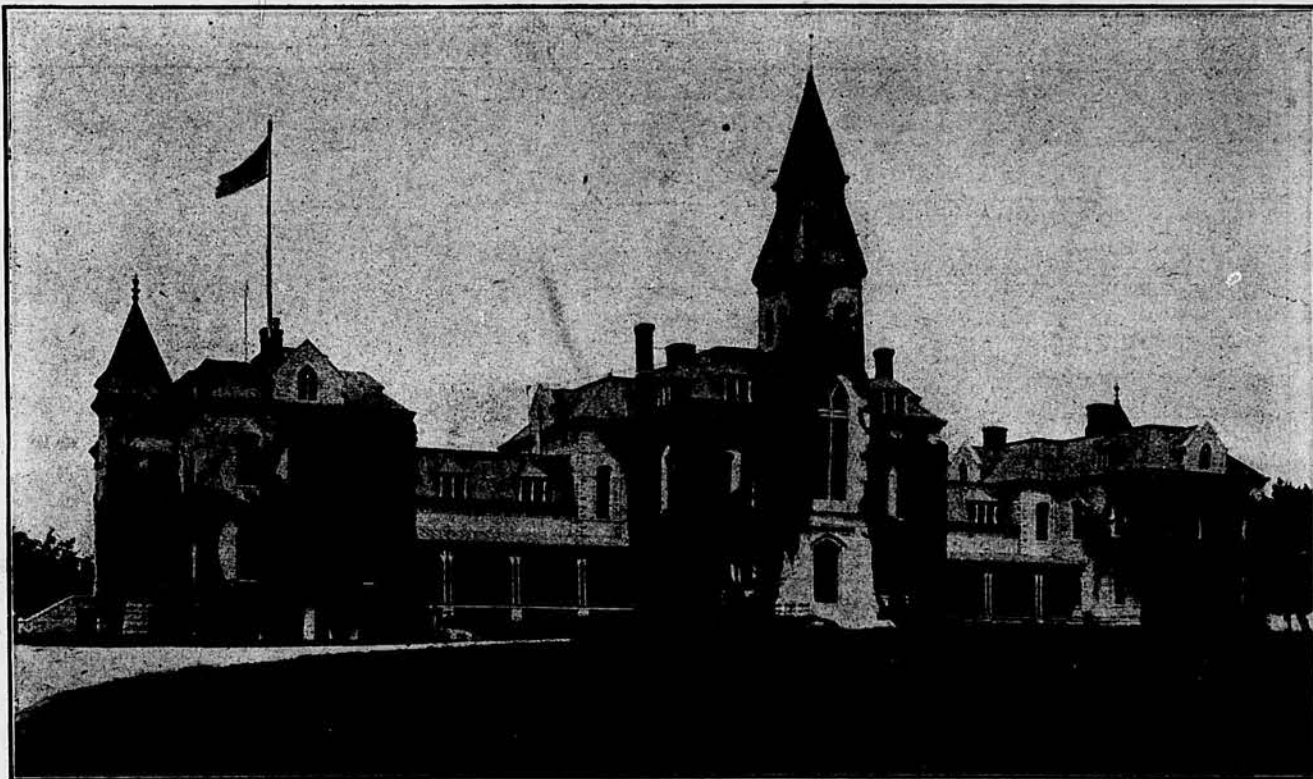
PHYSICAL SCIENCE HALL, STATE AGRICULTURAL COLLEGE, MANHATTAN, KANS.

also that Kafir-corn hay is better than sorghum hay as a roughage in a beef-producing ration. That one pound of ground Kafir-corn is about equal to one pound of corn-and-cob-meal, and that 2.38 pounds of flesh more are produced from one bushel (70 pounds) of the latter than from one bushel (56 pounds) of the former; and a trifle less alfalfa hay is required with the corn.

RETROSPECT.

The limitations of space are such that it is possible to give only the merest outline of the great work that is now being done by the Kansas State Agricultural College and Experiment Station. Their real value is only now coming to be appreciated by the people of the State. The institution as it exists represents the growth of years, and the reputation which it has attained throughout the State is perhaps second to none in the Union for good work well done. It has long been claimed that this agricultural college is the largest in the world and it is now asserted that the Fort Hays Station is the largest Experiment Station in the world. Mere size without quality, however, should count for little. A careful reading of the catalogue or of the Experiment Station bulletins, or a brief examination by the visitor must serve to convince the doubting that the work done is of high quality which will compare favorably with that of any other. To those who have been familiar with the history of the institution for many years, it is realized that the

(Continued on page 830.)



ANDERSON HALL, STATE AGRICULTURAL COLLEGE, MANHATTAN, KANS.

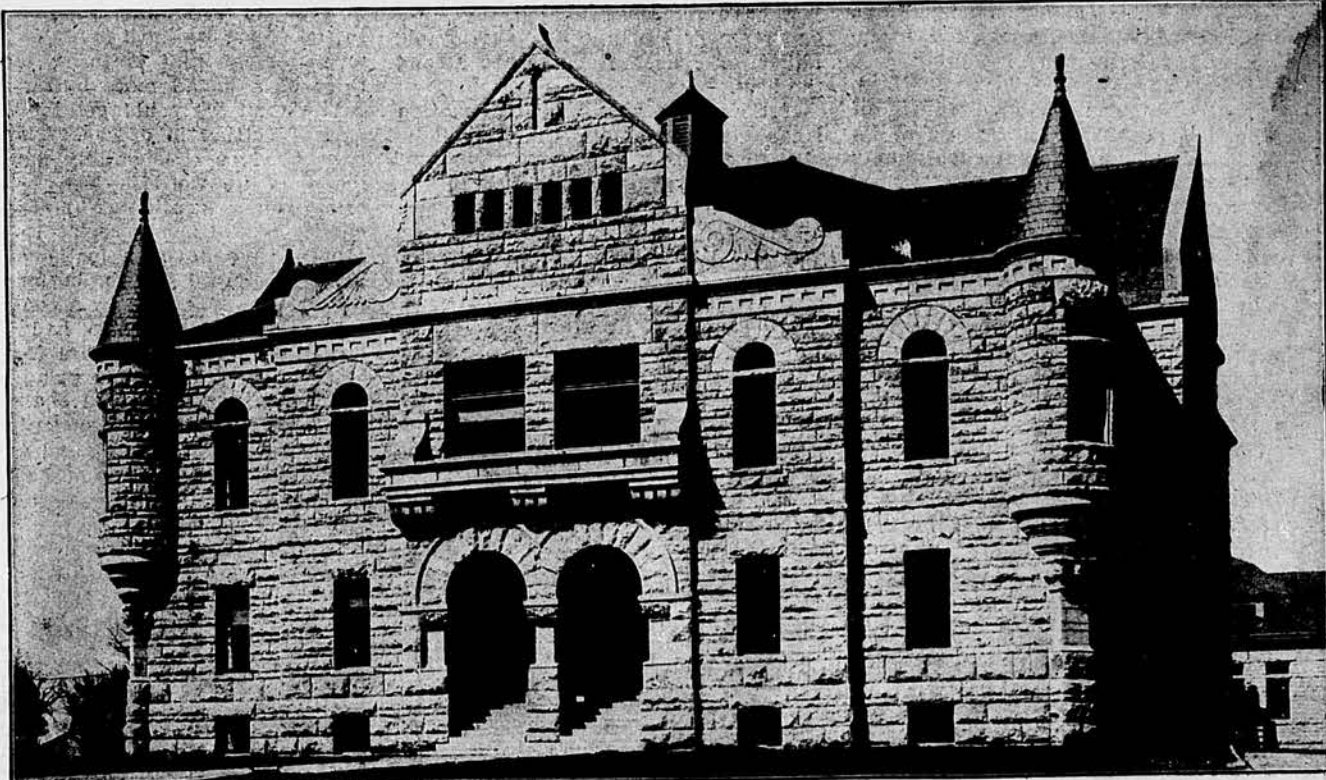
and the average of the three weights taken from which to deduct results. Thereafter, the ration of all lots—except I and VIII, which continued as before, though cornmeal was substituted for corn-and-cob-meal—were gradually changed to cornmeal and alfalfa hay. The 64 head were fed 28 days longer, making a total of 180 days on feed.

The accompanying table gives some of the results deducted from the experiment, but the complete record will be published later in a bulletin.

Pounds grain for 100 pounds gain	Average weight at Experiment Station	Average weight at Kansas City	Per cent shrinkage	Selling price at Kansas City market	Per cent dress
180	1233	1176	4.6	\$5.25	56.69
179	1237	1171	5.3	5.15	59.55
178	1191	1126	5.4	4.90	59.53
177	1143	1093	4.08	4.85	57.90
176	1097	1048	4.38	4.85	56.46
175	1102	1050	4.7	4.75	57.96
174	1082	1033	4.02	4.70	57.54
173	1214	1165	4.06	5.00	56.23

In computing the costs, feed was figured as near local prices as possible, i. e., corn 45 cents, Kafir-corn 46 cents, wheat 78 cents, alfalfa \$4, Kafir-hay and sorghum \$3.

The experiment demonstrates the importance of the use of the balanced ration as a guide to all practical feeders. It shows that alfalfa hay is far superior to either Kafir-corn hay or sorghum;



AGRICULTURAL HALL, STATE AGRICULTURAL COLLEGE, MANHATTAN, KANS.

In the Dairy

Pasteurizing Cream.

Will you please give me some information in regard to pasteurizing hand separator cream? To what extent will it improve the quality of butter, if any? Will the yield be any greater? Will the butter keep longer under ordinary circumstances? And will it be necessary to have a ripener or will the common ripening cream vat answer the purpose? What make of machines would you recommend?

Cuero, Texas. J. M. EUBANKS.

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

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

Although pasteurization is done in almost every up-to-date creamery in the United States on account of the undesirable contamination of the average milk, it is not to be recommended where milk is properly handled. It is more or less detrimental to the digestibility of milk, for instance:

First—The germicidal power possessed by perfectly fresh milk is destroyed. It is the belief that this power affords some protection against pathogenic bacteria which obtain entrance into milk.

Second—The albumen is coagulated and made less digestible.

Third—The starch fermenting power is lost. The ferment in the saliva of adults which converts starch into sugar is lacking in that of infants, but the same ferment is present in fresh milk. It is especially necessary that milk given to infants should not be treated thus to destroy this ferment.

Fourth—Long-continued heating has a marked effect on milk sugar, which is caramelized, forming brown specks in milk. This, however, rarely appears in pasteurized milk.

Fifth—The condition of fat is altered by melting and the globules tend to unite. Thus the fat is made less digestible and it must again be emulsified before it can be digested.

Sixth—The casein is also affected, as is shown by the fact that it requires a larger amount of rennet for its precipitation and is less readily acted upon by the pepsin and pancreatin than the casein in raw milk.

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

The new bacteria from the pure culture develop rapidly after pasteurization, when they have practically a clear field to work in. They produce

the normal souring of cream and the desired flavor in butter. Pasteurization need not be done where absolute cleanliness prevails in dairy barn, milk wagons and creamery. It is merely done to rid the milk of bacterial contamination from filthy sources. It is the lesser of two evils. The ordinary hand-separator cream is improved by pasteurizing to such an extent that the butter made from it will score from one to five points higher, and will bring one to three cents more per pound than if left unpasteurized. There is practically no difference in the yield of butter from pasteurized and unpasteurized cream, although it has been claimed that unpasteurized cream gives a slightly larger overrun. The keeping quality of butter is materially aided by pasteurizing the cream, for the putrefactive bacteria coming from unclean sources, if left in the cream, naturally get into the butter and prevent its keeping as long as it otherwise would.

You should have a cream-ripenener in either case, whether you have a pasteurizer or not, for cream should be ripened to from five- to six-tenths per cent acidity before churning, and the various batches should all be ripened together. This gives uniformity to butter. For instance, if you have no ripener and put the various batches of cream into the churn just before churning, some of it will be ready to churn, some of it over-ripe, and some not ripe enough.

'extractors' with us on trial. We had no confidence in the thing, and besides thought it a very costly tin can, so for a time we did not use it. After awhile when we found the agent was unwilling to take it away, and we happened to be handling a large quantity of milk, we began—with many misgivings—to put a small part of the milk into it. Using it in this way we could not tell whether it was profitable or not, and when winter approached we notified the agent again to take the tin can away. Instead of doing so, he urged us to use it right on through the winter, to put all the milk into it and give it a fair trial. This we did, except keeping out a crock of milk for table use; and the result surprised us—a pleasant surprise, however, as is shown by the fact that we bought the 'extractor' and still have it. It has had a year's constant use since then, and we wouldn't be without one of these 'fakes' for five times the price of it. It has proved a great labor-saver. We simply put the new milk into it, pump in the same quantity of water, stir, and carry it to the cellar; then at next milking time turn the faucet and draw off the diluted milk, and then the cream—which is more solid and thick than we could get it under the old system in twenty-four hours. The water stirred in seems to be very efficient in floating the butter-fat to the top, for there seems to be none left in the milk at the end of the twelve hours. Of course no one will question the value

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Every Year of Use
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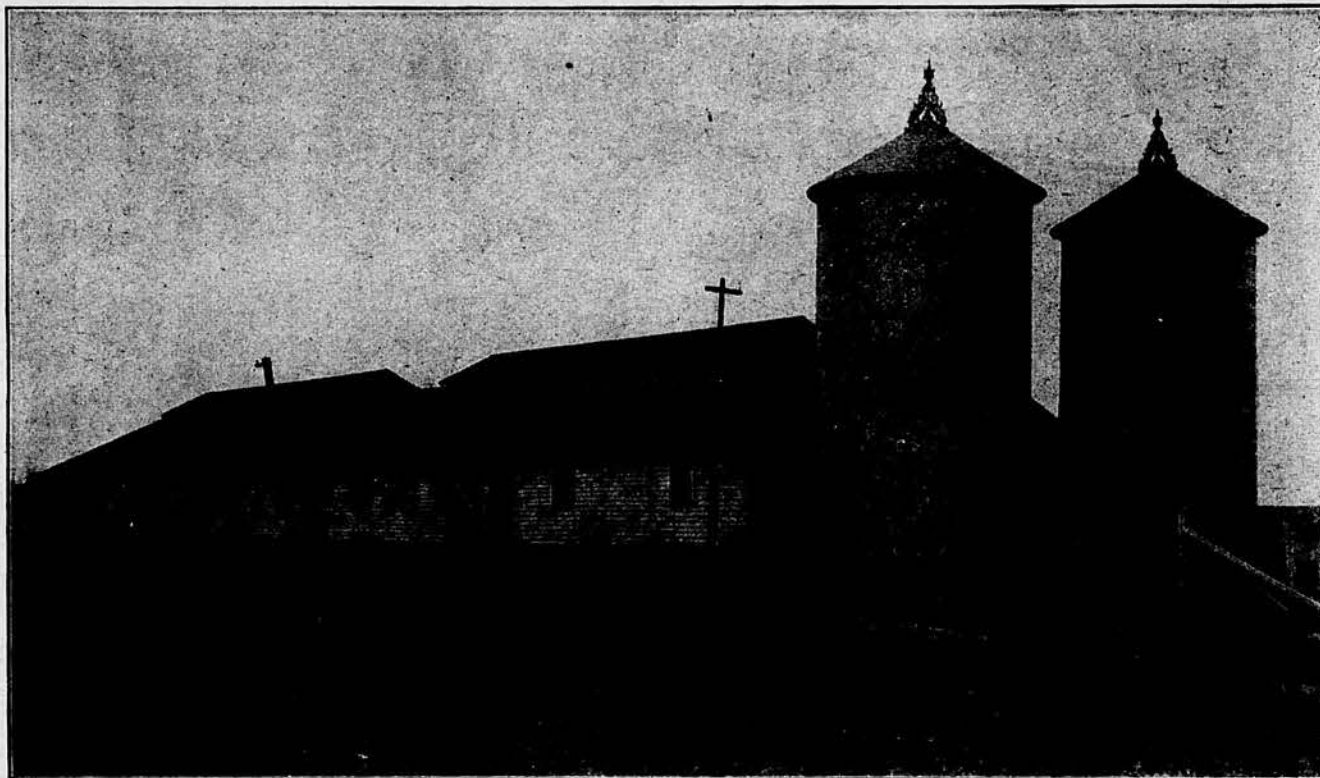
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the 'extractor' into the fire. We think we did better. Much as we value the Review, its article on 'Separators and Extractors' has not persuaded us to set ours aside. We should like to hear from others—dairy schools or individuals—who have tested the 'fake.'

"J. H. KIGER."

The dairy editor of the Review comments as follows:

"We have not a particle of interest in the use or sale of any 'cream-separator, or of any appliance of the kind, our only interest in the matter being to tell the truth about all things of this kind so that our readers may have the best there is going. The above article was sent to us by a subscriber who



DAIRY BARN, STATE AGRICULTURAL COLLEGE, MANHATTAN, KANS.

You mention the common ripener cream vat. I do not know what make you have reference to, but the Boyd or Creamery Package Co., Farrington, Miller, or Jensen ripeners are among the best.

If there is any further information I can give you at any time, I will be glad to do so. CHAS. W. MELICK.

The Farm-Separator Question.

A recent number of the West Virginia Farm Review presents both sides of the separator question as follows:

"Editor Farm Review:—I notice what you say in the May Review under the heading, 'Cream Separators and Extractors.' Without any wish to argue the matter, I should like to be allowed space to tell of our experience with one of these water 'fakes.'

"A couple of years ago an agent, much against our will, left one of the

of this diluted milk as a feed for chickens or pigs, either alone (as a drink) or as liquid for mixing ground feed. As to the cream we have found by actual measurement that it turns off one-third of a pound more butter to the gallon than we could get by the old way of setting in crocks. The same cows produce considerably more butter, and the work is less. Another thing worth mentioning is that the quality of the butter seems to be improved. We have an instance of its being preferred above butter made from cream separated by a centrifugal separator. A lady who had bought butter from a farmer here for years quit him after he began using a new \$100 separator. She said she did not like his 'separator butter.' She asked for a trial of ours, and now she is our best customer, and has many complimentary things to say about the butter.

"I do not give this as conclusive evidence of any of the things it seems to indicate. But we are perfectly satisfied at not having thrown the cost of

desires to tell his experience in the matter. He does it in a straightforward, gentlemanly way, and we are glad to give him the space he asks. And we do not question the correctness of anything he says. But we were present at the Dairy School at Sinks Grove and saw the results of the tests, and we can not see how we can successfully contradict them.

"We regard Hoard's Dairyman as the highest authority in dairy matters on this continent, and its opinions are very influential with us. We find in the latest number of this paper the following, which we commend to the consideration of all our readers.

"By the way, we do not doubt in the least our correspondent's word with reference to the difference in flavor between his butter and that of his neighbor; but we do doubt that the cause of that difference was the method of separating the cream. Of course, we make no pretense to knowledge in this matter, but we do know that we have eaten as finely flavored butter

(Continued on page 827.)

TUBULARS WRING GOLD FROM MILK

Tubular butter brings 25 to 35 cents. Cream is worth only one cent for stock food. Yet many farmers have no separator—only half skim their milk by setting—lose 24 cents on cream fed to stock—and wonder why dairying don't pay. Tubulars stop this loss. Tubulars get the last drop of cream out of the milk—make big profits. Tubulars are the only modern separators. Notice the low can and enclosed gears. Write for catalog S-125.

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The Cleveland Cream Sep. Co., 34 Michigan St., Cleveland, O.

Official Grades of Grain in Kansas.

STATE GRAIN-INSPECTION DEPT.

Topeka, Kan., July 12th, 1905.

Under the provision of an act to establish grades by the Grain Inspection Commission appointed by the Governor of Kansas, passed and approved by the session of the Legislature of 1903, the Commission has established the following grades for grain in the State of Kansas, to be in effect on and after the 1st day of August, 1904.

G. W. GLICK, Chairman.
J. M. CORY,
J. T. WHITE, Clerk,
Grain-Inspection Commission.

RULE 1.

WHEAT.

Wheat which has been subjected to "scouring" or to some process equivalent thereto, shall not be graded higher than number "3."

KANSAS HARD WINTER WHEAT.

No. 1 Hard.—Shall be pure, hard winter wheat, sound, plump, and well cleaned, and shall weigh not less than sixty pounds to the bushel.

No. 2 Hard.—Shall be sound, dry and reasonably clean hard winter wheat, and shall weigh not less than fifty-nine pounds to the bushel.

No. 3 Hard.—Shall be hard winter wheat, sound, reasonably and some bleached, but not clean or plump enough for No. 2, and shall weigh not less than fifty-six pounds to the bushel.

No. 4 Hard.—Shall be hard winter wheat, tough, or from any cause so badly damaged as to render it unfit for No. 3 Hard.

Rejected Hard.—All very damp, very musty or very smutty, trashy, stack-burned or dirty hard winter wheat.

RED WINTER WHEAT.

No. 1 Red.—To be bright, sound, plump, dry and well-cleaned red winter wheat, weighing not less than sixty-one pounds to the measured bushel.

No. 2 Red.—Shall be sound, dry and reasonably clean red winter wheat, and

No. 2 White.—To be bright and sound white spring wheat, reasonably cleaned, and weigh not less than fifty-seven pounds to the bushel.

No. 3 White.—To be dry and reasonably sound white spring wheat, not equal to No. 2, and weigh not less than fifty-five pounds to the bushel.

No. 4 White.—To be thin, bleached or tough white spring wheat, reasonably sound, but unfit to grade No. 3.

Rejected Spring Wheat.—All very damp, very tough, very musty, very smutty, trashy, dirty, damaged, stack-burned or thin wheat, falling below No. 4.

MIXED WHEAT.

All mixtures of spring soft and hard winter wheat shall be classed as mixed wheat, and graded as follows:

No. 2 Mixed Wheat.—To be sound, dry, and reasonably clean, and not weigh less than fifty-nine pounds to the bushel.

No. 3 Mixed Wheat.—Shall be sound, reasonably clean and may be some bleached, but not clean or plump enough for No. 2, and shall weigh not less than 56 pounds to the bushel.

No. 4 Mixed Wheat.—Shall include mixed winter wheat that from any cause is so badly damaged as to render it unfit for No. 3 Mixed.

Rejected Mixed Wheat.—All very damp, very tough, very musty, very smutty, badly stack-burned, damaged or thin mixed spring and winter wheat falling below No. 4 Mixed wheat shall be graded as Rejected Mixed wheat.

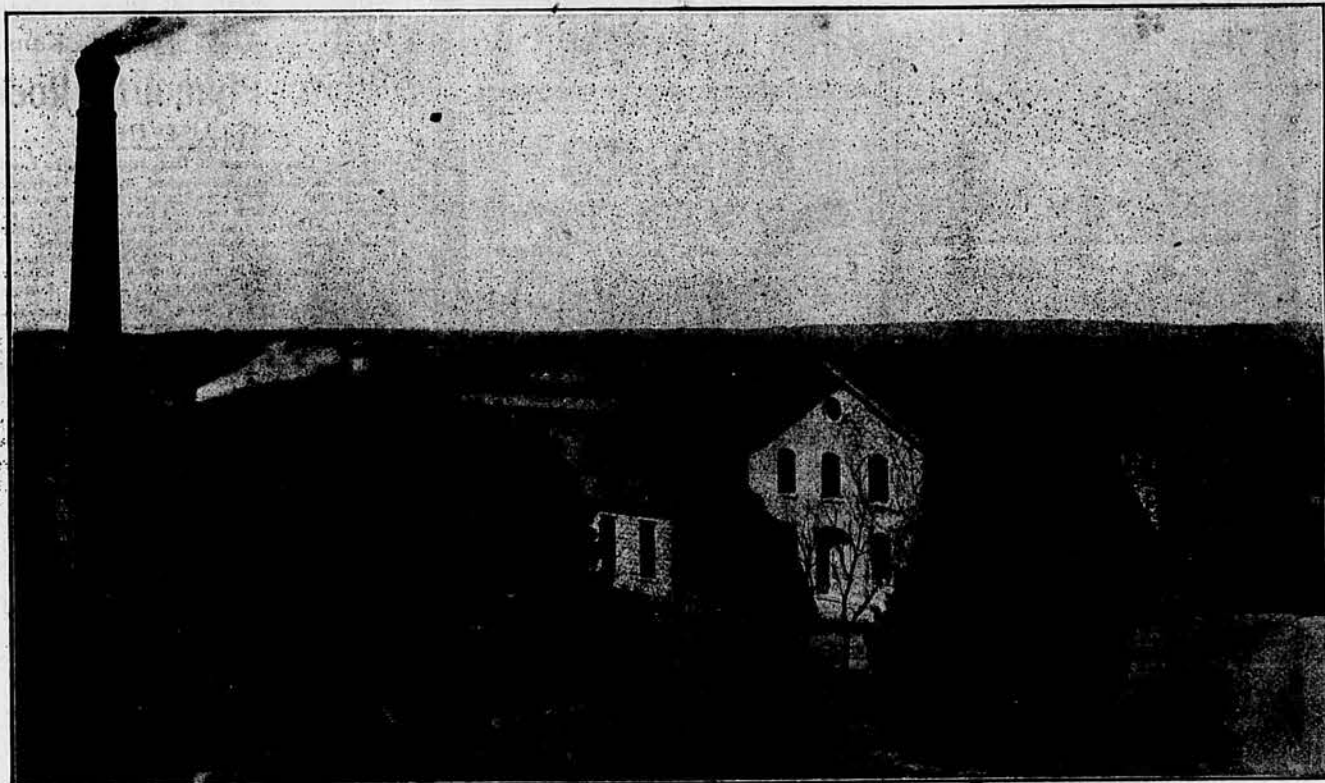
MARCARONI WHEAT.

No. 1 Marcaroni Wheat.—Shall be bright, sound, well-cleaned, and be composed of what is known as rice or goose wheat.

No. 2 Marcaroni Wheat.—Shall be inferior to No. 1, but sound, and be composed of what is known as rice or goose wheat, and may include wheat that is bleached and shrunken.

No. 3 Marcaroni Wheat.—Shall include all wheat badly bleached or smutty, or for any other cause unfit for No. 2.

Rejected Marcaroni Wheat.—Rejected Marcaroni Wheat shall include all wheat that is very smutty, badly bleached and grown, or for any cause unfit for No. 3.



MECHANIC'S HALL, KANSAS STATE AGRICULTURAL COLLEGE, MANHATTAN.

shall weigh not less than fifty-nine pounds to the bushel.

No. 3 Red.—Shall be red winter wheat, sound, and some bleached, but not clean or plump enough for No. 2, and shall weigh not less than fifty-six pounds to the bushel.

No. 4 Red.—To be thin, bleached or tough red winter wheat, reasonably sound, and unfit to grade No. 3 Red.

Rejected Red.—All very damp, very tough, very smutty, very musty, trashy, dirty, damaged, stack-burned, or thin wheat, falling below No. 4 Red.

WHITE WINTER WHEAT.

No. 1 White.—To be bright, sound, dry, plump and well-cleaned pure white winter wheat.

No. 2 White.—To be sound, dry, well-cleaned, pure white winter wheat.

No. 3 White.—To be sound, dry, white winter wheat, reasonably clean.

CALIFORNIA, COLORADO, WASHINGTON, IDAHO AND UTAH WHEAT.

No. 2.—To be sound, dry, well-cleaned, pure white wheat, free from smut, grown in Colorado, Utah, Washington, or Idaho.

No. 3.—To be sound, dry, reasonably cleaned white wheat, grown in Colorado, Utah, California, Washington, or Idaho.

Wheat of above description of lower grades to be classed on its merits as regular No. 4 or rejected.

SPRING WHEAT.

No. 1.—To be bright, sound and well-cleaned spring wheat.

No. 2.—To be bright, sound spring wheat, reasonably cleaned, and weigh not less than fifty-seven pounds to the bushel.

No. 3.—To be dry and reasonably sound spring wheat, not equal to No. 2, and weigh not less than fifty-five pounds to the bushel.

No. 4.—To be thin, bleached or tough spring wheat, reasonably sound, and unfit to grade No. 3 spring.

WHITE SPRING WHEAT.

No. 1 White.—To be bright, sound and well-cleaned white spring wheat.

RULE 2.

CORN.

No. 1 Yellow.—Shall be pure yellow corn, sound, dry, and well cleaned.

No. 2 Yellow.—Shall be three-fourths yellow, sound, dry, and reasonably clean.

No. 3 Yellow.—Shall be three-fourths yellow, reasonably dry and reasonably clean, but not sound enough for No. 2.

No. 4 Yellow.—Shall be three-fourths yellow, and unfit to grade No. 3 Yellow.

Rejected Yellow.—Shall be very badly damaged.

No. 1 White.—Shall be pure white corn, sound, dry, and well cleaned.

No. 2 White.—Shall be fifteen-sixteenths white, sound, dry, and reasonably clean.

No. 3 White.—Shall be fifteen-sixteenths white, reasonably dry and reasonably clean, but not sound enough for No. 2.

No. 4 White.—Shall be fifteen-sixteenths white, but unfit to grade No. 3 White.

Rejected White Corn.—Shall be very badly damaged.

No. 1 Corn.—Shall be mixed corn, of choice quality, sound, dry, and well cleaned.

No. 2 Corn.—Shall be mixed corn, sound, dry, and reasonably clean.

No. 3 Corn.—Shall be mixed corn, reasonably dry and reasonably clean, but not sufficiently sound for No. 2.

No. 4 Corn.—Shall include mixed corn that is unfit to grade No. 3.

KAFFIR-CORN.

Rejected Mixed Corn.—Shall be very badly damaged.

No. 1 White.—Shall be pure white Kaffir-corn, of choice quality, sound, dry and well cleaned.

No. 2 White.—Shall be seven-eighths white Kaffir-corn, reasonably dry and reasonably clean.

No. 3 White.—Shall be seven-eighths white Kaffir-corn, sound, dry and reasonably clean, but not sufficiently sound for No. 2.

No. 1 Red.—Shall be pure red Kaffir-corn, of choice quality, sound, dry, and well cleaned.

No. 2 Red.—Shall be seven-eighths red Kaffir-corn, sound, dry, and reasonably clean.

No. 3 Red.—Shall be seven-eighths red Kaffir-corn, reasonable dry and reasonably clean, but not sufficiently sound for No. 2.

No. 1 Kaffir-corn.—Shall be mixed Kaffir-corn, of choice quality, sound, dry, and well cleaned.

No. 2 Kaffir-corn.—Shall be mixed Kaffir-corn, sound, dry, and reasonably clean.

No. 3 Kaffir-corn.—Shall be mixed Kaffir-corn, reasonably dry and reasonably clean, but not sufficiently sound for No. 2.

No. 4 Kaffir-corn.—Shall include all mixed Kaffir-corn, not wet or in a heating condition, that is unfit to grade No. 3.

OATS.

No. 1 Oats.—Shall be mixed oats, sound, clean, and free from other grain.

No. 2 Oats.—Shall be mixed oats, sweet, reasonably clean, and reasonably free from other grain.

No. 3 Oats.—Shall be mixed oats that are slightly damp, unsound, slightly musty, dirty, or from any other cause unfit to grade No. 2.

No. 4 Oats.—Shall be mixed oats that are from any other cause unfit to grade No. 3.

No. 1 White Oats.—Shall be pure white, sound, clean, and free from other grain.

No. 2 White Oats.—Shall be seven-eighths white, sound, reasonably clean, and reasonably free from other grain.

No. 3 White Oats.—Shall be seven-eighths white, badly stained, or from any other cause unfit to grade No. 2 White.

No. 1 Red Oats.—Shall be pure red, sound, clean, and free from any other grain.

No. 2 Red Oats.—Shall be seven-eighths red, sound, reasonably clean, and reasonably free from other grain.

No. 3 Red Oats.—Shall be seven-eighths red, but not sufficiently sound and clean for No. 2.

SEVEN WONDERS

of the American Continent: Yellowstone National Park; The Great Shoshone Falls; The Columbia River; Mount Hood; The Big Trees of California; The Yosemite; Luc's "Cut-Off" across Great Salt Lake

Can all Be Seen on a Trip Over the

UNION PACIFIC

AND CONNECTIONS

TO THE

LEWIS & CLARK EXPOSITION

Portland, Oregon, June 1 to Oct. 15, 1905.

No. 4 Red Oats.—Shall be seven-eighths red, badly stained, or from any other cause unfit to grade No. 3 Red.

No. 2 Oats Color.—Shall be three-fourths white, and in condition the same as No. 2.

No. 3 Oats Color.—Shall be three-fourths white, and in condition the same as No. 3.

RULE 4.

RYE.

No. 1.—To be plump, sound, bright, and well cleaned.

No. 2.—To be sound, plump, and reasonably clean.

No. 3.—To be reasonably sound and reasonably clean, unfit for No. 2.

No. 4.—To include all damp, musty, dirty rye, unfit for No. 3.

RULE 5.

BARLEY.

No. 1.—To be plump, bright, sound, and free from other grain.

No. 2.—To be sound and reasonably clean.

No. 3.—To be reasonably clean and merchantable.

Rejected.—To include all unsound and damaged barley.

RULE 6.

SPELT.

No. 1.—To be plump, bright, sound, and free from other grain.

No. 2.—To be sound and reasonably clean.

No. 3.—To be reasonably clean and merchantable.

Rejected.—To include all unsound and damaged spelt.

RULE 7.

NO-GRADE GRAIN.

All grain that is wet or hot, or in heating condition, shall be classed as "No Grade."

RULE 8.

REASONS FOR.

All inspectors shall make their reasons for grading below No. 2 fully known by notation on their books. The weight alone shall not determine the grade.

RULE 9.

TEST WEIGHT.

Each inspector shall ascertain as near as practical the weight per measured bushel of every lot of wheat inspected by him and note the same on his report, but he shall not be held responsible for variations in weights that may occur on re-inspection, unless negligence or fraud can be shown against him.

RULE 10.

THE WORD "NEW."

The word "new" shall be inserted in each certificate of inspection of newly harvested wheat until September 1 each year.

RULE 11.

CLAIMS.

All claims for damages against the inspectors or weighmaster should be filed in this office before the grain has left the jurisdiction of this Department.

RULE 12.

LIVE WEEVIL.

Wheat containing live weevil shall not be graded, but the inspector shall give the variety of wheat and test weight, and note "live weevil."

RULE 13.

"PLUGGED" CARS.

All inspectors inspecting grain shall in no case make the grade of grain above that of the poorest quality found in any lot of grain inspected, where it has evidently been "plugged" or otherwise improperly loaded for the purpose of deception.

CORN

HARVESTER cuts and throws in pile on harvester or windrows. Man and horse cuts equal to a corn binder. Price \$14. Circulars free showing Harvester at work.

NEW PROCESS MFG. CO., Lincoln, Kans

The Poultry Yard

CONDUCTED BY THOMAS OWEN.

Cornish Indian Games as Broilers.

EDITOR KANSAS FARMER:—Will you kindly give me through the KANSAS FARMER or by mail the following information:

1. Are the Cornish Indian Games as good table fowls as the Plymouth Rocks, Wyandottes, and Langshans?
2. Will they grow to broiler size as quickly as the above breeds?
3. Are they as good layers as the above breeds?

4. What appearance have the Indian Games when dressed compared with the Plymouth Rocks for color of skin, shape, and general appearance?

5. I have at present in my flock Barred Plymouth Rock hens, Langshan hens, Langshan cocks, and Cochins cocks, this cross has made a fine broiler; would it pay to discard this flock to raise Indian Games as broilers?

6. Will you give me the name of an Indian Game breeder close at home? Riley County. W. J. McBride.

Before answering your questions in detail, I would state that I have never raised Indian Games and the information I give is from observation of them in the show room and in their owners' yards. Ten or twelve years ago, the Cornish Indian Games were very popular fowls and were boomed for all that was out, some of them selling for fabulous prices. Since then a reaction has set in, breeders discarding them and taking up other breeds. One cause of this was their predisposition to contract roup. As chicks they feather very slowly and going around half naked are very subject to colds. They are lanky, long-legged things and are ungainly in appearance till fully feathered. In answer to your first question I would state that I believe their flesh to be as good eating as either of the breeds you mention though not as presentable as a plump Wyandotte.

2. They will not grow to broiler size as quickly as Wyandottes or Plymouth Rocks.

3. They are considered good layers, but how near they come to the others I could not say, never having raised any of them.

4. The Indian Game would not compare favorably with the Plymouth Rock when dressed for market, not having the yellow skin or yellow legs of the Rocks. Its flesh, though, is very compact, deceiving one in its weight, a Cornish Indian Game cockerel, apparently of the same size as a Plymouth Rock cockerel, would outweigh the latter by two or three pounds.

5. I do not think it would pay you to discard your present stock for Indian Games as broilers. I would prefer a thoroughbred Wyandotte or Plymouth Rock for that purpose.

6. N. Behler, Newton, Kans., is a breeder of Cornish Indian Games, so also is Adam Thompson, of Amity, Mo., who is the expert judge at our State show. He is enthusiastic over Indian Games and thinks there is no breed of fowls to compare with them. He imports birds from England quite often. These gentlemen would probably disapprove of my estimate of their breed, as I probably would disapprove of their estimate of my breed, White Plymouth Rocks, for we look at them from different standpoints. Hence the remarks of all of us, when expatiating on our favorite breed, should be taken "cum grano salis."

She Is Full of Blood.

Not long ago a German gardener, who lives a couple of miles south of the city, bought a cow which, the seller told him, was a full-blooded Jersey. Last week the cow strayed away from her owner's pasture and was lost. The next day the following sign was nailed to a tree near the gardener's home:

"Lost—From the pasture away. Vun Chersey cow, full of blood. Revart shall be paid. Fritz."—Kansas City Times.



POULTRY HOUSES, EXPERIMENT STATION AT MANHATTAN.

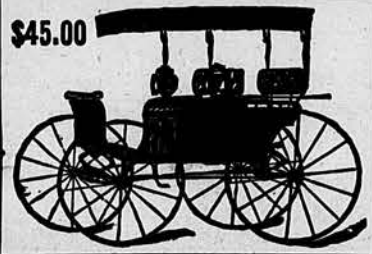
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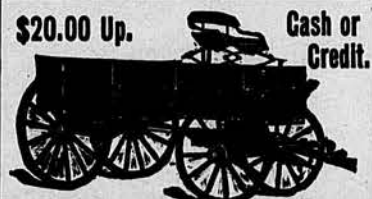


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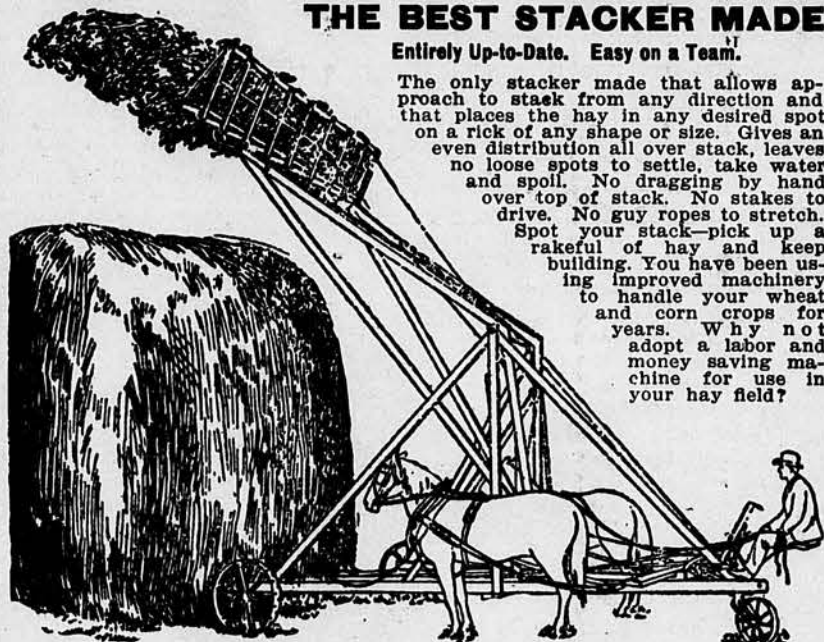
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The F. Wyatt Mfg. Co., Box 100, Salina, Kansas

POULTRY BREEDERS' DIRECTORY

CHOICE B. P. ROCK cockerels and pullets—Collie pups; send for circular. W. B. Williams, Stella, Neb.

S. C. B. LEGHORNS EXCLUSIVELY—Some fine young cockerels and pullets for sale cheap if taken early. J. A. Kauffman, Abilene, Kans.

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

R. C. W. LEGHORN EGGS \$1 per sitting; \$1.50 per two sittings; \$5 per hundred. Stock excellent. Mrs. A. D. Corning, Route 1, Delphos, Kans.

MAPLE HILL Standard-bred S. C. B. Leghorns champion layers, none better; cockerels from State prize-winners. \$1 per sitting; \$5 per 100. Mrs. D. W. Evans, Edgerton, Kans.

STANDARD BRED SINGLE COMB BUFF LEGHORNS—Headed by first prize pen Chicago Show 1903 and took six first prizes and first pen at Newton 1904. Eggs, \$3 for 15. S. Perkins, 501 East First Street, Newton, Kans.

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

TO GIVE AWAY—50 Buff Orpingtons and 50 Buff Leghorns to Shawnee county farmers. Will buy the chicks and eggs. Write me. W. H. Maxwell, 921 Topeka Ave., Topeka, Kans.

BARRED AND WHITE PLYMOUTH ROCK EGGS, \$2 per 15; \$5 per 45. Hawkins and Bradley strains, scoring 98% to 94%. Mr. & Mrs. Chris Reaman, Ottawa, Kans.

Golden Wyandottes

Winners at Topeka Poultry Show, January 1905, 2, 3 hen, 3 pullet, 2 cock, 2 cockerel. A few birds for sale. Eggs, \$2 per 15. J. D. MOORE, Route 2, Blue Mound, Kans.

"A NINE TIMES WINNER"

Bates Pedigreed Strain of White Plymouth Rocks have been shown in nine poultry shows the past two years and

Won in Every One of Them. If they win for us, their offspring ought to win for you. Eggs, \$1.50 per 15. Elmwood strain of White Wyandottes also hold their own in the show-room. Eggs, \$1 per 15.

W. L. BATES, Topeka, Kansas.

White Plymouth Rocks EXCLUSIVELY.

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

POULTRY SUPPLIES

Thanellee (lice powder).....\$6
Oreo-carbo (lice killer).....\$6
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OWEN & COMPANY
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SCOTCH COLLIES.

A NICE LITTER of farm-raised, eligible Scotch Collie puppies at low prices for immediate acceptance. Colors sable, Males, \$4. Females, \$3. Pair, \$6. O. A. Rhoads, Columbus, Kans.

FOR SALE—Pure-bred Scotch Collies; registered Guernsey bulls, G. C. Wheeler, Mgr. Perkin's Farm, Harlem, Mo.

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Eyes examined free accurately by mail. Any style glasses, \$1. Write for free examination sheet and illustrated catalog. Satisfaction guaranteed. R. H. Baker Optical Co., 324 Kansas Ave., Topeka

NEW BOOK JUST ISSUED

SUCCESSFUL FRUIT CULTURE

A Practical Guide to the Cultivation and Propagation of Fruits.

By SAMUEL T. MAYNARD, Formerly Professor of Horticulture at the Massachusetts Agricultural College.

This book is written from the standpoint of the practical fruit grower; it is up to date, in every particular, and covers the entire practice of fruit culture. It gives in plain, practical language, descriptions of such varieties as are most in demand in our markets, and the methods practiced by the most successful cultivators of many sections of the country. Separate chapters are devoted to the apple, pear, peach, apricot and nectarine, plum, cherry, quince, mulberry, grape, blackberry, raspberry, cranberry, strawberry, blueberry, huckleberry, subtropical fruits, propagation of fruit trees and plants, fruit growing under glass, insect pests and fungous diseases. The chapter on the apple is particularly comprehensive and complete, forming a monograph in itself. The chapter on forcing peaches, grapes, strawberries, and other fruits, describes the most successful methods of the present day, and is the most recent practical treatise on this important industry.

Illustrated, 5x7 inches, 225 pages. Cloth. Price, postpaid, \$1.00.

KANSAS FARMER COMPANY

TOPEKA, KANSAS

THE FARM-SEPARATOR QUESTION.

(Continued from page 824.)

from a rotary separator as we ever ate anywhere, and we can not see how a perfectly clean rotary separator could impart any flavor whatever. However, we hope the matter will be thoroughly discussed and the truth brought out."

EXPERIENCE WITH DILUTED SEPARATORS.

"Editor Hoard's Dairyman:—Last January, I subscribed for Hoard's Dairyman, thinking that through it, I might be able to purchase a gravity cream-separator. You may imagine my surprise when I received two or three copies to find no gravity separators advertised.

"Judging by the number in use in this part of the country, I thought Hoard's Dairyman was far behind or was far in advance of the other farm papers which I take, in regard to the cream separators. Each of the other farm papers I take and have access to, advertises from one to six or eight gravity separators; some where the milk is made one-half water, and some where the water is not mixed with the milk.

"After inquiring of the neighbors of their success and wishing to find where your paper was we decided to try a separator where the water and milk did not mix. We first tried the — and found we lost 30 per cent of the butter-fat. We next sent to Detroit, Mich., for the —, and found it lost the same amount. We then tried the — and found it equally as bad.

"I will give you one definite result. A 2-year-old heifer, in seven days, gave 212 pounds 2 ounces of milk and made 9 pounds 15 ounces of butter by using the crocks. During the following seven days she gave one gallon more milk and made 6 pounds 8 ounces of butter by using a separator.

"We tested the separators thoroughly; sometimes putting a little water, sometimes one-half water, and one time left it twenty-four hours in the separator. All gave about the same results. We would get more what we call cream, but not as much butter-fat. We churned two gallons of cream from the crocks and got 5 pounds 15 ounces of butter. We churned two gallons of cream for the separator and got 3 pounds 9 ounces of butter. This was from the same cow.

"We have proven to our satisfaction that the gravity cream-separators are not the thing for the farmers or any one else. Yet most of the farmers are very well satisfied with them.

"I would like to have your opinion in regard to this kind of a separator. How many cows must a person keep, I mean good cows, so a centrifugal separator will prove valuable? Are they all right?

"We are selling butter at 20 cents per pound the year through, feeding the milk (what we five do not drink) to the stock. We are expecting to keep enough calves, hogs, and chickens to consume the milk. J. A. M.

"New Castle, Ind."

"Yes, the centrifugal separator is all right. It does what is claimed for it, and is a practical and economical machine for separating milk.

"Many thousands have been sold with complete satisfaction to the purchasers. In this respect they differ from the dilution separator, which is a dairy fraud as our correspondent has found. We consider that a dairy of ten good cows would warrant a dairyman in buying a hand-separator, and the added gain in butter-fat will pay a big interest on the cost and also pay the principal."

A Prejudiced Mother.

Congressman Livingston, of Georgia, tells this story of his boy George:

"One day I said to him, 'Mamma says you've been very naughty to-day, sir; what's the matter?' 'Pop,' he replied, seriously, 'I think ma's prejudiced against me. Yesterday she told Aunt Sarah I was just the image of you.'"

The manners of a bad associate are as sure to communicate as the itch is.—Josh Billings.

INTERNATIONAL SUNDAY-SCHOOL LESSON.

(Copyright, Davis W. Clark.)

Third Quarter. Lesson VII. 2 Chronicles 34:14-28. August 13, 1905.

Josiah and the Book of the Law.

The temple was a junk-shop. Its floors sagged hopelessly. There were wide breaches in its walls. All the fine gold had been stripped off to buy worthless truces with heathen invaders. All the goodly and significant articles of furniture had been crowded like lumber in the unoccupied rooms surrounding the courts, and their places had been filled with the altars and symbols of alien religions. The ritual of the Hebrew faith had ceased and the dust of civilization, the deposit incident to a great city, steadily accumulated in the unkempt building. Among other things which had disappeared in the two hundred years of neglect, was the yellow scroll of the law. If they had only known it, that old parchment was the nation's palladium. If it had been preserved, the kingdom would have been preserved. It was the written will of Jehovah. Obeyed, the scepter would not have departed. Aside also from its indescribably precious contents, it was a souvenir of the highest value. What hands had penned it! What eyes had scanned it! What lips had read it aloud to what wondering congregations! But its very existence had long been forgotten, if not entirely, at least to the great mass of the people.

Quick and great were the gains of honoring Jehovah in the restoration of His temple, undertaken by the good king. In that crude age there were no safety-deposit boxes or vaults. The custom of hiding treasure maintained. The high priest probably secreted the money collected for the work of repair. He probably put it under some of the old plunder in one of the unoccupied rooms. It was while ransacking the place for the hidden treasure, that he made the most remarkable find of that age. He unearthed the only, the long-lost copy of the Bible. One tradition says it was beneath a heap of stones where it had been hidden from the destroying hand of Ahaz. Another says it was in the ark of the covenant which Manasseh had tossed aside with sacrilegious hands.

The results of this discovery were important and beneficent. A rule of life, both for individuals and the Nation, was found. A standard of conduct and character, to which king and peasant, priest, civil and military officer, all alike might resort.

No wonder that at the first reading the king sprang to his feet and rent his clothes in regret and fear that the will of Jehovah had been so long and grossly neglected.

Because of the low standard of education which maintained in those comparatively crude days, need of an interpreter and interpretation was imperative. Some one with an inner light, a sense for the divine must needs be found. It was in this way that Huldah enters the trinity of women prophets and joins Miriam and Deborah.

The Teacher's Lantern.

It is an ancient story with modern application. There are many to-day to whom the Bible is as perfectly a lost book as it was to Josiah and his contemporaries. To them it is as if it had never been written. Out of sight it is out of mind.

The public display of the Bible on the sacred desk is to be commended. It is an exalting of the Word. An object lesson. In sight it is in mind.

Yet the Bible is never to be a fetish. The Bible is only God's vehicle. By it He comes to our minds and hearts. To worship the vehicle is idolatrous. If the Book could speak it would cry as the angel did to John, "See thou do it not."

The life is more than the book. In the ultimate analysis it is not so much what a man knows as what he is.

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Manufactured exclusively by O. Robinson & Co. is the most reliable and effective disinfectant on the market. Kills Lice, Ticks, Vermin and insects of all kinds. Absolutely harmless. Does not gum the hair, crack the skin or injure the eyes. Cures Mange, Scourvy, Itch, Scab, Ringworm, Canker, Sore Mouth, in fact all skin diseases. Nothing better for healing wire cuts, wounds, grease heel, castrations and if used after dehorning cattle, will prevent screw worms from getting in the head.

We also manufacture Globe Stock Food, Globe Poultry Food, Globe Worm Destroyer and Dipping Tanks. Write for prices and particulars.

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Cheap Wheat Land in Sherman County, Kansas

- (1) 1120 acre ranch, improved, living water, and hay; \$6 per acre.
- (2) 320 acres smooth land; \$5 per acre.
- (3) 160 acres smooth land; \$7 per acre.

Write us for descriptive matter, and say kind of property you want.

Wilson Brothers, REAL ESTATE DEALERS Goodland, Kansas

CALIFORNIA LANDS

SACRAMENTO VALLEY

40,000 acres of a fine old Spanish Land Grant, now being subdivided and offered for sale to those who wish a home amid most attractive surroundings.

These lands are level and ready for immediate planting and cultivation. Soil—deep, rich, sedimentary deposit—under irrigation but rainfall also ample, being 25 inches per year.

Orchards last year produced \$800 per acre.

All semi-tropic fruits flourish—crops growing every month in the year. Your winter garden will be a revelation to you.

Rail and river transportation. Prices \$25 to \$100 per acre—terms.

"The place you have been looking for." Write for descriptive books.

LOS MOLINOS LAND COMPANY

305 Walnut Street, - Red Bluff, Tehama Co., Cal.

WHY DON'T YOU GET A HOME?

In an irrigated country, where you can live in peace and plenty on the Beautiful Columbia River and where the sun shines 360 days each year.

THE KENNEWICK VALLEY IS AN IDEAL COUNTRY.

The season is earlier than any part of Washington or Oregon. Strawberries and garden truck brought \$400 per acre clear money this year. Earliest berries, fruit and vegetables in the West. FOR HEALTH, PROFIT and COMFORT come to this valley.

Write for information to

KENNEWICK LAND CO., Inc.,

Kennewick, Yakima County, Washington.

SNAKES

are not found in the SNAKE RIVER VALLEY, but here is found the most beautiful tract of agricultural land in the United States, and you do your raising, and have no failures of crops, that's irrigation. No Cyclones or Blizzards. This country needs live, wide-awake men, who wish a new home in the rapidly developing west, and offers cheap land, good church and school facilities, and a chance to make money to those who are willing to work. St. Anthony, the County seat of Fremont County, Idaho, is a bright and growing town in the very heart of a rich and growing richer country, and if you wish reliable information in regard to prices, soil, climate and our prospects, write any of the following firms: First National Bank; C. C. Moore Real Estate Co.; Wm. D. Yager Livery Co.; Murphy & Bartlett, Cafe; Commercial National Bank; C. H. Moon, Farmer; Chas. H. Heritage, Riverside Hotel; Miller Bros., Grain Elevator; Skelet & Shell, General Merchandise; Chas. S. Watson, Druggist; Gray & Ross, Townsites; W. W. Youmans, Harness Store.

THE UNITED STATES GOVERNMENT

is expending over seven million dollars in building reservoirs and canals to irrigate 870,000 acres of magnificent farming lands around NAMPA, IDAHO, the railroad center of the State which is ample proof of the great fertility of our farm lands.

ONE MILLION BEET-SUGAR FACTORY is securing contracts for raising sugar-beets prior to its erection.

OUR CROPS—five to eight tons alfalfa per acre per year—potatoes three to five hundred bushels—two crops timothy and clover—wheat 30 to 60 bushels, oats 30 to 50 bushels, barley 50 to 60 bushels per acre. All fruits raised to great perfection.

Write or call on any of the following citizens of Nampa, Id.: E. W. Purdum, Mayor, Mine Owner; C. E. Dewey, Railways, Mines, Hotel Nampa, Development Co.; Walling & Walling, Real Estate; Stoddard Bros., Hardware; Lamson & Estes, Real Estate; Tuttle Mercantile Co.; Langdon Mercantile Co.; Robbins Lumber Co.; Central Lumber Co.; Bank of Nampa; Citizens' State Bank; Grand Hotel; Central Implement Co.; Nampa Hardware & Furniture Co.; W. L. Brandt, Real Estate; Mrs. R. E. Green, Lands; King & Witterding, Townsites; W. F. Prescott, Lands; Dewey Livery Stables.

Here is an old-time illustration of the principle which Jesus enunciated, that "he who does shall know." Josiah was "doing." It was when he began to repair the temple that he found the Book.

The Bible is a potent book. Its reading brings things to pass. It provokes either revolt or obedience. Josiah sought an interpreter to make its contents plain to him. Jehoiakim reached for a knife and cut it into shreds. The Bible receives the same opposite treatment to-day.

It should not be thought a thing incredible that the Bible was lost in that early and crude age, when those who could read it could be counted on one's fingers. The Bible was practically lost again in the Middle Ages, even in those seats of art and learning, the monasteries. It is said that Luther was twenty years old before he even so much as saw a Bible.

Rogue River Valley, Ore.

The world is familiar with the wonderful prices which have been obtained for Oregon apples. The Rogue River Valley is the seat of the best Oregon apple land. It is equally well adapted for all fruits. Bartlett and winter pears are just as profitable as apples. Alfalfa yields four crops annually WITH-OUT IRRIGATION. Climate is perfect. Write Secretary of Medford Commercial Club for reliable information, Medford, Ore.

STOP OFF AT SPOKANE

and look over the richest Agricultural and fruit-growing district in the United States when enroute to or from the Lewis & Clark Exposition. See the land of opportunities; the mecca of the farmer and investor. Volcanic ash soil, unequalled for productiveness; \$5 to \$25 per acre. Unsurpassed climate. But two days of zero weather in past three years. Write for detailed information and free descriptive literature.

Spokane Chamber of Commerce,
Spokane, Wash.

IF you are interested in CALIFORNIA send us four cents in postage and we will mail you FREE a beautifully illustrated magazine on farming in CENTRAL CALIFORNIA. Address COMMERCE CHAMBER, Stockton, California.

PILES

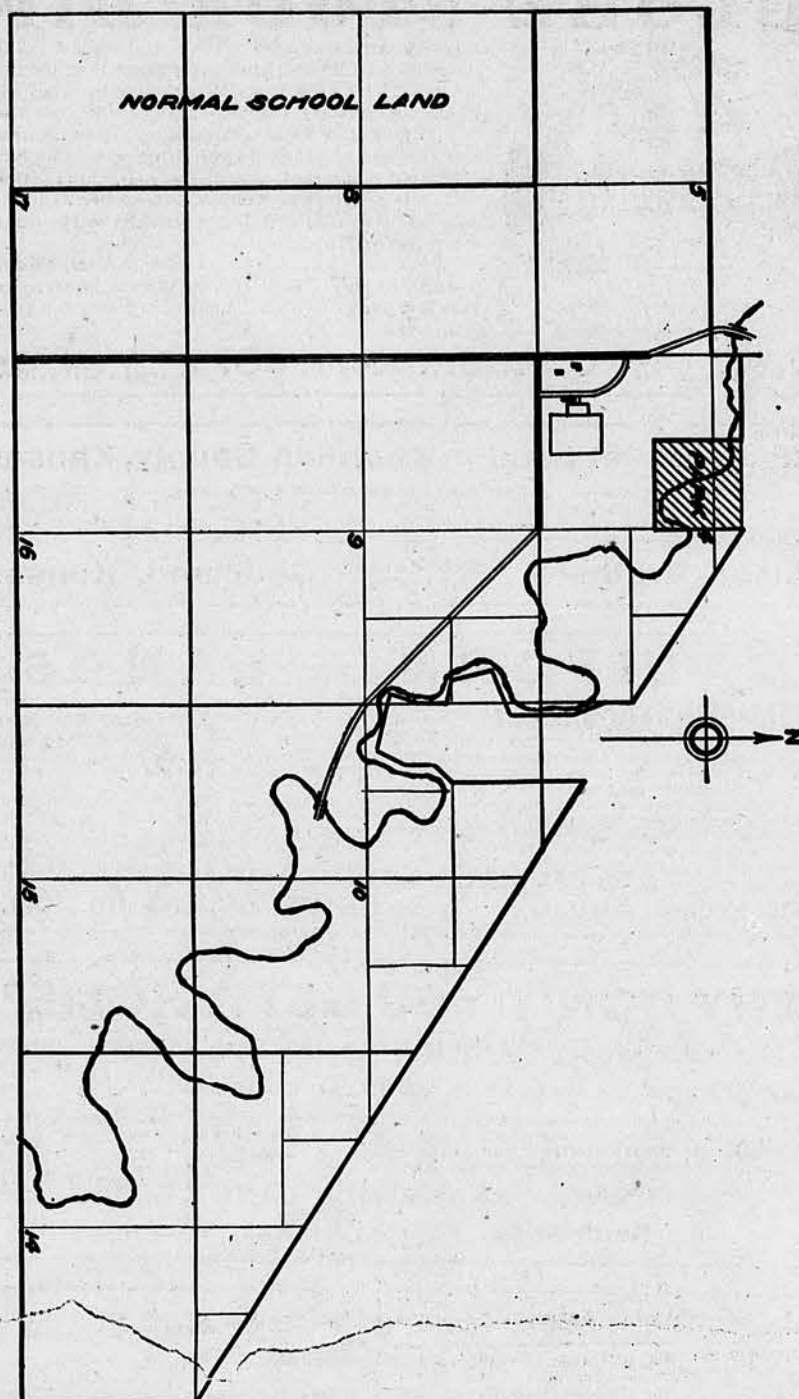
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We send FREE and postpaid a 352-page treatise on PILES, FISTULA and DISEASES OF THE RECTUM; also 132-page illustrated treatise on DISEASES OF WOMEN. Of the thousands of prominent people cured by our mild method, NONE PAID A CENT TILL CURED—we furnish their names and letters on application. 1023 Oak St., Kansas City, Mo., and DRS. THORNTON & MINOR, 3005 Olive Street, St. Louis, Mo.

NO MONEY

TILL CURED

OUTLINE MAP OF PART OF RESERVATION, FORT HAYS EXPERIMENT STATION.



The Markets

Kansas City Grain Markets.

Wheat receipts were over 100 cars less than a year ago, but were large enough to make buyers indifferent, and trade in car lots was slow at about a cent decline. There was a fair demand for the Turkey varieties, which brought 2c to 5c premium over ordinary wheat. The offerings were finally fairly well cleaned up.

The railroads reported 441 cars of wheat received, compared with 557 cars a week ago and 348 cars a year ago.

Sales of car lots by sample on track, Kansas City:

Hard Wheat—No. 2, 2 cars Turkey 84c, 1 car Turkey 83½c, 7 cars Turkey 83c, 4 cars Turkey 82½c, 4 cars 82¼c, 3 cars Turkey 82c, 6 cars 82c, 9 cars 81½c, 1 car 81¼c, 4 cars Turkey 81c, 11 cars 80c, 6 cars 79½c, 59 cars 79c.

No. 3 hard, 5 cars 82c, 2 cars 81½c, 3 cars 81c, 1 car Turkey 80½c, 2 cars 80¼c, 1 car Turkey 80½c, 3 cars Turkey 80c, 1 car 79½c, 7 cars 78c, 1 car 77½c, 17 cars 77c, 5 cars 76c.

No. 4 hard, 1 car 79c, 1 car 77½c, 1 car 77c, 3 cars 76c, 1 car 75½c, 2 cars 75c.

Rejected hard, 3 cars 75c, 2 cars 74c, 2 cars 73c, 1 car 66c, 1 car n. g. 70c, 1 car n. g. 60c.

No grade hard, 2 cars live weevilly 72c, 1 car 70c.

Soft Wheat—No. 2 red, 2 cars 83c, 2 cars 82½c, 2 cars 82¼c, 7 cars 82c.

No. 3 red, 10 cars 81c, 11 cars 80c.

No. 4 red, 4 cars 79c, 3 cars 78c, 1 car 77c, 3 cars 76c, 3 cars 75c.

Rejected red, 2 cars 70c.

No. 3 mixed, 3 cars 78c.

There was a good shipping demand for car lots of corn at ¼¢ decline. Receipts were larger here than in Chicago. The largest buying was by Chicago houses. The railroads reported 240 cars of corn received, compared with 117 cars a week ago and 40 cars a year ago.

Sales of car lots by sample on track, Kansas City:

White Corn—No. 2, 10 cars 49c, 3 cars 48½c.

No. 3, 2 cars 49c, 3 cars 48½c, 3 cars 48¼c.

No. 4, 1 car 48½c, 3 cars 48c.

No. 2 mixed, 13 cars 49c, 11 cars 48½c, 5 cars yellow 49½c, 2 cars yellow 49¼c, 4 cars yellow 49c.

No. 3 mixed, 3 cars, 49c, 6 cars 48½c, 1 car 48¼c.

No. 4 mixed, 7 cars 47½c.

There was a good demand for oats at prices about unchanged. Receipts were moderate for Monday. Few early sales were made.

The railroads reported 22 cars of oats received, compared with 20 cars a week ago and 27 cars a year ago.

Sales of car lots by sample on track.

Kansas City:

White Oats—1 car old 32½c.

No. 3, 1 car 30c.

No. 4, 1 car 29c.

No. 2 mixed, 1 car 26½c.

No. 3 mixed, 1 car 26c.

No. 4 mixed, 1 car 26½c, 1 car 25c.

Rye—Nominally 62c.

Timothy—Nominally \$3.00 per 100 lbs.

Flaxseed—Nominally \$1.05.

Bran—Nominally 63½c.

Shorts—Nominally 74c.

Corn Chop—Nominally 98c.

Millet—Nominally \$1.00@1.05 per cwt.

Red Clover and Alfalfa—\$9.00@11.50 per 100 lbs.

Cane Seed—Nominally \$1.00@1.05.

Kafir-corn—Nominally 80@85c cwt.

Linseed Cake—Car lots, \$27.00 per ton; ton lots, \$28.00; per 1,000 lbs., \$15.00; small quantities, \$1.60 per cwt. Bulk oil cake, car lots, \$26.00 per ton.

Castor Beans—\$1.35 per bushel in car lots.

Barley—No. 3, 1 car 32c, 1 car no grade 28c.

Kansas City Live Stock Markets.

Kansas City, Mo., Monday, Aug. 7, 1905.

The last two weeks have been very much alike in the cattle trade, as all kinds of cattle, except grass steers, made a good gain each week. Receipts were heavier last week at 45,000 heads, but the demand easily took care of the increase, and there was even a shortage of stockers and feeders. Another good feature, emphasizing the healthy condition of the market lately, is the fact that the market on Thursday and Friday was the best of the week, for the last three weeks, whereas those days were formerly regarded as about the poorest market days, particularly for killing kinds of cattle.

The receipts of cattle to-day are 17,000 head, of which nearly half are in the Quarantine division. Chicago has a small run, and a good many orders from Eastern points usually filled there were filled here to-day. This was a point that helped the market last week. Market for good cattle steady, others 5 to 10 lower. The best cattle here last week sold at \$5.60, against \$5.65 previous week. Top to-day \$5.40. About half the beef steers sell at \$5.00@5.40, but grass steers are not favorably received; buyers selling them "imitation cattle," and this class sells at \$3.75@4.65. Dry-lot she-stuff is getting scarcer every week, strictly prime heifers and yearling steers selling at \$4.85@5.25, medium heifers \$3.85@4.50, cows \$3.50@4.00, grass she-stuff \$2.50@3.50, veals \$5.25@6.00. Packers entered the field in earnest for canners last week, advancing them 10 to 20 cents, at \$1.75@2.25. Not enough stockers and feeders were received last week to go around, prices 10 to 25 cents higher, at \$3.00@4.25, with a few choice cattle up to \$4.50.

Hog markets are tending upward, but with a good many setbacks, as packers

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Land in Snake River Valley, Idaho, with perpetual water right, \$10.50 per acre up, on easy terms. Government statistics show that Idaho's yield per acre, and crop value per acre, are twice the average.

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and ranches, \$7.00 per acre up, on easy terms. R. R. fare returned to all land buyers. Excursion rates on all railroads.

BEECHER & BEECHER, Belleville, Kans.



Car-Sul is the only disinfectant dip for live-stock which does not gum the hair, crack the skin or injure the eyes. It is sold under positive guarantee to kill all lice and vermin. Cures mange and scurfy, and all skin diseases. It heals all cuts, galls, wounds and sores. Don't take an imitation—get Car-Sul, the guaranteed dip. Trial Gallon \$1.50, at dealer's or direct, express paid. 5 gallon can \$6.00, freight paid. Send your name for free live stock book.

MOORE C. & M. CO., 1503 Genesee St., Kansas City, Mo.

are making a hard fight against all advances. Receipts are very light at all points, but quality remains good, and farmers generally are holding back their piggy sows, on which the forecasters are basing predictions of heavy fall and winter receipts. Market about steady to-day, receipts 5,000 head, top \$5.97½, bulk of sales \$5.85@5.95, heavy lard hogs arousing least competition.

Sheep and lambs advanced 30 to 50 cents last week, market active and snappy all the time; feeders strong all week, but not much gain in price. Supply to-day 2,000 head, market higher in spite of bad reports from East. The market is in good condition, packers have small stocks on hand. Lambs bring \$8.00@8.50, wethers and yearlings \$4.50@5.00, ewes \$4.15@4.40, stock and feeding lambs \$3.60@4.25.

J. A. RICKART.

South St. Joseph Markets.

So. St. Joseph, Mo., Aug. 7, 1905.

The receipts of cattle at the five leading markets to-day totaled 42,200, which was materially the same number as was in sight on last Monday, but the supply was more evenly distributed, outside markets getting more in proportion than Chicago. The result was manifest in a little better tone to the trade, but as receipts of native beef steers are exceptionally light, sellers had little difficulty in getting a full 10c advance. Trading was very active and packers were very much disappointed in the limited number on sale. Supplies of dry-lot cattle were larger than the quarantines, and west and southwest range stuff met an active demand with prices fully steady with last week. Native dry-lot and grass cows were exceptionally scarce but there was a very large supply of west and southwest she-stock ranging from canners to pretty decent weighty heifers. Demand was lively for all grades and prices were generally steady, although some spots indicated strength. Veals were in strong demand and a comparatively large supply was taken readily at last week's range of prices. There was a better showing of stock cattle then for some time past and offerings included some good quality, high-grade, north-west steers and quite a large number of yearlings and calves. Regular dealers purchased freely at prices 10 to 15 higher and effected clearance on this basis.

The hog market closed last week at the extreme high point of the season, but to-day, under heavier receipts, prices ruled weaker to a shade lower with the range from \$5.85 to \$5.95, and the bulk selling at \$5.85@5.92½. In view of the yellow fever scare, and other bearish conditions, packers will take advantage of any enlargement of supplies to bear the market, but the situation is very bullish as long as receipts continue to run under the actual requirements of the trade. The country seems to have the country very well in hand, and if they will continue to ship in matured hogs freely, and not hold back with the expectation of further improvement in values, it is quite probable that prices will steadily work higher. The demand for hogs is very great even at the high figures, and local packers could use more than double the number arriving without impairing the healthy tone of the trade.

The sheep market showed strong advances all last week, but to-day prices became more settled and trade generally was steady, nothing very good offered, yet some heavy native lambs sold up to \$6.75. Some feeding sheep are already commencing to put in an appearance, and those in the country who desire to handle some soon should begin placing their orders.

WARRICK.

Illinois State Fair.

The fifty-third annual State fair, which will open at Springfield on Saturday, September 30 and continue until Saturday, October 7, promises to eclipse any fair ever held under the auspices of the State Board of Agriculture.

The exhibit of livestock will be the grandest ever seen on a State fair ground, being the cream of all the live stock exhibits of the United States.

The machinery and vehicle exhibit will be the largest and best ever made. This department is already crowded for space and applications are pouring in by every mail.

In the farm product department the show of 1905 will surpass any ever heretofore made. In addition to the regular competitive exhibit, a large number of southern and western states will show their products and in addition almost every railroad reaching into southern and western territory, have arranged to make grand displays of the products of the different states through which they run.

The Illinois State fair grounds are the most beautiful and complete of any in the United States and will be kept so for the pleasure of the thousands of visitors to the fair.

The new dairy and cattle barn which is now being erected at a cost of \$30,000, will be the pride of the cattlemen, as well as one of the most beautiful buildings on the grounds. Its appointments will be complete in every detail.

The success of "the Greatest Fair on Earth" is already assured, so get ready and go with the crowd.

The Right Road, Chicago Great Western Railway.

From Kansas City to Chicago, Dubuque, Des Moines, Marshalltown, St. Paul and Minneapolis. The best of equipment and service on all trains. Low summer rates now in effect. For further information apply to J. H. Lyman, G. A., 7 W. 9th St., Kansas City, Mo.

48 col. paper 6 mos. & 50 cards printed as desired, 20c. Inland Co., Akron, O.

STARK best by Test—75 YEARS. We **PAY CASH** WANT MORE SALESMEN **WEEKLY** Stark Nursery, Louisville, Mo.; Huntsville, Ala.



MILLIONS DIVERTED FROM FARMERS' PROFITS.—By the Grain Trusts and the Farm Magazine's absorbing story, "The Great Grain Graft," is the first authentic account. Startling disclosures—how grain-growers were mulcted. Send 10c for 6-months' subscription, telling complete story of grain dealers' conspiracy. Farm Magazine, Omaha, Neb.



Why Should People Use MEXICAN TALCUM POWDER?

Because it is antiseptic.

Because it is absolutely pure.

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Try it on your baby.

Put it in your stocking if you have tender feet.

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Try it and compare it with any Talcum on the market.

If you are from Missouri we will show you. [ket. Write for a sample.]

THE MEXICAN MFG. CO., Wichita, Kans.

PURE ALFALFA SEED

Book Your Orders Now. New Crop Ready by October.

Our Alfalfa Seed won the highest award at the World's Fair held at St. Louis last year. In competition with all countries of Europe and the United States. Write us for prices on any quantity.

McBETH & KINNISON, Garden City, Ka.

SOMETHING NEW

The John W. Jones, Complete Litter Record and Handy Herd Register.

Is the very latest thing out. Have you seen one? It is almost indispensable, if you are raising pure-bred swine. It matters not, what breed. Write

JNO. W. JONES at Delphos, Kansas.

He will tell you all about it.

SEED WHEAT

Our newly improved "Malakoff" and Turkish Red Seed Wheat. Two best, most productive and hardest varieties in the world; big yields everywhere; thoroughly tested and recommended by leading Agricultural Experimental Stations, yielding average of 45 to 55 bushels per acre. All pure carefully cleaned and graded. Prices: "Malakoff" \$2.10 bu. \$1.90 per bu. Turkish Red \$1.50, 10 bu. \$1.40 per bu. Mammoth White Rye \$90, 10 bu. \$80 per bu. Samples and descriptive circulars free. Ask for prices on Timothy, Clover and other grass seed. Address

RATEKING SEED HOUSE, Shenandoah, Iowa

Milk Cows at the State Fair.

In order to encourage the development of the milking qualities of farmers' cows the State Fair Association has arranged a series of special prizes to be awarded to common milk cows. Pure bred cows are not admitted as it is desired to encourage the farmers to milk the cows they have and to improve them.

There will be a four-days' contest for such cows and special prizes will be awarded as follows: For the cow giving the largest yield of milk in four days, 1st prize \$10; 2d prize, \$5; 3d prize, \$2.50. For the cow giving the largest amount of butter-fat in four days, 1st prize, \$10; 2d prize, \$5; 3d prize, \$2.50. For the cow giving the largest amount of milk and the largest amount of butter-fat in four days, \$15. To the Kansas Agricultural College student showing the greatest proficiency as a butter-maker in the Model Dairy, 1st prize, \$10; 2d prize, \$5.

These are all special prizes, the money for which was contributed by the following named enterprising firms: Blue Valley Creamery Co., St. Joseph, Mo.; Continental Creamery Co., Topeka; DeLaval Separator Co., Chicago; Empire Separator Co., Bloomfield, N. J.; John Deere Plow Co. Separator Dept., Kansas City, Mo.; and C. T. Wells Produce Co., Arkansas City, Kans. The entries will probably be numerous and the cattle will be stabled in the north wing of Exposition Hall, immediately adjacent to the Model Dairy, which will be shown by the State Agricultural College under the direction of Prof. Oscar Erf.

Gossip About Stock.

Mr. G. M. Hebbard, Peck, Kan., has secured of Dietrich & Spaulding the boar D's Ideal Sunshine 8161a to assist U. S. Model at head of his good herd of Poland-chinas. We predict excellent results for Mr. Hebbard from the produce of this hog and the good U. S. Model gilts now on hand at Mr. Hebbard's farm. He has bred sows to offer bred to above boars and Spring boars by U. S. Model and On and On. Also one good Oct. boar left. Correspond with Mr. Hebbard, mentioning the Kansas Farmer.

If you have not yet received the catalogue of the Oakwood farm sale (successors to Winn & Mastin), drop Allen F. Oviatt, manager, a card, mentioning the Kansas Farmer, and you will receive it promptly. In the show herds being fitted are seven under-a-year boars, including the three out of Darkness—Commander, Commando and Commodore—by the champion, Corrector 2d, and undoubtedly are the three best boars she ever produced in one litter; all in fine form. When we remember that Darkness has produced more sweepstakes winners than any other sow living or dead, and consider this litter is by the World's Fair champion; he by the champion of the Illinois State Fair of 1907; he by G's Perfection, considered by many the greatest breeding sow of old Chief Perfection 2d, it is hard to estimate what great possibilities are wrapped in these three great boars. The other boars under a year are also great in individuality and blood lines. Defender is ready for the 18-months class, and Gladiator, his full brother, for the junior-yearling class; these are by Corrector, and out of Margaret, a sweepstakes winner at the Iowa State Fair, Senator, by Mischief-maker and out of Miss Perfect I Know, is another phenomenal yearling. Thistle Top, the under-a-year World's Fair winner, is in great form, and has a phenomenal boar pig, by Meddler, called Meddler 2d. Buy this pig if you want a sensation for the under-6-months class; and there are others that are of the sensational class. Besides Thistle Top, Carnation, Runaway Girl, and the other sweepstakes and undefeated world-famous sows, are the greatest bunch of under-a-year gilts ever fitted by any firm for the State fairs; also yearling sows and under-6-months gilts all ready to win the highest honors in any company. If you are looking for an animal of either sex for any class for your fall show, it can be had in this offering. Or if you have not fitted any, you can secure a whole herd or as many sweepstakes sows, bred to the great champion boars, as is usual for one person to own. Remember every thing goes regardless of price, and that the offering consists of the greatest array of champions and prospective champions ever offered in one sale. Send for catalogue at once, and, if impossible to attend, bids sent to John D. Snyder, representing the Kansas Farmer, will receive careful attention.

WEEKLY WEATHER CROP BULLETIN

Weekly Crop Bulletin

Topeka, Kans., August 8, 1905.
GENERAL CONDITIONS.

The week has been warm, the temperature ranging from 2 degrees to 4 degrees above the normal. The rainfall was light in the northern portions of Jewell and Republic Counties, in the northeastern counties, in the Verdigris Valley, the southern portions of Chautauqua, Cowley, Sumner and Harper Counties, and the southwestern counties. Over the rest of the State abundant rains have fallen, being heaviest in Reno, Stafford and Pratt Counties—over seven inches falling in northern portion of Pratt.

RESULTS.

EASTERN DIVISION.

With but few exceptions corn is in fine condition. Early corn is hardening in the central counties and is beginning to be fed to hogs in Greenwood County. Late corn is growing rapidly. Thrashing has generally been retarded by rains. Some wheat has been damaged by wet weather in Douglas County. Wheat is of good quality in Wilson County. Oats were damaged some by rain in Brown County; in Doniphan County the yield

is light, but the quality is fair, and in Greenwood the crop is good. The third crop of alfalfa is being cut and is good. Prairie haying is progressing, where not interfered with by rains or heavy dews, and a good crop is being put up. Pastures are good. Apples are good in some counties, falling in others. Plowing for fall seeding continues with ground in fine condition. Millet is mostly cut in Chase County. Kafir-corn and cane are growing well in Riley County.

Anderson.—All crops doing well; good corn crop assured by recent rains; thrashing practically all done; early fall pasture will be plentiful; abundance of garden products.

Brown.—Fine weather for all growing crops and all are in good condition except oats, which was damaged somewhat by rain; thrashing and all other farm work progressing well.

Chase.—Corn prospects continue promising but corn worms are infesting the ears quite badly; alfalfa haying in progress and first crop being thrashed for seed in some localities; plowing for wheat in progress; millet mostly cut or stacked and prairie haying in progress.

Chautauqua.—Corn will be very small in this county.

Cherokee.—Good week for farm work except that heavy dews have interfered with thrashing and haying; ground in fine condition for plowing; corn doing very well and well cultivated corn promises a full crop; yield of flax very disappointing.

Coffey.—Thrashing retarded by rain first of week; corn making good growth but beginning to need rain; plowing and haying making in progress.

Crawford.—Hay making still continues, with good results; plowing for wheat and grass well advanced; ground in good condition.

Doniphan.—Very dry week; corn doing fairly well but beginning to need rain badly; fair yield of wheat; light yield of oats but quality is fair; no peaches and crop of apples is short.

Douglas.—Corn has made rapid growth during past week and is in fine condition; wheat thrashing progressing slowly; some wheat damaged by wet weather; pastures in fine condition.

Elk.—All crops much improved by recent rains; ground in good condition for plowing.

Franklin.—All crops doing well. Greenwood.—Corn doing very well and early crop insured by recent good rains; beginning to feed early corn to hogs; wheat thrashing out only fair; oats good; third crop of alfalfa being cut and yield is good.

Jefferson.—All crops doing well; thrashing about finished, except what remains in stack; plowing for wheat well advanced and ground in fine condition; pastures good; early corn in roasting ears.

Lynn.—Thrashing delayed by rains; plowing for wheat in progress; corn promising well; pastures good.

Lyon.—Wheat about all thrashed; prospect for exceptionally large crop of corn. Marshall.—Good weather for all growing crops; corn crop promises to be unusually large.

Montgomery.—Good week for haying; corn doing fairly well, but some localities need more rain.

Osage.—Corn in fine condition; hay harvest in progress; quality of crop good. Pottawatomie.—Corn, pastures and all growing crops doing well.

Riley.—Fall plowing begun and ground in good condition; good crop of melons ready for market; thrashing hindered by wet weather; cane and Kafir-corn growing well.

Shawnee.—Weather conditions good for all kinds of vegetation; prairie haying now in progress; corn continues to do well; plowing for wheat general; third crop of alfalfa ready to cut.

Wilson.—Corn doing well; plowing for wheat well advanced; thrashing about all done; the grain has good quality and good berry.

MIDDLE DIVISION.

Corn has been much improved by rains, and with but few exceptions is in good condition; it is maturing in the extreme southern counties and is tasseling, silking and earing in the extreme northern counties. Thrashing has continued where not stopped by wet weather. Wheat is of good quality in Sedgewick County, but has been injured by rain in Republic County. The third crop of alfalfa is being cut and is a good crop; some was damaged by rain in Reno County after cutting. Prairie grass has grown well. Prairie haying continues and the crop is good except in Sumner County, owing to dry weather the crop is light. Pastures are good. Apples are good. New sweet potatoes are being marketed in Sedgewick County. Plowing for fall sowing has continued and is now well advanced. The ground is in good condition. Kafir-corn, cane and millet are in very good condition. Gardens are fine.

Barber.—Corn and cane much improved by recent rains; plowing for wheat in progress and ground in fine condition.

Butler.—Crops of all kinds looking well and much benefited by recent rains.

Clay.—Wheat in shock all thrashed and now waiting for stacked grain to go through the sweat; corn too large to cultivate and this crop will need rain soon; haying in progress, with quality and quantity good.

Cloud.—Thrashing and plowing continues; corn in very good condition and promises unusually large crop; third crop of alfalfa being cut.

WESTERN DIVISION.

Corn is in very good condition and is earing heavily; it is in roasting ear in the central counties and some in the northern. Thrashing has continued where not retarded by rains. Wheat yield is fair, quality good; some wheat was damaged by the rains in Ness County. Barley is yielding a fair crop. The second crop of alfalfa is mostly cut in Decatur County. Prairie haying continues, being about finished in Morton County. Fall apples are large enough for use in Lane County. Forage crops give good promise except in the extreme southwestern counties. Plowing for fall sowing is in progress with ground in fair condition. The sugar-beet crop promises a good yield. Millet hay is cut and is being stacked; it is a good crop.

Decatur.—Corn earing heavily and some

in roasting ear; alfalfa mostly cut; thrashing being pushed rapidly when weather is favorable.

Finney.—A warm week, but with two good rains; thrashing in progress and much plowing for fall wheat has been done; sugar-beet crop doing well and promises good yield.

Lane.—Millet hay has been cut and is being stacked; good crop; fall apples large enough for use; prospects for corn continue good.

Morton.—Haying about completed; no thrashing reported yet; too dry for fodder crops.

Norton.—Corn doing well; some wild hay being cut and quality is very good; Kafir-corn and cane making rapid growth.

Summer Tourist Rates Via Chicago Great Western Railway.

To points in Illinois, Wisconsin and Michigan. One way fare plus \$2.00 for round trip. Tickets on sale daily to Sept. 30th. Final return limit Oct. 31st. For further information apply any Great Western Agent or G. W. Lincoln, T. P. A., 7 West 9th St., Kansas City, Mo.

PUBLICATION NOTICE.

IN THE DISTRICT COURT IN AND FOR SHAWNEE COUNTY, KANSAS.

J. H. Skinner, Plaintiff, vs. T. F. Frawley, Enterprise Land, Loan and Investment Company, Security Company, a Corporation of Connecticut, William B. Rankine, H. D. Booge, Nellie J. Rankine, William Stout, Mary F. Carey, Mrs. Jeffie Wickine, Defendants.

The defendants in the above entitled action are hereby notified that they have been sued by said plaintiff in said court to quiet his title as against them to the south 1/4 of the south 1/4 of the north 1/4 of the southwest quarter of Section 12, Township 12, Range 15, in Shawnee County, Kansas, and to exclude them from all interest therein. And said defendants are further notified that they must answer the petition filed by said plaintiff in said court on or before the 7th day of September, 1905, or said petition will be taken as true and judgment rendered accordingly.

M. T. CAMPBELL,
Attorney for Plaintiff.

Special Want Column

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

CATTLE.

SIX SHORTHORN BULLS—13 to 16 months old, eligible to registry, mostly reds, all sired by British Lion 133692 and out of the finest breeding—mixed Bates, Booth and Cruickshank. Price, \$40 each if taken soon. Address D. P. Norton, Dunlap, Morris County, Kansas.

HOLSTEINS—Bull calves cheap while they are little. H. B. Cowles, Topeka, Kans.

FOR SALE—10 Registered Galloway bulls, cheap. J. A. Darrow, Route 3, Miltonvale, Kans.

RED POLLED BULLS.—One three year old, and one fourteen months. Both registered and nice. Will sell cheap. H. L. Pellet, Eudora, Kans.

FOR SALE—Eight good, registered Shorthorn bulls, four straight Cruickshank, good ones, and prices right. H. W. McAfee, Station C, Topeka, Kansas.

TO TRADE—10 cows, 1 Registered Bull and 1 No. 6 Separator, for sheep, mules, or jack. Also Duro-Jersey hogs for sale, either sex. J. C. Strong & Son, Moran, Kans.

FOR SALE—One French Coach Stallion, dark brown, 16 1/2 hands, 1300 pounds, perfectly sound, kind and gentle, drives fine, single or double. Dr. Hugh S. Maxwell, Salina, Kans.

FOR SALE—The Holstein Friesian Bull "Beechwood Brownell" (35705). This is a royal bred bull and is individually as good as his breeding. His blood lines tracing to the imported cows, Parthenes, Lady Gretchen and others of equal merit. For full description, pedigree and price, address W. E. Brockelmyr, Lawrence, Kans.

FOR SALE—A 3-year old Shorthorn bull, sired by Royal Bates. Address Dr. N. J. Taylor, Berryton, Kans.

SWINE.

FOR SALE—Say! I have some fine, big-boned, broad-backed Berkshires, brood sows or pigs. Want some? Write me; turkeys all sold. E. M. Melville, Eudora, Kans.

THOROUGHbred DUROC JERSEY HOGS.—For sale, 20 last fall boars, also spring boars and gilts, sows and pigs. Anything you want in Top-Notcher blood. A. L. Burton, Wichita, Kans.

SEEDS AND PLANTS.

WANTED—English blue-grass or meadow fescue seed. Correspond with us. Kansas Seed House, F. Barteldes & Co., Lawrence, Kans.

PLANTS FOR SALE—Strawberry, blackberry, dewberry, rhubarb, grape-vines. Write for special prices. Address J. C. Santa, Topeka, Kans.

FOR SALE—Seed Sweet potatoes; 6 kinds; write for prices to I. P. Myers, Hayesville, Kans.

SEED CORN—Both white and yellow at 90 cents per bushel; cane, millet and Kafir-corn seeds. Prices and sample on application. Adams & Walton, Osage City, Kans.

FARMS AND RANCHES.

KANSAS LANDS.—I have a choice lot of well-improved farms in Marion County, varying from \$20 to \$50 per acre. Also large list of Western Kansas lands. For full particulars, address, A. S. Quisenberry, Marion, Kans.

CHEAP HOMES—80 acres, 60 acres second bottom, good alfalfa land, \$1,800; 80 acres, 40 acres cultivated, \$1,000; 80 acres, 5-room house, level land, \$1,200; 160 acres nice smooth land, near town, \$2,000; 160 acres, 5-room house, all smooth, \$2,200; 160 acres, 50 acres cultivated, balance pasture, partly rough, \$2,000. We have all sizes cheap. Try us at Florence, Minneapolis or Salina, Kans. Garrison & Studebaker.

FOR SALE—The best fruit and dairy farm of 80 acres in Kans. 40 minutes drive from Topeka, finely improved, large barn, 7-room house, 3 chicken houses, large young orchard, hanging full of choice varieties of apples, 400 peach trees, 2 acres grapes, 1 acre blackberries, 50 cherry trees and other fruit in smaller quantities, 10 acres alfalfa, 8 acres clover and timothy, 25 acres tame grass, pastured, 2 acres Kaw bottom in potatoes, 15 acres-corn, 5 acres in cane and millet, enough timber for fuel and posts. The above is a very pretty and picturesque place on rural free delivery and telephone; cannot be beat for a home. Also sell the cows and horses, implements, etc. My health will not permit me to farm, the reason for selling. Can give terms on part, equal to or better than rent at 6 per cent. Will give possession as soon as a deal is made. Address E. F. D., care Kansas Farmer, Topeka, Kans.

FOR SALE—In Osborne, Russell, and Rooks Counties, improved farms, pasture lands, two twelve hundred acre ranches, mercantile stocks. Will trade one ranch for good stock hardware and implements. We can please you, write to-day. Ois & Smith, Natoma, Osborne Co., Kans.

200 ACRE WELL IMPROVED FARM for \$3,200, to close an estate. Address Hurley & Jennings, Emporia, Kans.

FOR SALE—A good stock ranch including stock, in Kearney County, Kans. Cheap for cash. No trade. A. L. Garrison, Kendall, Kans.

WANTED—To lease sheep ranch with 200 or more sheep, for 3 to 5 years. Man with family, has years of experience. Good reference given. Fred Pearl, Ellsworth, Kans.

WANTED TO TRADE—Good Topeka city property for 160 acre or 80 acre farm within 8 miles of Topeka, Osage or Salina. Frank Johnson, 1121 West 3d Street, Topeka, Kans.

FOR SALE—200 acres fine pasture land, 175 acres of it mow land, two miles from Alma, living water that never fails, all fenced. This is a bargain if taken soon. Call on or address Mrs. M. A. Watts, Alma, Kans.

FOR TRADE—80 acres of good fruit land in cultivation and house on it; 1/4 miles from R. E. town in Arkansas for 2 standard bred trotting fillys, or 2 full-blooded Percherons, 2 years old preferred. Address, Curtis Lester, Boswell, I. T.

FOR SALE—Good farm and pleasant home, one-half mile from county high-school and city public school, three-fourths of a mile from several churches and stores, 2 grain elevators and stations. Farm consists of 800 acres, adapted to farming and stock raising, good 9-room house, with water, bathroom and good cellar, ice-house, tool-house, barns and sheds sufficient to hold 40 tons of hay and 150 head of cattle and horses, alfalfa, shade and fruit trees. Farm can be divided. Price, \$15 per acre. Call on or address the owner, Box 192, Wakeeney, Kans.

FIFTY farms in Southern Kansas, from \$15 to \$70 per acre; can suit you in grain, stock or fruit farms. I have farms in Oklahoma, Missouri and Arkansas for sale or exchange. If you want city property, I have it. Write me. I can fix you out Wm. Green, P. O. Box 966, Wichita, Kans.

LAND FOR SALE
In Western part of the great wheat State. H. V. Gilbert, Wallace, Kans.

CHEAP LAND—160 acres, improved, \$2400. \$500 cash, balance easy terms. 80 acres, all bottom, good improvements, \$2500. 160 acres one-half cultivated, \$2000 worth of improvements, \$3200. 80 acres, one-half cultivated, \$1000. 320 acres, good improvements, \$4500. 40 acres, all bottom, no improvements, 2 miles from town, \$1200. 320 acres, 70 acres bottom, well improved, \$6200. 480 acres, fine improvements, 150 acres tame grass, \$9000. 1480 acres, 500 acres bottom, 40 acres timber, good improvements, \$21.50 per acre. Any kind or size. Try us, at Florence, Minneapolis or Salina, Kansas. Garrison and Studebaker.

FARM LOANS

Made direct to farmers in Shawnee and adjoining counties at a low rate of interest. Money ready. No delay in closing loan when a good title is furnished and security is satisfactory. Please write or call.

DAVIS, WELLOOME & CO.,

Stormont Bldg., 107 West 6th, Topeka, Kas

AGENTS WANTED.

AGENTS WANTED Sell \$1 bottle Sarsaparilla for 50c; best seller; 200 percent profit. Write today for terms. F. E. Greene, 115 Lake St., Chicago

MISCELLANEOUS.

SEA SHELLS from Long Island Sound; 25 assorted for 15 cents, stamps or silver. Alice L. Cramp-ton, Madison, Conn.

WANTED—Middle aged woman with no income, to do house work in a family of three. R. J. Linscott, Holton, Kans.

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

100 PURE PARTRIDGE COCHINS—Cockerels and pullets for sale at \$1 each. Very choice lot. Order early. H. Wodring, Elk City, Kans.

FOR SALE—No. 2 De Laval cream separator used little; bearings new; perfect condition; taken on debt. Sayda Polo Jersey Farm, Parsons, Kans.

TO EXCHANGE.—Humphrey Bone Mill and Corn Cutter, nearly new, for commonly bred, early hatched spring pullets. Horace Hensley, Dawkins, Colo.

5,000 FARMERS to handle best woven wire fence—100 styles—movable corn cribs, high grade buggies, implements, harness, barbed wire, paints, etc. Our premium buggies lead them all. Everything guaranteed. Write today and save money. American Trade Union, Wichita, Kans.

Stray List

Week Ending August 3.

Johnson County—Roscoe Smith, Clerk.
HORSE—Taken up by H. B. Jackson, in Monticello tp., June 23, 1905, one light brown or bay mare; valued at \$30.00.

Jackson County—F. E. McConnell, Clerk.
COW—Taken up by B. J. Hamilton, in Franklin tp., July 31, 1905, one red brindle cow, branded "L" on right hip, marked by two under bit in left ear.

PATENTS.

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



IRRIGATING CORN, FORT HAYS EXPERIMENT STATION.

STATE AGRICULTURAL INSTITUTIONS.

(Continued from page 823.)

quality of the work depends upon the men who are in charge of it. The present Faculty and Station Staff are well equipped for their work as is shown by the results obtained. In fact the present Faculty may be considered one of the strongest, as a whole, that the institution has ever had.

President E. R. Nichols, who is at the head of the institution, was raised from the rank of professor at a time of political turmoil, and has been the subject of adverse criticism. He has, however, profited by this criticism and now is able to point with pride to an immensely increased attendance of students, the strengthening and developing of the courses of study and the securing of larger appropriations for the maintenance of the College than was ever true in its previous history, as among the results that have been achieved during his administration. With 1,600 students, a large number of professors and other employees, the oversight of the operations of the College and Experiment Station and the expenditure of large sums of money, the office of president of the Agricultural College is no sinecure and is heavy with responsibilities. His duties are burdensome, his load of responsibility is heavy, but his reward of work well done will be commensurate.

TO KANSAS FARMERS.

The Kansas Agricultural College and Experiment Station is your property. Yours to use or abuse as you may. It is distinctively the farmers' college, where the young man or young woman can gain a thoroughly good and well-rounded education, that will fit him for the business of living. It is an institution where the expenses are small but where the returns are enormous. The \$200 or \$300 a year spent in acquiring a four years' course, will at once increase the young man's earning capacity by at least 200 per cent, with no limit for the future. Money and time invested in securing an education that is practical in every sense is the

best possible investment, where the returns are sure and more varied than is possible from any other investment.

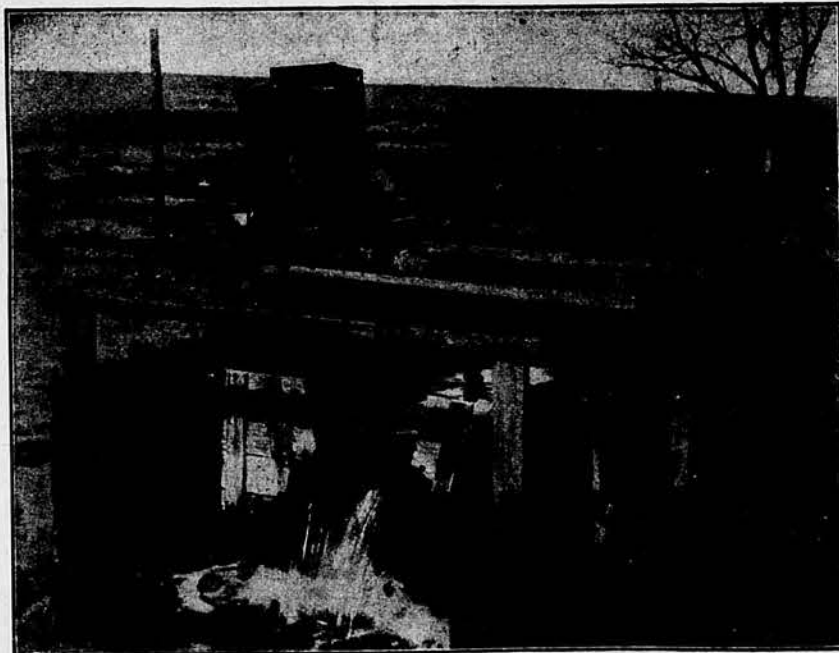
NOTES.

The live-stock breeders of Kansas will be glad to learn that by action of the Board of Regents of the Kansas Agricultural College, the Animal Husbandry has been separated from the Dairy work, and two departments created. Prof. Oscar Erf will continue in his work at the head of the Dairy Department and Prof. R. J. Kinzer, who made so many friends among breeders while acting as judge at the fairs at Topeka, Hutchinson, and elsewhere, has been elected to head the Animal Husbandry Department. This will at once relieve Professor Erf of a considerable amount of work and enable him to devote his full attention to important dairy interests, and will at the same time put Professor Kinzer in sole charge of the Animal Husbandry, which the stock-breeders of Kansas regard as the most important department in the College.

It is a pleasure to note the interest and enthusiasm with which Regent Geo. P. Griffith of Hays takes hold of his work. Always an advocate of the greatness of Western Kansas, the Governor could have appointed no more enthusiastic man to look after the interests of the Fort Hays Experiment Station. Being an old settler himself he has watched the development of the plains region and has at hand a fund of information gained by experience, which is of value to the Experiment Station in pioneer work.

E. E. Chilcott and L. J. Briggs, cereal experts of the United States Department of Agriculture, visited the Fort Hays Branch Station last week, inspecting the work that had already been done in experiments in wheat. It is rumored that the Government will undertake cooperative experiments at this Station on a large scale.

At Fort Hays Station the Russian



WEIR, IRRIGATION PLANT, FORT HAYS EXPERIMENT STATION.

GET YOUR SHARE OF \$600,000,000.



We want to get every corn growing farmer in the country to thinking about the money value of corn stover.

We want every farmer to know that the ears of corn he harvests—that is, the grain—represents only 60 per cent of the value of his entire crop, and that unless he makes proper use of the whole plant, stalks, leaves and all, he is losing 40 per cent of his corn profit. This has been proved by chemical analysis and actual feeding trials at many of our Government Experiment Stations.

What we mean by "Get your share of \$600,000,000," is this: The average yearly crop of corn in this country, as shown by the Bureau of Statistics is worth \$900,000,000 and there remains in the plant \$600,000,000 or 40 per cent of a total of \$1,500,000,000. If you don't harvest the stalks you don't get your share of the \$600,000,000.

Now, don't think of these figures in a hazy way, as if they were based on theory or as if they were too large to mean anything to you.

They mean actual dollars to you personally. They mean about \$16.00 for every acre you have planted in corn. High authorities place the value of shredded stover at \$8.00 a ton, and at the lowest estimate each acre ought to yield two tons.

These values, you understand, apply only to the crop that is taken care of properly. The stalks and leaves that are left standing in the field after the corn has reached maturity decrease rapidly in feeding value until they are soon completely bleached out, dried up, and represent

practically nothing but indigestible woody fibre.

Why not apply the same close figuring to your corn crop as you do to all other crops?

If you do this, you will see that it is only a question of cutting your corn stalks at a certain time in order to add from \$10.00 to \$20.00 profit to every acre you harvest.

The whole secret of the double profit method is not to husk your corn in the field, but to cut the whole crop just at the time when the ears are beginning to glaze. Then the ear is complete, and the stalk is at its highest point of feeding value.

If you use a good corn binder you will get over the field rapidly, before any of the nutritious palatable elements of the plant have time to die out.

After the plant is cut, there is no deterioration of its feeding value, providing the stalks are properly cared for.

The binder puts the fodder in shape to be easily shocked and quickly and profitably husked and shredded.

In actual practice dairymen and feeders find that the corn binder is well-nigh indispensable to the man who wishes to get all the profit out of his corn crop. This is true no matter whether the corn is to be shredded into stover or put into the silo.

While you are not going to buy a corn binder because we ask you to, if you will figure out the value of corn stover in actual dollars and cents you will appreciate the wisdom of saving it. If you then want a corn binder or husker and shredder, our agent will be pleased to talk to you.

YOU HAVE THE CHOICE OF

McCormick, Milwaukee, Osborne Deering and Champion Corn Binders

McCormick, Deering and Plano Shredders

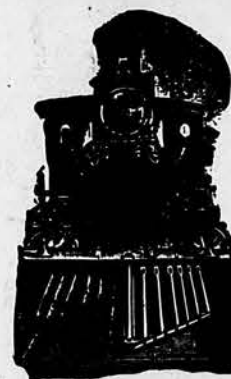
MADE BY THE

INTERNATIONAL HARVESTER COMPANY.

In each of these machines you have all the advantages made possible by the unequalled manufacturing facilities of the International Harvester Company.

The International Harvester Company owns its own timber lands and saw mills, its own iron and coal mines, its own coke plants and rolling mills, from which it produces a large percentage of all raw materials used, selecting in every instance only the best material and working it out in the best way in the above great manufacturing plants. These are advantages which no buyer can afford to overlook.

Remember. The International lines are represented by different dealers. See them for catalogues.



Earn From \$80 to \$125 Per Month

WE WANT YOUNG MEN for Firemen and Brakemen, experience unnecessary. High Wages, Promotion. Positions secured as soon as competent. Instructions by mail. Cut out Coupon and send with stamp for full particulars to-day.

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VIEW OF BUILDINGS, FROM THE NORTH.

millet or Proso is making a remarkable growth. It is already somewhat known among farmers in the vicinity who find that it makes the best possible horse feed and is greedily eaten by all classes of stock. It is a prolific grower and promises to become one of the standard crops of Western Kansas.

Mr. O. L. Elling, who is now acting superintendent of the Fort Hays Station, has had general direction of the work of the Station since the retirement of Superintendent Haney. He has our thanks for valuable facts concerning the work of the Station, some of which appear elsewhere in this issue.

Judge A. M. Story, of Manhattan, is one of the newly appointed regents of the College. While he is a lawyer by profession, he is also a farmer and the owner of a herd of pure-bred Hereford cattle. He takes a very active interest in the operations of the farm and Experiment Station, and it is predicted that he will make an extremely valuable regent.

One of our engravings shows a portion of the irrigation plant in use at the Fort Hays Station. It consists of a four-inch rotary pump operated by a gasoline engine and, while small, it has sufficient capacity to irrigate a considerable amount of land, enough to determine results in experimental plots. Next spring it is the purpose of the Station to install a windmill plant for the purpose of demonstrating that each farmer may raise enough vegetables for his own use, which is not now generally the case in that region.

The Fort Hays Station will prove an educational institution where one is sadly needed. A large number of the farmers in that vicinity are foreign born who have contented themselves heretofore with growing wheat only. Their routine of life consists of putting in the wheat in the fall and harvesting it in the spring. Many of them reside in town except during the time of these operations. Diversified farming in any degree is not practiced.

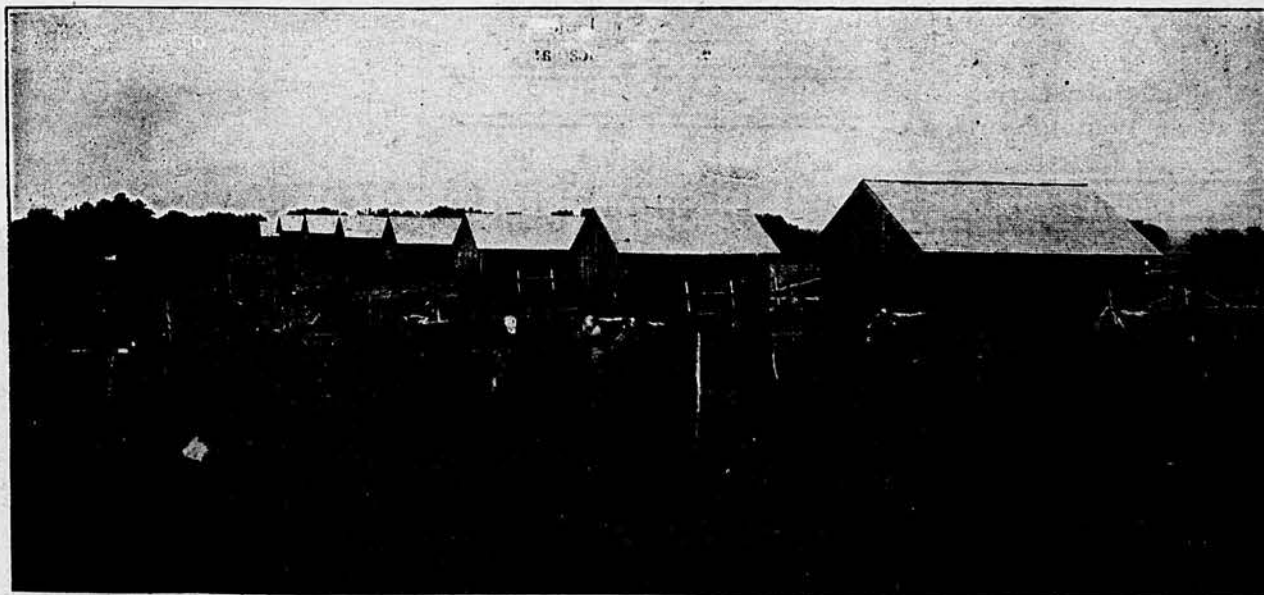
The soil in the vicinity of Hays is

rich in quality and about 20 or 25 feet deep. It is found, however, that the subsurface is quite hard and practically impervious to moisture, except where broken up by the plow or subsoilers. A series of experiments in the use of the subsoil plow is now under way and the results obtained will be looked forward to with interest.

While the writer was present in the office of the Experiment Station at Fort Hays, a request was received from a seed-dealer in Texas, asking for five car-loads of wheat to be delivered at five different points in that State for use among the farmers in a section similar to that of Western Kansas. Mr. Geo. K. Helder, who has charge of the records of the Station, assured the writer that such requests were not uncommon for the reason that the seedmen appreciate the fact that the Station grains are pure and true to name. It is believed that a demand of this kind will be created in a short time, which will prove a considerable source of revenue to the Station. The demand is now greater than the supply, but arrangements are being made to take care of it in part.

Our general view of the Fort Hays Station does not show the new elevator which is now being erected. This will have a capacity of about 6,000 bushels of grain and is so arranged that by dumping the grain from the wagon into the pit, it can be distributed by machinery in any one of the numerous bins. With 380 varieties of wheat to care for it is necessary to provide separate bins for each kind. Many of these bins are small, of size only sufficient to care for the seed to be preserved for the next season. Varieties that have proved valuable will be raised in larger quantities and stored for distribution among the farmers.

With Prof. A. M. TenEyck at the head of the Agricultural Department, the readers of the KANSAS FARMER are well acquainted, by reason of his frequent and valuable contributions to our editorial pages. While young in years, he stands in the front rank of agricultural experimentors in the United States.



FEED-LOTS.

FIELD POST Made where used. No freight charge. Simple of construction. Erects in heavy, convenient and strength. Costs little more than other posts, will last for all time. Renders universal satisfaction. Reliable men wanted who can work territory. Descriptive matter free. Address with stamp, ZEIGLER BROS., Hutchinson, Kans.

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NI-KO makes quitting easy.
Harmless - Wholesome - Effective
Write for proof
NI-KO CO., Wichita, Kansas



DON'T BUY OR Attempt to Make GATES until you get prices on my anti-freezing, self-opener, which has no equal and is sent ready to bolt to your gate post.

P. C. Forrester, Box 2170, Streator, Ill.

EASTERN COLORADO

A BANNER SECTION OF THE RICH IRRIGATED LANDS

IN THE PRODUCTION OF WHEAT, CORN AND ALFALFA. BEST CONDITIONS FOR STOCK RAISING. IT IS THE GRAIN LAND OF THE WORLD. THE SAME THAT SELLS IN IOWA UP TO \$150 PER ACRE, AND IT IS BETTER, IF ANYTHING, BECAUSE THE SOIL IS NEW AND NOT WORN OUT.

PURCHASE PRICE, \$5 to \$30 per Acre.

The Arkansas Valley, Colorado,
OFFERS EXCEPTIONAL BENEFITS TO THE FARMER AND TRUCK GROWER. IT IS THE LAND OF SUNSHINE, WHERE SUGAR BEETS, CANTALOUPE, FRUITS AND VEGETABLES GROW IN PROFUSION. CROP FAILURES UNKNOWN.

PRICES REASONABLE.

THE MISSOURI PACIFIC RAILWAY

CARRIES YOU DIRECT TO THIS WONDERFUL TERRITORY, AND OFFERS SPECIAL REDUCED RATES FOR THOSE SEEKING LOCATIONS.
DOUBLE DAILY SERVICE. FREE RECLINING CHAIR CARS.
WRITE US FOR FURTHER INFORMATION AND DESCRIPTIVE LITERATURE.

H. C. TOWNSEND;
GENERAL PASSENGER AND TICKET AGENT,
ST. LOUIS, MO.

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Homeseekers rates to points in Arizona, Colorado, New Mexico, Texas, Indian Territory and Oklahoma, on 1st and 3rd Tuesdays of each month.

STEAMSHIP TICKETS To and from all parts of the world. Lowest rates and best lines represented.

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C. P. & T. A.

TOPEKA, KAN.

Hay Fever and Asthma

Cured to Stay Cured

Attacks stopped permanently. Cause removed. Breathing organs and nervous system restored. Symptoms never return. No medicines needed after ward. 21 years success treating Asthma and Hay Fever. 55,000 patients. Book L Free. Very interesting.
Write P. HAROLD HAYES, Buffalo, N. Y.

Duroc-Jersey Swine Breeders

WE will have ready for delivery about August 10th, stationery containing our new cut of

DUROC-JERSEY BOAR

We will have same on letter heads, envelopes and business cards. If not on our mailing list send in your name and we will send samples.

The Walker Litho. and Ptg. Co.

Dayton, Ohio.

DUROC-JERSEYS.

D. M. TROTT Abilene, Kans., famous Duroc Jerseys and Poland-Chinas.
COUNTY SEAT HERD DUROC-JERSEY SWINE
 Geo. Briggs & Son, Clay Center, Neb.
 Young stock for sale.

DUROC-JERSEYS—Large-bodied and long-bodied kind. A fine lot of bred gilts for sale. Prices reasonable.
E. S. COWEE, E. F. D. 2, Scranton, Wans.

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

FAIRVIEW HERD DUROC-JERSEYS
 Now numbers 150; all head for our two sales, October, 1905, and January, 1906.
J. B. DAVIS, Fairview, Brown Co., Kas.

THE OLD RELIABLE KLONDIKE HERD.
 Duroc-Jersey Swine, Shorthorn Cattle and B. P. Rocks. FOR SALE—Two September 27, 1904 males. Eggs 75 cents per 15; or \$4.00 per 100.
Newton Bros., Whiting, Kansas.

GOLDEN RULE STOCK FARM
LEON CARTER, Mgr., Asherville, Kans.
 Gift-edged Duroc-Jersey Swine.

FAMOUS FANCY HERD
 Registered Duroc-Jersey Swine. A few choice gilts and two fall boars for sale.
JNO. W. JONES & SON, R. R. 3, Delphos, Kan.

Wheatland Farm Herd
DUROC-JERSEYS
 For Sale—Fall gilts, tried brood sows, bred and open and spring pigs of either sex.
GEO. G. WILEY & SON, South Haven, Kans.

FOR SALE 75 head of pedigree Duroc-Jersey swine, boars or sows, no skin, good color, well built, very cheap, order now from
CHAS. DORE, Route 6, Osage City, Kans.

Orchard Hill Herd
OF DUROC-JERSEYS
 Spring pigs are ready to go. They will be sold at a bargain to make room.
R. F. NORTON - Clay Center, Kans.

THE CHERRY RED HERD Our Durocs are better than ever. Some No. 1 February and March boar pigs; as pretty as can be found in any herd. Also just as fine gilts of same age for sale at low prices, with Keen Champion \$4499 to head herd. Also some W. P. Rocks and Pekin Ducks.
Mr. and Mrs. Henry Shrader, Wauneta, Kas.

PLAINVILLE DUROC-JERSEYS
 Herd headed by King of Kansas 28293, sired by Improver 24, the hog which brought \$300 for a half interest. For sale: A lot of pigs sired by King of Kansas. The brood sow, Daisy E, is very large and a good breeder of show hogs. There are several sows in the herd of the Tip Top Notcher strains. Send in your orders and get a bargain.
J. M. YOUNG, Plainville, Kans.

MINNEOLA HERD
DUROC-JERSEY SWINE
 Prince 17799 and Red Rover 27665 at head of herd. Young boars and bred and open gilts for sale.
L. A. KELLER, Route 7, Phone 891 G, Ottawa, Kans.

POLAND-CHINAS.
 Kansas Herd of Poland-Chinas has bred gilts and W. R. C. Leghorn chicks. F. P. Maguire, Hutchinson, Kansas.

FOR SALE Poland-China Hogs, Holstein-Friesian Cattle; either sex. Best strains represented.
H. N. HOLDEMAN, R. R. No. 2, Girard, Kans.

THE ELM GLEN FARM
HERD OF POLAND-CHINAS
 Eight choice young boars, bred and open gilts, good size and finish; first draft for \$20; take choice of boars. **WM. KNOX, SOUTH HAVEN, KANS.**

Pecan Herd of Poland-Chinas
 Model Tecumseh 64133, American Royal (S) 30783, and Best Perfection 81507 at head of herd. Write us your wants.
J. N. WOODS & SON, Route 1, Ottawa, Kans.

DIRGO BREEDING FARM
J. R. Roberts, Prop., Deer Creek, Okla.
 Breeder of up-to-date Poland-Chinas. A choice lot of boars of serviceable age for sale at prices which should make them go at once. Write me before placing your order.

E. E. AXLINE Oak Grove
 BREEDER OF
POLAND-CHINAS

Will consign two choice boars and four first-class sows to Sedalia Sale, August 24, 1905. Annual Fall Sale Oak Grove, Missouri, October 9, 1905.

HIGHLAND FARM HERD OF PEDIGREED
POLAND-CHINAS
 Twenty serviceable boars at special prices for next 30 days, sired by Black Perfection 27132, Silk Perfection 32804, Perfection Now 32580, and Ideal Perfection. They are lengthy and good-bodied pigs, with plenty of finish. Write me description of what you want and I will guarantee satisfaction.
JOHN BOLLIN, Route 5, Leavenworth, Kans.

MAPLE VALLEY STOCK FARM
 Pure-bred Poland-Chinas from leading strains. Visitors welcome and correspondence solicited. Satisfaction guaranteed. **C. P. BROWN, R. 2, Whiting, Kas.**

POLAND-CHINAS.

POLAND-CHINAS
 FOR SALE—June gilts, sired by Corwin's Model. This stock is first class. Weight from 150 to 200 pounds. Prices quoted on application.
Dave Stratton, Route 1, Walton, Kans.

Elm Grove Stock Farm Poland-Chinas.
 Herd headed by Nonpareil 86105A. Sweepstakes boar at Missouri State Fair 1904. Can spare a few choice sows bred for May and June farrow.
F. A. DAWLEY, Waldo, Kans.

Main's Herd of Poland-Chinas
 Empire Chief 30379, heading champion herd and winner in class at Iowa and Nebraska State Fairs. He is of great size and finish. Sire Chief Tecumseh 3rd and out of Columbia 2d. The combination that produced so many State fair champions. A grand lot of sows bred to him; and summer boars for sale at reduced rates. Try me for quality and prices.
James Mains, Oskaloosa, Jefferson Co., Kan.

Spring Creek Herd of
POLAND-CHINA SWINE
 Pigs by On and On and U. S. Model. 3 fall boars and a number of choice gilts, large, fancy and well bred. Perfection and Sunshine blood.
G. M. Hebbard,
 Route 2, - Peck, Kansas


ROME PARK POLAND-CHINAS
 and **BERKSHIRES.**
 I have about twenty boars ready for use and twenty-five sows bred, and some unbred, and a large number of good pigs, both breeds.
T. A. HUBBARD, (County Treasurer Office),
 Wellington, Kans.

GUS AARON'S
POLAND-CHINAS
 Route 5, Leavenworth, Kans.
 Choice young boars of April and May farrow sired by Beauty's Extension, for sale. Also bred sows and gilts, all with good colors, bone, fancy head and ears. The herd boar, Beauty's Extension 27968, for sale. Some snaps here. Visitors welcome. Mention Kansas Farmer and write for prices.

CHESTER WHITES.
 **D. L. Button,** Elmont, Shawnee County, Kansas
 Breeder of Improved Chester-White Swine. Young stock for sale.

WHITE ELEPHANT HERD
 Of the Famous
O. I. C. SWINE
 Stock For Sale
J. W. Buck Prop., Route 2, Portis, Kansas

High Point Stock Farm
 I have choice O. I. C. and Duroc-Jersey males. Also bred O. I. C. and Duroc-Jersey gilts for sale. B. P. Rock cockerels and eggs in season. Write or come and see
J. R. EBERT,
 Route 3, Hunnewell, Kas.

Ohio Improved Chester White Swine.
 We offer for sale a nice lot of good pigs sired by Hoosier Boy 2d 10396, one of the best and out of such noted dams as Bessie W 19074 and Ada S. 19072, and other good brood sows. We price nothing but good straight stuff. We also have a few choice black and tan pups, nicely marked, that are sure death to rats. Prices reasonable.
A. E. STALEY & SON, R. 7, Ottawa, Kans.

O. I. C. Hogs
Scotch Collie Dogs
B. P. Rocks

One hundred grand pups sired by the two greatest stud dogs in the west, Cragmere Wonder and Brandane Noble. We are selling more Collies than any firm in America. Why? Because we have the blood, our prices are moderate, and our dogs are workers as well as blue blooded.
 With each collie sold by us we send a book "The Useful Collie and How to Make Him So." Write at once for they are going fast.

Walnut Grove Farm,
H. D. Nutting, Prop., Emporia, Ks.

BERKSHIRES.
SUNNY SLOPE

 **BERKSHIRES**

40 bred gilts, 50 boars large enough for service and a large number of fine spring pigs of both sexes for sale. Berryton Duke 72946, litter brother to Masterpiece, and the choice pig of that litter at head of herd. Our sows are large and growthy, the choice from my large herd after years of careful breeding. I can sell you as good hogs as you can buy in America. Write for prices before buying.
 Address all correspondence to
C. A. STANNARD, - Emporia, Kansas

BERKSHIRES.

CEDAR LAWN BERKSHIRES My sows are Prime 64778, and Berryton Duke 72946. Boar at head of herd, Jourist topser 78277.
Wm. McAdam, Netawaka, Kans.

BERKSHIRES
 From the best breeding that can be had, for sale at all times. Male and female, bred and open. Prices and breeding that will suit you.
J. P. SANDS & SON, WALTON, KANSAS

Ridgeview Berkshires
 Boars of July and August, '04, farrow for sale, sired by Forest King 72668. Orders booked for spring pigs.
MANWARING BROS.,
 Route 1, Lawrence, Kans.


SUTTON'S BERKSHIRES
 Imported Blood
 30 extra choice Boars, 100 to 150 pounds.
 40 extra choice Gilts, 100 to 150 pounds.
 Fancy heads, strong bone and all-around good ones. Bargains at \$15 to \$25 to close quick.
Chas. E. Sutton, Russell, Kansas

BERKSHIRES
 I have purchased the great S. B. Wright herd, of California—are of the best in America, and the best sows and boars I could find in Canada, and have some fine young boars by several different herd boars. Can furnish fresh blood of high quality.
 Eight pure Collie pups, cheap
E. D. KING, Burlington, Kansas

KNOLLWOOD
BERKSHIRES
 Pacific Duke 66691, the 1,000 pound champion show and breeding boar from herd of S. B. Wright, Santa Rosa, Cal., bred by N. H. Gentry; Model Princess 60134, by Halle 60125, sweepstakes Pan-American sow; Stumpy Lady 63409 by Combination 56028, sweepstakes Kansas City and Chicago 1902. Lee's Model Princess 62514, the \$180 daughter of Governor Lee 47971; Lady Lee 99th 65038, the \$180 daughter of Lord Premier 50001, and other "Blue-Bloods." Sows bred to 3 grand boars and young stock for sale.
E. W. MELVILLE, Eudora, Kans

ABERDEEN-ANGUS.
Aberdeen-Angus Cattle
 and **Percheron Horses**
 A few fine bulls ready for buyers. Aged cows will be sold cheap. Two jacks for sale or exchange for good Percheron stallion or mare.
GARRET HURST, Peck, Kans.

ABERDEEN-ANGUS CATTLE FOR SALE.
 A long string of fine registered yearling and 2-year-old Aberdeen-Angus bulls at reasonable prices from Allendale herd, the oldest and largest in the United States; also females on hand at all times for sale at living prices. Fine imported bulls from best herds in Scotland have been at head of this herd for many years. Over 300 registered cattle in herd.
 Inspect herd on Allendale Farm, 7 miles from Iowa and 2 miles from La Harpe on Southern Kansas, Missouri Pacific and M. K. T. Rys, Allen County, Kansas.
 Address **Thomas J. Anderson, Mgr., Gas, Allen Co., Kansas;** or **Proprietors, Anderson & Findlay, Lake Forest, Ill.**

THE SUNFLOWER HERD PURE-BRED
Angus Cattle
 Herd headed by HALE LAD 30645. Herd numbers 250 head, the largest herd bred by owner in America. Stock for sale at address
PARRISH & MILLER,
 Hudson, Route 1, Stafford Co., Kas.

GALLOWAY CATTLE.
O. E. MATSON, - FURLEY, KANSAS
 Breeder of choice Galloway Cattle. Eighty head in herd. Young stock for sale. Write for prices.

SHORTHORNS.
Evergreen Ridge
SHORTHORNS
WM. H. RANSON
 Route 2, N. Wichita, Kans

SHEEP.
ELMONT HERD
SHROPSHIRE SHEEP
 Herd headed by Huntsman 155655 and Marshall 178211. Choice young bucks ready for service, for sale; also extra good spring ram lambs. All registered
JOHN D. MARSHALL, Walton, Kas

SHORTHORNS.

Plainville Shorthorn Herd
 Headed by Prince Lucifer 188685
 A pure Scotch bull.
 Stock for sale at all times.
N. F. Shaw, Plainville, Rocks Co., Kans

ROCKY HILL HERD
SHORTHORN CATTLE
J. F. True & Son, Perry, Kans.

D. P. NORTON'S SHORTHORNS
 Dunlap, Morris County, Kansas
 Breeder of Pure-bred Shorthorn Cattle.
 Yearling bulls and heifers, \$40 each.

Meadow Brook Shorthorns
 Herd headed by Baron Goldsmith 224633 by The Baron 121327; females bred to him and choice young bulls for sale.
T. C. KINGSLEY, Dover, Shawnee County, Kansas.
 Railroad Station, Willard, Kans. Long Distance Telephone

SHORTHORN CATTLE
POLAND-CHINA SWINE
 Best strains of stock for sale at popular prices.
M. WALTPIRE, - - Carbondale, Kansas

SILVER CREEK
SHORTHORNS and DUROC-JERSEYS
 In Special Offer. 8 young cows and heifers bred to Imp. Aylesbury Duke and Lord Thistle. Some choice Duroc pigs of either sex sired by and gilts bred to May Bury. First prize winner at Am. Royal, Mo. State, and World's Fair, 1904.
J. F. STODDER,
 Burden, - Cowley County, - Kansas

MILKING SHORTHORNS
 Young bulls from heavy milking dams, sired by the Scotch Topped Giltspur's Knight 171691 whose heifers are excellent milkers. Write us.
N. MANROSE
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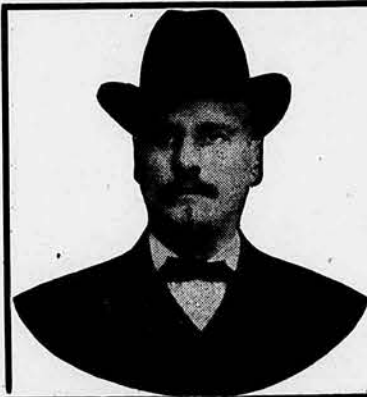
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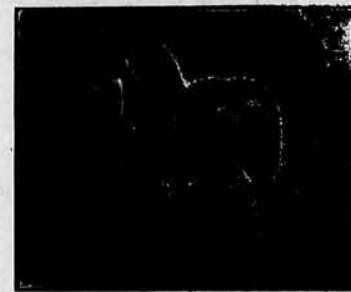
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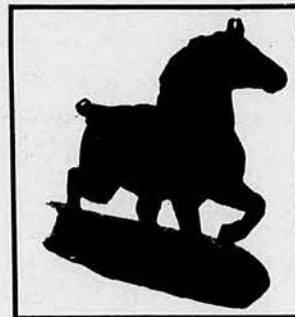
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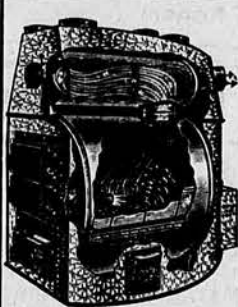
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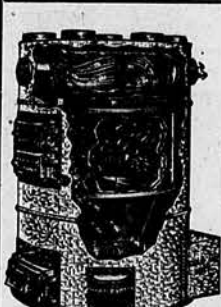
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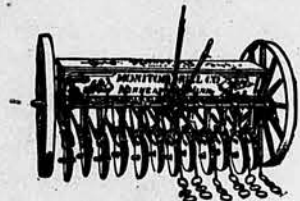


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