

KANSAS FARMER

Volume XLV. Number 26

TOPEKA, KANSAS, JUNE 27, 1907

Established 1863. \$1 a Year

The State Agricultural College and Experiment Station

One hundred and twenty young people graduated from the Kansas State Agricultural College on Thursday, June 20 1907. The total number of students enrolled at this college during the year just closed was 1,937. They came from 100 counties in Kansas, from some counties in other States, and from other countries. There were about half as many girls as boys in attendance.

The distinguishing characteristic of the graduates of a properly conducted agricultural college is their knowledge of how to do something, as well as how to think of something.

When Lincoln had signed the Morrill act granting large areas of the public lands to the several States for the endowment of agricultural and mechanical colleges the schoolmen of that day predicted failure. The traditional idea that education should not be utilitarian was almost universal among educators in the higher institutions. To have suggested then that the student who should learn some useful knowledge might thereby develop his power to think and his equally important power to rest from thinking; that he might thereby cultivate his acuteness of preception, his judgment, his esthetic nature in any way comparable to these acquisitions, as they result from the pursuit of the standard course of study of that day, would have been rank heresy. That the new schools would be short lived was freely predicted.

On the organization of the agricultural and mechanical colleges great difficulty was experienced in securing presidents and professors qualified for the new work. The eminent educators were nearly all of the old school.

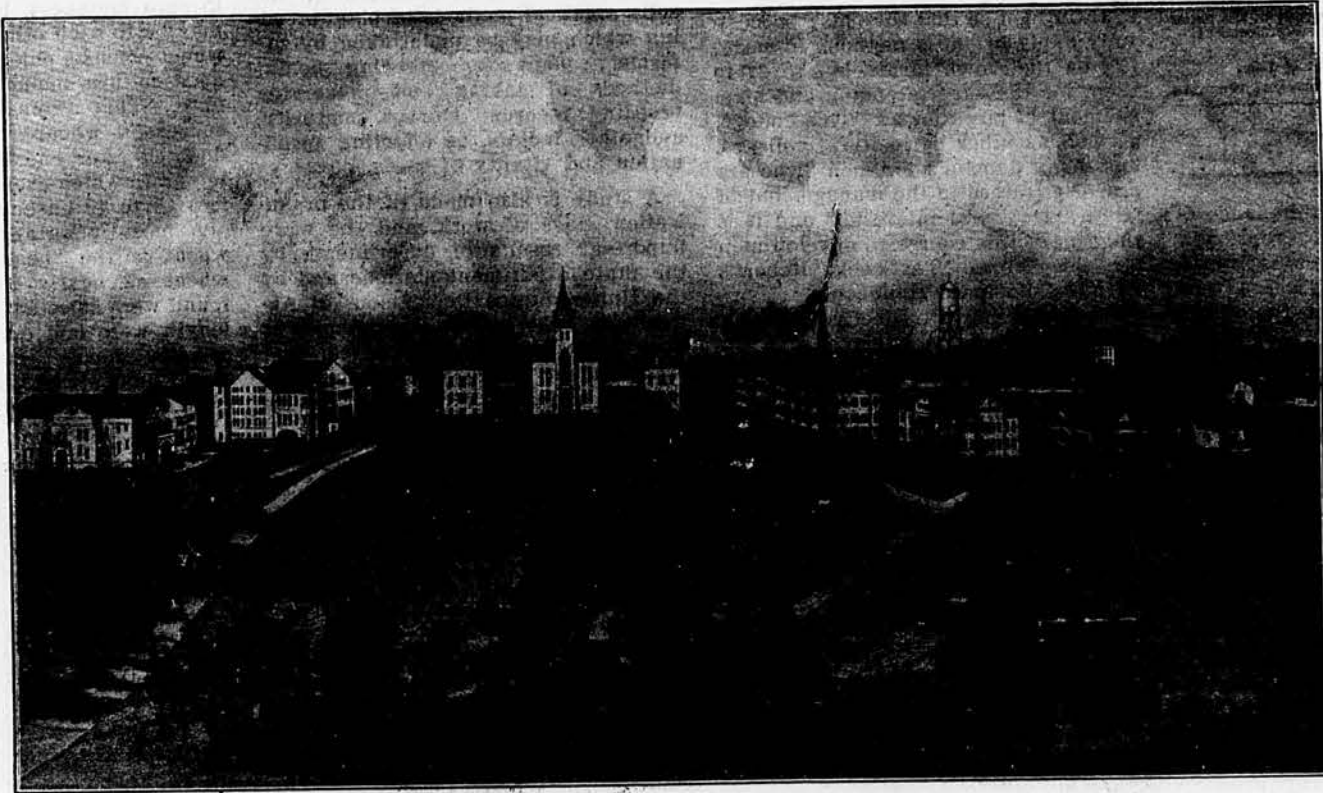
In some States the agricultural college was made a branch of the State University. In Kansas the State accepted and adopted a ready-made school of the old sort and introduced gradually such modifications as were needed to bring the school into harmony with the demands of the times.

The popularity of the college and of its kind of education is manifested in the large attendance. The efficiency

reader to some idea of the equipment. The accounts here given of the work in some of the departments are not

honors an honorable position. This plain farmer-like man just reaching the strength of mature manhood suits the boys.

Agronomy in its restricted sense, and as taught at the Kansas State Agricultural College, includes four general lines of study: Soils, crops, farm mechanics, and farm management. In the published course of study, farm mechanics and farm management are given one-half term each. The more advanced work in soils and farm mechanics is included in soil physics No. 5, elective, and in farm mechanics II, elective. The course requires a full term's work in crop production and grain judging, while, for those who wish to specialize in this line, advanced work in this subject is as



General View of Kansas State Agricultural College.

of the work done is manifested in the demand for Kansas State Agricultural College graduates for places of responsibility which call for the qualifications here acquired.

Under later acts of Congress grants of money have been made for experimental work. In former times experiments in educational institutions were confined almost exclusively to illustration or to proof of what was already known. The latest grant by Congress to the experiment stations is to be used specifically for research work.

It is now known that farming is not merely holding the plow and wielding the hoe. As in all other branches of learning it is realized that there is much more to find out than anybody or even everybody knows. That the knowledge yet to be developed will be immensely valuable as a producer and conservator of dollars and cents becomes more apparent with each season. Increasing importance therefore attaches to the research work of the agricultural colleges' experiment stations. This research work is an inspiration to the students who witness it and especially to those who assist in it.

The limitations of space render it impossible to give here an exhaustive account of this great institution. The illustrations presented will help the

to be considered as disparaging others not mentioned.

THE DEPARTMENT OF AGRONOMY.

Readers of THE KANSAS FARMER need no introduction to the head of this department, Prof. A. M. TenEyck. His safe and sane, scientifically accurate, and eminently practical answers to inquiries as they have appeared in this journal have given him an enviable place in the estimation of Kansans. These inquiries began to pour in upon Professor TenEyck soon after he assumed the duties of his position. His answers were prepared with thoroughness and care. It seemed a pity, however, that so valuable answers should be seen by the inquirers only. It was therefore arranged to print copies of these answers in THE KANSAS FARMER. In this way the work so well done, the influence of the college, and the benefits of the experiments in answering important questions, received wide dissemination.

As a teacher and leader among the many hundreds of young men at the college Professor TenEyck occupies a position of peculiar strength. Like all other properly constituted young men these like a man who does his work energetically and honestly; they like an investigator; they like a man who

an elective in the fourth year. Agriculture No. 1 takes up the elementary study of soils and crop production and serves as an introduction to the several branches of agriculture, animal husbandry, and dairying.

It is the purpose to make the agricultural studies thoroughly practical. Agriculture is a business. It is not truly a science, but it depends upon science, and to understand the "principles of agriculture" requires a knowledge of many sciences. Physics, botany, chemistry, geology, and mathematics teach theory and science, and the studies in agriculture assist the student to make the application and put the theory and science into practice on the farm.

Following is a brief description of the work given to the students:

1. Agriculture. An elementary study of the soil—its formation, texture, plant-food, moisture, tillage, and fertility; the plant—its relation to the soil and climate, its propagation, growth, and cultivation; the kinds of crops and their culture; the animal—its life, feeding, breeding, and management. Text-book, Bailey's Principles of Agriculture.

2. Crop Production. A study of farm crops as to the preparation of the seed-bed, planting, cultivating, har-

KANSAS FARMER.

Established in 1863.

Published every Thursday by
THE KANSAS FARMER COMPANY
 (Incorporated, January 1906).
 Topeka, Kansas

SUBSCRIPTION PRICE: \$1.00 A YEAR

Entered at the Topeka, Kansas, postoffice as second-class matter.

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vesting, root systems, maintenance of soil fertility, rotation of crops, manures and fertilizers, noxious weeds, injurious insects and diseases, and their remedies. Each of the staple crops is taken up in order, its history, characteristics, methods of culture, uses, etc., noted. Seed selection and the storing, feeding, and marketing of crops also receive attention. Crops are studied in classes as to their special purposes or uses, as hay, forage, silage, pasture, soiling, green manure, and cover-crops. New crops are investigated. All the different crops are grown on the farm, so that the students may see them, or at least see samples in the classroom, and thus become familiar with their characters and methods of culture and handling. The instruction is by lectures and text-book.

Grain judging is supplementary to the classroom work in crop production. This consists mainly of work in the judging-room, in the scoring of corn and the common cereals according to inspectors' and buyers' standards, or according to recognized standards of perfection. A special study is made of corn in the selection of seed ears. It is surprising how few people can pick out a good ear of corn before they are carefully instructed and trained in the vital points, both as to desirable qualities and defects. It is just as important to select and grow a pure and perfect type of corn or wheat as it is to select a well-formed hog or perfect type of dairy animal for breeding purposes. A higher percentage of protein, greater productiveness, and other valuable qualities, which may be bred into corn by careful and intelligent selection, should greatly increase the value of this crop to the farmer.

3. Farm Mechanics and Management. This includes the study of the following subjects: Selection of a farm, as to location, soil, climate, etc.; relation of farming to other occupations; the farm equipment; different systems of farming; field and crop management; keeping farm accounts; necessity, method and kind of accounts. Practise work is required of each student, in which he shall carefully prepare records of the farm operations and business transactions for one year on his own farm or that of some successful farmer. Questions of

farm economy are carefully studied, such as the care of farm buildings and works, management and care of stock, fencing, ditching, etc. Some study is made of rural law relating to property, deeds, and conveyances; water rights, highways, legal fences, contracts, liabilities of employer and employee; notes, mortgages, bills of sale, etc. Farm management is meant not only



Pres. E. R. Nichols, under whose administration the Kansas State Agricultural College has more than doubled in attendance and equipment.

to train men so that they may successfully apply business methods in carrying on their own farms, but to equip them for the superintending and management of large farms. This college, as well as other agricultural colleges, has many demands for men "who are properly trained in the management of large agricultural interests," and it is the aim of this course to develop men for this work. Text-book, Robert's Farmers' Business Handbook.

The following are elective studies:
 4. Soil Physics. A study of soil formation and mechanical composition, including a special study of the physi-

cal problems of the soil as regards texture, tillage, movements of soil water, soil-moisture conservation, aeration of the soil, draining and warming of the soil. A study of the implements of tillage as to their purpose and use. Laboratory work will consist largely of the demonstration and application of the principles of soil physics taught in the classroom, both by work in the laboratory and in the field. The students are given practise work in determining soil moisture, in cultivation methods, and in mechanical analysis of soils. Text-book, King's Physics of Agriculture.

6. Crop Production II. This course includes a study of the following: Standard crops, as to their origin, development, and special adaptation to soil, climate, etc.; investigations of new crops; the harvesting, thrashing, storing, and marketing of crops; the products manufactured from each, and their uses; plant improvement by selection; cross-fertilization, and by special culture and fertilization of the soil; practical methods of plant-breeding which may be undertaken by the farmer; plans for breeding fields; methods of taking and preserving breeding records; storage, maturity, and other factors, as affecting germination and vitality of seeds, etc.

A study is also made of the organization, lines of work, and the more important results of experiments by the State experiment stations and by the United States Department of Agriculture. The important principles of experimental work are studied, and each student is required to plan and conduct, under the direction of the in-

which could not be commenced during the early part of the academic year.

SOME OF THE RESEARCH WORK IN THE AGRONOMY DEPARTMENT.

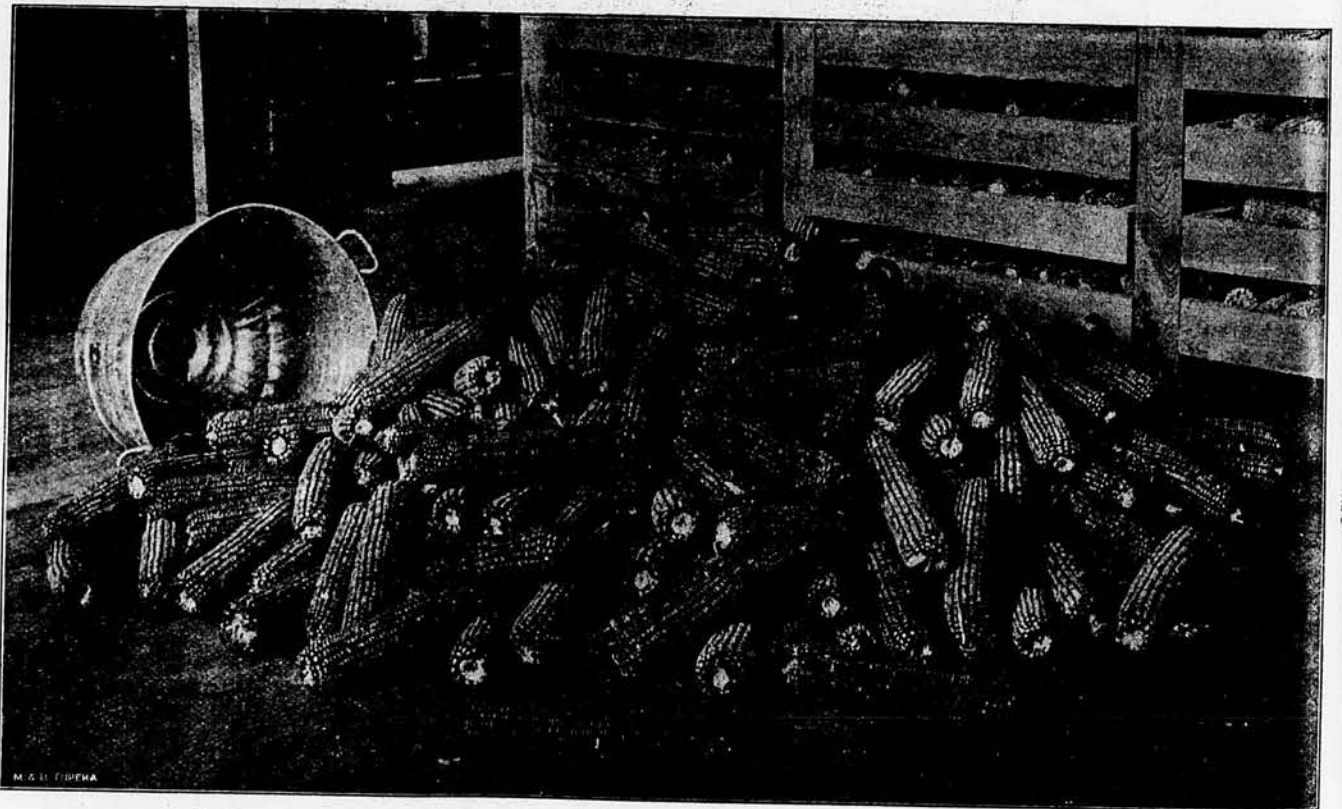
The research and other experimental work now in progress is varied and extensive. The writer made a hasty examination of some of the field experiments last Thursday morning. Of the hundreds of experiments underway only a few can be mentioned here.

The farm, part of which is owned and part of which is rented by the college, has plots of corn and "increase" patches of corn in various parts. To prevent corn from hybridizing, it is necessary that the plot of field that is to be kept pure be far from other varieties. During recent years much has been done to secure high-yielding corn. Many varieties have been tested. Ear-tests of the best of these have been made and strains which tend to large yields have been produced. The "increase" fields of these produce seed-corn of superior merit which is sold to farmers. In this way the State gets immediate benefit from the experimental work.

To fully describe all of the work in progress for the improvement of corn alone would require so much space that nothing else could be mentioned in this issue.

The experiments for the improvement of wheat are no less important. There are hundreds of plots for this purpose. Work with wheat has an advantage over that with corn in that varieties of wheat do not mix, except in rare instances, however near they may be to each other. The work with wheat consists chiefly of selection and good culture, including the use of manure. That Professor TenEyck is a successful wheat-grower is not to be doubted after one has seen the waving grain which even this season promises 20 to 40 bushels per acre.

A most important experiment with wheat is the "head-test." Heads of wheat as nearly ideal as could be found were selected. Rows of suitable length were laid out and each of the selected heads was given a row. Equal numbers of grains were planted from each head, or in each row. The



A Heap of Selected Seed-Corn. A corner of the College seed-room with drying-racks in the rear.

structor, some experiment along agricultural lines, and to prepare a written discussion of the subject, giving the results of the experiment. The experiment may include any line of work in charge of the agronomy department, such as studies in germination and purity of seeds, market conditions of grain, culture methods for different crops, effects of various methods of cultivation on temperature and moisture of the soil, etc. This course gives an opportunity for the student to begin some kind of original investigation which he may continue as a graduate student, and allows him a choice of many lines of field-work

best rows gave several times the promise of the poorest. The produce of the best rows will be used for increase, thus giving quick improvement, as in the ear-test for improvement of corn. Several varieties of alfalfa are found in every field. These are often crossed with each other by the work of bees and other insects. As mentioned elsewhere Professor Roberts, of the botanical department, is working for pure strains of seed by protecting the alfalfa against insects by means of wire screen. Professor TenEyck has been for several years producing pure strains of alfalfa by means of cuttings. During the growing season slips of a

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red strain of alfalfa are propagated in the green house. When rooted slips are transplanted in a plot of ground. Of some strains there are several square rods of alfalfa in a single plant. The uniformity of the plants thus produced is very noticeable. It is hoped to obtain pure seed from these isolated plots. There is, however, be disappointment as is

table growing, for home and market, floriculture, both window and greenhouse work with plants, a term of pomology when the fruits themselves as well as the plants which produce them are given careful study. Forestry is ever-increasing in importance and every student who has work in the department has some idea given him of the necessity, the desirability,

an indication, repeated trials which give results similar in effect establish the conclusion. The comparison of commercial fertilizers is checked by a plot of the same soil that has for past years received identical treatment. A block of strawberries growing on the station grounds is divided into plots of equal size, the check plot untreated and the others given varying applications of commercial fertilizers. Blocks of vegetables are similarly handled, and the satisfactory comparison of the check block treated with barnyard manure only bears eloquent evidence of the value of "good farming" and the comparison blocks of potatoes, planted upon potato ground, cow-pea ground, and alfalfa ground will give data as to the value of such treatment for the production of potatoes.

The "Farmers' Garden," a block of ground 100 feet by 50 feet, is on its third year of trial and the yield of vegetables from early to late as well as root crops for winter, is unanswerable argument that a garden pays, if manure and cultivation are properly applied.

The trial planting of fruits includes many varieties of tree fruits, bush fruits, and some productions of breeding under trial for hardiness and quality. The block of native and seedling persimmons includes some named varieties from various sources, notably Indiana and Kentucky, and seedling trees from the best of the wild trees observed in the State. In this connection it is interesting to note that the persimmon is promising a full crop for this fall. The fruiting habit, flowers borne on new shoots, is even later than the grape. The hopes of the breeders are for increase of size, and decrease in numbers of seeds, the flesh is of high quality in many of the native fruits of this species.

The work with sprays as preventives of insect and fungus injury is continued and repeated, the prevention of mildew of grape and blight of potato is of great importance in this year of shortened fruit crop and shortened season for the potato.

The tests of summer pruning of unproductive fruit-trees are being re-

lover and every planter of useful and ornamental trees.

The writer was unable to inspect the experimental work of this department in detail but hopes to give a fuller account at a future date.

THE BOTANICAL DEPARTMENT.

The botanical department of this college, like some of the others, has been frequently robbed of its head by other institutions. For a time it was presided over by the untiring Professor Kellerman, whose contagious enthusiasm affected every student who ever came within range of his influence. Two decades ago he instituted a series of corn-breeding experiments along lines which should have been worth untold money to the farmers of Kansas. But the Ohio State University wanted Kellerman, bid for him, got him, and Kansas lost the benefits through discontinuance of the work so well begun. Later this department, under Professor Hitchcock, with the enthusiastic aid of Geo. W. Clothier, entered upon extensive experiments in the breeding of wheat at about the time of the beginning of similar work with Northern wheats at the Minnesota Experiment Station. Minnesota in cooperation with the Dakotas produced valuable new varieties for which largely increased yields are claimed. Kansas let the enthusiastic Mr. Clothier get away into other fields, allowed the Department of Agriculture to take Professor Hitchcock and seems to have lost the results of their work.

The present head of the botanical department, Prof. F. H. Roberts, is conducting extensive experiments along botanical lines for the betterment of crops. The writer was especially interested in those with alfalfa and with wheat. In a small field of alfalfa an attempt is in progress to secure pure in-bred seed of several of the strains of alfalfa which every grower finds in his fields. The botanist knows that at the proper stage the alfalfa blossom may be opened and discharged of its pollen suddenly by the pressure of a honey-bee upon its petals. The bee is dusted with this pollen and as she flies to another blossom carries the pollen with her, thus fertilizing the flowers with pollen from other blooms. In this way the several strains of alfalfa are continually crossed. Some strains are manifestly more desirable than others. Professor Roberts is attempting to produce close-fertilized, or in-bred, seed of desirable plants. He places a wire-gauze cage over the plant selected, thereby excluding the bees. When the blooms are at the proper stage he presses the petals gently with a pencil point; a miniature explosion results; the pollen is discharged and falls upon the stigma of the pistil producing close fertilization. By the protection of the wire screens it is sought to make sure against further pollenization by insects. Should this work result in pure strains of alfalfa-seed it will be worth to Kansas all that the botanical department has ever cost.

Professor Roberts has in progress hundreds of experiments with wheat, with forage plants, including many kinds of grasses, etc.

The instruction in the botanical department is along three lines:

First, as a Pure Science.—The department gives the student the training in observation and scientific reasoning, and also the information which he should have as a matter of general knowledge, regardless of his subsequent vocation. Botany is the first natural science to which the student is introduced in his college course, and for this reason it is necessary that he receive in this department his elementary training in scientific methods.

Second, as a Science Underlying Agriculture.—It is well recognized that botany is one of the most important of the sciences upon which the practice of agriculture is based, for the reason that botany deals with plant life, and plant life is at the basis of agriculture. Whenever practicable, illustrations and examples in both the elementary and advanced work are chosen



A Glimpse of the State Agricultural College Grounds During Military Drill. Photograph by The Kansas Farmer man.

the case when the seeds of apples grown on grafted stock are planted. The experiments with soy-beans, cow-peas, Kafir-corn, and many others are necessarily passed for this time.

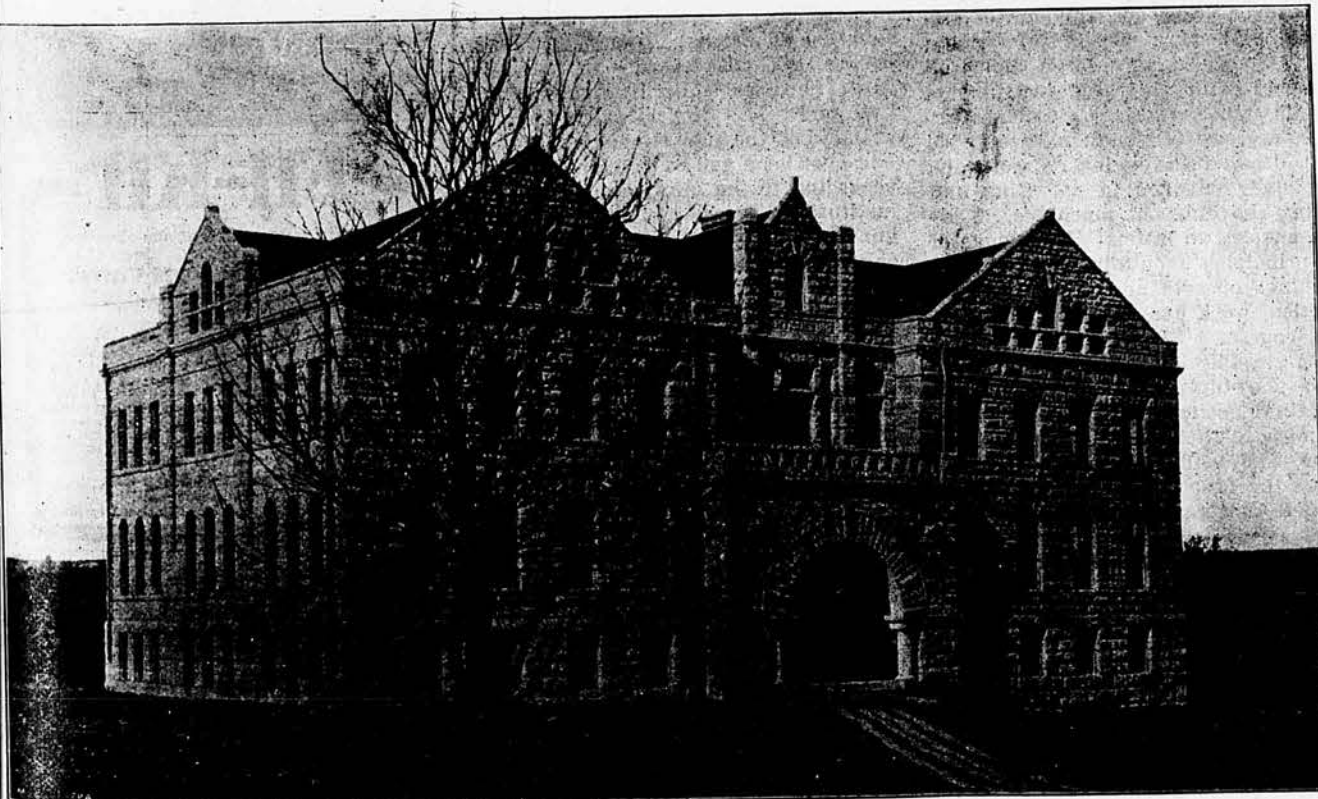
THE HORTICULTURAL DEPARTMENT.

No stranger to readers of THE KANSAS FARMER is introduced in presenting Prof. Albert Dickens. He is a Kansas boy grown big, strong, and learned. He has made his department one of great usefulness. His diligence and ability have received recognition in the erection of the new building just completed and devoted to the use of his department. It is one of the handsomest on the grounds, but is not included in the general view presented on our first page because it was not in existence when that view was taken. It stands at the right extremity of the curve.

The class work of the horticultural

and the possibilities of this great branch of agriculture. Opportunity is given for special work in this as in other lines and a number of the graduates of the college are in the U. S. Division of Forestry, having obtained the position through civil service examinations. Landscape gardening is an elective that is steadily increasing in popularity with the senior students, the principles of the art and an acquaintance with the material form the subject matter of the term's work, and the campus with its great variety of species of trees, both evergreen and deciduous; shrubs, perennial and annual flowers, and combinations of all give the student abundant material for the work.

The opportunity of observing and frequently assisting in the work of the Experiment Station is a valuable experience for many of the young people who are taking the agricultural



The New Horticultural Building. Now Occupied.

department undertakes first to give all the students of the agricultural, domestic science, and general science courses such acquaintance with the principles and practice of general horticulture as will be useful in making better homes. The matters of plant nutrition and propagation underlie all work with plants and taking the plant where the botanist leaves it, named, described, dissected, the horticulturist must find the conditions best suited to its best development and then give these conditions, to obtain the best berry, flower, cabbage, or oak. After these general principles are mastered the special work is taken up. Vege-

and science courses. The success of different species under identical conditions is one of the simplest experiments to observe, many plantings date back to 1888, some to 1874, and a careful record is kept of all trees, shrubs, and fruits. The question of maintaining soil fertility, the most important perhaps of all great questions of science and practice, has long been under process of solution. The comparison of the effects of the various combinations of fertilizers, upon small fruits, vegetables, and tree fruits is valuable in proportion to the accuracy of results, and repeated tests are required to establish data. One trial is

peated, this time on high land orchards that will not be liable to loss from flood as was the orchard upon which the first tests were made, and which was largely destroyed after setting a crop of fruit the second year after the summer pruning, while the unpruned trees were making a heavy growth of wood with but little fruit production.

The production of evergreen forest trees from seed is a difficult matter in many localities. Methods of treatment of seed and of protection of seedlings, and best age for transplanting are matters that should interest every tree

en with particular reference to their bearing upon agriculture.

Third, Technical Botany, including such subjects as are of direct application in agriculture. The training in the special botanical studies of the agricultural course is chiefly of this nature.

THE CHEMICAL DEPARTMENT.

At the head of this department is Prof. J. T. Willard, a native Kansan, a graduate of the institution in which he has served during the entire period of his service anywhere. His immediate predecessor was George H. Failor, now at the head of one of the laboratories of the Chemical Division of the Department of Agriculture, at Washington, D. C. Professor Failor is also a graduate of the Kansas State Agricultural College. He honored this commencement with his presence and witnessed the graduation of his youngest daughter as a member of the class of '07.

Professor Willard's distinguishing characteristic is extreme accuracy. But so-called science without accuracy is not science. To be under the direction of a man of whom it has been said that "he is painfully accurate" is to come under an influence whose beneficial results continue through the life of the student.

All the industries are becoming more and more dependent for their highest success upon intelligent application of the sciences, and the special sciences are making their greatest progress by tracing their phenomena back to the physical and chemical conditions that produce them. A study of chemistry and physics is therefore essential to any understanding of the processes of nature or of human industry. In the instruction in chemistry at Manhattan the aim is to insist upon a mastery of the chief concepts of the pure science through the agency of text-book drill, accompanied by demonstrations in the lecture-room, and experimental observations by the student himself in the laboratory. As the course proceeds, illustrations of chemical principles are drawn from the industrial processes of the chemical, agricultural, domestic, and other arts, thus impressing the practical nature of the study. The ultimate object of the instruction is to develop in the student the power to form independent and reliable judgments upon the manifold problems of daily life in which chemistry plays a part.

A mere outline of the work of instruction in chemistry requires so much space that the editor finds it necessary to refer the interested reader to the college catalogue, a copy of which can be had on writing to President E. R. Nichols, Manhattan, Kans.

The part of chemistry in the work of the Experiment Station is necessarily great and varied.

The chemical department is getting well started in the work of testing the many varieties and strains of wheat that are on trial at this station and the branches at McPherson and Hays.

There is a small reduction mill, a scourer, and middlings purifier with which are tested the flour-producing qualities of the different wheats. There are also complete facilities for making baking tests of the flour. The chemical department will test a large number of the wheats grown by the station and compare them by similar tests with wheats typical of the different regions of this State and probably of other States. In connection with the test mentioned complete chemical analyses of the wheat and its milling products will be made.

Digestion and nutrition experiments are also carried on by funds received in accordance with the recent act of Congress known as the Adams Act. In these experiments the digestibility of feeds and rations will be studied in the cases where sufficient knowledge is not at hand and the nutritive effect of the digested portion ascertained as far as possible. It is hoped to include some careful study with reference to balancing rations. The German feeding standards are not entirely applicable to our conditions and almost no investigations have been made concerning the best combinations of

Western feeds for the nutrition of animals. The digestion and nutrition experiments will be carried on parallel with feeding experiments on a larger scale. It is hoped that these will be continued for many years and that ultimately all species of domestic animals will be used. The first experiments will be with sheep and cattle.

This department has charge of the registration and inspection of feeding stuffs and fertilizers. The recent acts of the Legislature with reference to these has largely increased the scope of the work of the chemical department. The analyses of dairy products in connection with the Dairy Commissioner and the analyses of dairy products, meat, and all animal products, and cereal products of all kinds for the State Board of Health, are required by law to be made in this department.

This partial review of some of the work of this great department is not satisfactory to the writer who finds it about as difficult to give a comprehensive account as it is to snap-shot an entire farm in one photograph.

ELECTRICAL ENGINEERING.

There has been much discussion regarding the range of work proper to be done at the land-grant colleges. They were called into being for the especial benefit of persons who should engage in "agriculture and the mechanic arts." They may teach anything that these persons ought to know; they may investigate anything likely to promote the interests of agriculture or the mechanic arts. Hence the department of electrical engineering at the Kansas State Agricultural College offers a four-years' course in electrical engineering. A large number of young men are taking this work and fitting themselves for practical engineers. Nineteen young men graduated from this course this year. Nearly all of them have already secured positions with companies and private corporations. The course consists of a theoretical study of the subject of electricity involving the higher mathematics through calculus.

The young men begin the work in the junior year with a study of methods of measuring electricity in its various phases and becoming familiar with the different instruments of precision used for measuring electricity. The laboratories are large and well equipped with the best instruments and dynamo machines. Each afternoon a group of young men may be seen dressed in engineer's suit and cap busily engaged in operating and testing the different machines. They here acquire an intimate knowledge of the principles upon which the several machines operate and are able to do practical work upon the completion of the course. The department has grown rapidly during the last three years, showing the demand for trained men in electrical engineering. It is the purpose of this department to meet the needs of modern engineering by providing the best training in theory and practice that can be given in the four years devoted to this work. Young men who have a desire for this work need not go outside of their own State for it.

The head of this department is Prof. B. F. Eyer, a Kansas product of the best sort. He is one of those energetic workers whose enthusiasm permeates the surroundings and inspires all who come in contact with him to do the best that is possible for them.

DEPARTMENT OF ARCHITECTURE AND DRAWING.

The drafting room was decorated with architectural drawings, blue prints, and plaster models selected from the work of Professor Walter's classes in architectural drawing, composition, iron construction, and modeling. Over 500 large plates were on exhibition and the room was thronged with visitors at all times during the whole of commencement week.

Professor Walters, the head of this important department, has been with the college for thirty-one years and it is due to his persistent efforts that three years ago the scope of the for-

mer department of drawing and industrial art was enlarged and a regular school of architecture organized, which to-day has a large number of enthusiastic students. It is the only school of architecture between St. Louis and the Rockies and we predict for it a bright future. The question might be asked what business has the Agricultural College to educate architects? The answer is simply this, that the Agricultural College was organized for the benefit of agriculture and the mechanic arts, and that the art of building is one of the most important of the whole galaxy. The modern dwelling is totally unlike the house of even forty years ago, as unlike as is the modern thrashing machine and the old time flail. The schoolhouse, courthouse, church, and business block of to-day are marvels of complexity as compared with the simple log cabin, town hall, and parish church of a generation ago. They are constructed of different materials and must exhibit a much higher standard of taste.

The department is not only educating architects and contractors. It also gives lectures and drill to the young women of the domestic science course on such subjects as color, design, home decoration, etc., and teaches primary drawing, both free hand and instrumental, to the freshman classes of all courses. Two regular assistants and three student assistants are employed to do this work. Over twelve hundred students received instruction in one or more branches of industrial art during the past year.

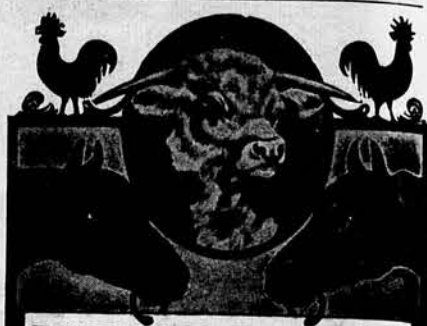
DOMESTIC SCIENCE.

It has always been maintained, considered, and adjudged in Kansas that her girls were of as much consequence as her boys. For instruction in those branches needed to fit girls for the work that is especially theirs, the domestic science department of the Agricultural College was instituted at an early date. For many years, it was presided over by Prof. Nellie Sawyer Kedzie, whose work was so excellent and whose affection for any influence over the young ladies was so great and so desirable that no Kansas board of regents would ever have displaced her. But during one of the political revolutions of years ago Mrs. Kedzie insisted on the acceptance of her resignation. There have been several successors. Finally there was found in Mrs. Henrietta Willard Calvin, a graduate under Mrs. Kedzie, talent capable of making the department all that it had ever been and to develop the work according to the growing needs of the institution. Every girl of the several hundreds finds a substitute for mother ready to take mother's place in every emergency, and she finds an instructor in the science of domestic affairs who is capable of placing woman's work upon a scientific basis even as professors in other departments apply science to their share of the world's industries.

Thirty-three years ago President Anderson called the attention of the board of regents to the fact that in all institutions for the education of women, the young women were educated in literature, languages, and in art, but never in those subjects that would fit them to be home-makers and housewives. He stated that no matter for what a woman was educated, that in the majority of instances she became a wife and mother with little or no training for her duties, and that this too often was productive of unhappiness and discontent in the home; and he concluded by urging the introduction of household arts instruction into the Agricultural College. This effort on the part of President Anderson resulted in the teaching of sewing, and later of cooking, in the regular course. Thus the Kansas State Agricultural College became one of the first in the United States in which this training was offered. Since that time over four hundred young women have graduated from the college, practically all having received some training in domestic science. In all else women's studies have been the same as men's, the domestic science being substituted for those employments that were more

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Two courses are now offered that are suited to the needs of young women—the general science and the domestic science. The first of these gives a broad, scientific education. Bacteriology, physiology, zoology, geology, botany, higher mathematics, English literature, civics, economics, one year of chemistry and two years of German are among the subjects required. Industrial training, which is a requisite in all courses, may be elected in one of several lines by those in this course. It is quite customary for the young women to elect their industrials and their three senior electives in the domestic science department, thus obtaining a training very similar to that of the domestic science course.

DOMESTIC SCIENCE COURSE.

The domestic science course was instituted as a separate course nine years ago, and since that time it has been the most popular course for young women. In this course about one-third of the student's time is given to culture studies, such as literature, German, history, economics, and mathematics, one-third to scientific studies

in advanced and in invalid cookery. There are three electives in the senior year. There are advanced courses in domestic science offered for those expecting to teach that may be taken as these electives. All other departments offer electives so that the young woman may increase her information in whatever she has come to be most interested in.

Home-making is considered to be the profession and mission of women, and the course is planned with this end in view, but it is made so strong scientifically that its graduates are finding positions as teachers of domestic science in every State of the Union.

DOMESTIC SCIENCE SHORT COURSE.

Beside the four-year course offered by the college, there is a short course of one fall and one winter term—a six-months' course. In this the practical parts of domestic science are emphasized, and as much of the theory is presented as students are prepared to understand. Completion of the county common schools is a prerequisite for entering this course. Those who for lack of time or want of means can not take the long course find this course of great value. Three hours

One who has studied the art of sewing may find pleasure in the making of a gown where her more ignorant sister might consider it a hardship should she be obliged to serve herself or others in the same way. A trained milliner may bestow upon the hat she is constructing the loving pride of an artist, where the woman who knows vastly less might speak of it as an irksome occupation.

Under a system which is carefully planned and properly carried out learning to sew may be as educational a process as the pursuit of any other of the industrial arts. It then becomes a part of the mental as well as the manual training. By practise in needlework the hand becomes steady, dexterous, and powerful. But the eye must also be trained to observe correctly, to compare sizes and forms and to measure spaces, in order that the worker may fix evenly, sew regularly, draw and cut out accurately, and construct properly and tastefully.

Sewing, as it is taught in the domestic art department of this college, not only enables the student to make herself an entire outfit, but also teaches her to design and draft her patterns.

It seems a pity that every girl is not given a training in at least some

the part of most Kansans, there has grown up a great industry in this State within the last few years, which ranks among the largest and most profitable in the State. This is the dairy industry, which the authorities of the Kansas State Agricultural College were quick to recognize by the division of the old department of agriculture into that of dairy husbandry, animal husbandry, and agronomy.

Kansas now has more than 711,000 milk cows whose annual product amounts to more than \$17,000,000, and equals the sum total of all agricultural and horticultural products of the State with the single exceptions of corn and wheat. It also equals the total product of all the mineral resources including oil and gas, coal, lime, brick, clay, cement, etc., according to the last available figures. The work of caring for this immense interest in an educational way has been, since the division of the departments at Manhattan, in charge of Professor Oscar Erf, than whom there is no more competent man in the United States known to the writer whose acquaintance is a very extensive one.

Professor Erf came to Kansas with a record of accomplishment that was remarkable and, shortly after taking up the work here, he was placed at the head of the dairy and refrigeration exhibits at the World's Fair at St. Louis, where he made a reputation for efficiency that has not been equalled. In building the immense refrigeration plant at St. Louis, the designers and the builders both found problems which they could not solve, and were obliged to give up the work. Professor Erf took charge and in a remarkably short time he had the entire department in working order and maintained it in perfect condition during the entire period of the Louisiana Purchase Exposition. In addition to being a teacher of pronounced ability, Professor Erf has the faculty of enthusing his students to a degree which brings to them a measure of success which in turn insures for them immediate and remunerative employment on the completion of their courses at Manhattan. So great has been the work of the Dairy Husbandry Department in Kansas that it is now recognized as one of the most important offices in the State by all who are engaged in dairy farming, and especially by the Kansas State Dairy Association.

To the efficient work done by this department is due, in no small degree, that general education of the people of the State which made it possible at the last meeting of the Legislature to secure the passage of a bill creating the much needed office of State Dairy Commissioner.

We shall leave it to our readers to learn of the course of study that is offered in the dairy department from the catalogue of the agricultural college. In addition to the work of the class room, which is supplemented by daily practise in the well-equipped dairy building where the student has daily contact with and use of all of the principal manufactures of cream separators and other dairy machinery, Professor Erf has devoted a large share of his time and strength to experimental work. Much of this work has been reported in the bulletins that are regularly issued by the Experiment Station and in the columns of THE KANSAS FARMER, to which Professor Erf is a regular contributor.

The experiments now under way in the dairy department proper are divided into two general classes: The dairy barn experiments and the creamery experiments. In the dairy barn experiments the first under consideration is for the purpose of determining the milk flow from cows that are being milked with the milking machine, as compared with that from cows that are milked by hand. This experiment was begun in July 1906 and some interesting results have already been attained. These, together with results of other experiments under way, will be published in due time.

Experiment No. 2, is for the determination of the effect of stripping cows after they have been milked with the machine as compared with results



Junior Class in Cooking—Professor Calvin near center column.—The young ladies learn to be neat and dainty when at work.

that either directly or indirectly bear upon household subjects, and one-third of the time to those subjects that directly constitute domestic science.

In the first year of the course the student is required to take three terms of sewing, one of elementary cooking, and one series of lectures in personal hygiene. (This is true also of the young women in other courses.) In the second year there is one term's work in dressmaking, in which thorough instruction in cutting, fitting, and finishing is given, the student making one full gown for herself during the term. Lectures on fabrics are given at the same time. The rest of the second year is devoted to laying a strong scientific basis for the after domestic science studies. In the third year the student enters the domestic science department, and thereafter this branch becomes her major study. Twice each week three hours are given to domestic science—one hour for theory, two hours for practise. The source, chemical composition, characteristics, cooking, digestion and metabolism of each food is taken up, the reasons for all processes explained, the economic and dietetic value of each food considered. Thorough instruction in food preservation is a part of the course. In all work the reasons are sought for. During the year lectures are given in home nursing, and twelve lessons in practical laundering are a part of the course. In the fourth year one term is devoted to household management, one to dietetics, and one to the relation of diet to disease, with practise

each day are spent in cooking, two in sewing, and one in either floriculture, drawing, or home nursing. The sewing and cooking are almost exactly the same as the work given in the longer course.

MUSIC, DRAWING, PHYSICAL CULTURE.

Music is here accepted as a factor in the education of most girls and is free as an industrial for one term or more. Courses are offered in voice, piano, violin, mandolin, and guitar. Instruction is also offered in drawing, the educational value of which can hardly be overestimated. Work is given in object drawing, geometrical drawing, color and design, home decoration, and in all industrial and architectural forms of drawing. All young women in the college have access to the privileges of the gymnasium, while those below the third year must elect physical training or music. Daily classes are held in light gymnastics, and gymnastic games are taught to those who care to learn.

SEWING.

Womankind is just beginning to realize the importance of an education along the lines of domestic art, and to appreciate the bearing it may have upon her comfort and happiness and upon the comfort and happiness of those dear to her. In all the wide field of industry which has come to be known as woman's work there is not so much as one small duty which may not be better accomplished by means of a knowledge of the art of its performance.

of the branches of art as applied to every day life. Whether or not she has personal need of the knowledge thus gained it would be extremely beneficial in aiding her to comprehend the relative values of things.

There are many schools and colleges that are giving courses in domestic art, but there are not enough, nor will there be until every girl in the land shall find it possible to gain, without other price than her own personal effort, a full knowledge of domestic art.

An interesting experiment in human nutrition was recently carried out in the domestic science department. Experimenters have devoted much effort to find rations and conditions suited to produce the best results in animal nutrition, but it has remained for Professor Calvin to extend the experimentation to girls. Several senior girls volunteered for the experiment. The rations were scientifically balanced. They were cooked and served a la K. S. A. C., to the excellence of which the writer bears cheerful testimony. The girls were brought from their boarding-house fare in the usual condition produced by such fare. The details of the experiment need not be here stated, but the girls made satisfactory gains in weight. It is worth while to know how to feed girls so as to make them plump and pretty while doing the hard work of their senior year at college.

DAIRY HUSBANDRY DEPARTMENT.

Almost without our knowledge, and certainly without a full realization on

when no stripping is done after the machine.

Experiment No. 3 is to determine the possibility of stimulating the milk flow of cows by manipulation of the udder, massaging from the rear as compared with that from the side of the udder, and the application of electricity, are three of the methods employed.

No. 4 has for its object the production of sanitary milk with aid of the milking machine. This is conducted by the dairy and veterinary departments in co-operation.

No. 5, has to do with improvement of the milking machine, which is found not to be perfect as yet. Professor Erf probably knows more about the milking machine from actual use than any other man in the United States, and his bulletins on that subject are used as the latest authority everywhere.

In the creamery division, experiment No. 1 is to determine the effect of lactic acid added directly to the cream or butter, with the object of eliminating the use of a commercial starter and the determination of the resulting flavor. No. 2 is designed to determine in a rapid method the butter-fat, water, and casein in butter and also the butter-fat in cream. This problem has been a serious one with creamery men and if Professor Erf succeeds in solving it, he will have the thanks of all engaged in that business, and will add new laurels to those already won. Experiment No. 3 is an attempt to prevent dampness in the floors of creameries, from which so many employees suffer. Nos. 4 and 5 have to do with the quick manufacture of cheddar cheese and the manufacture of palatable cheese from pure-skim milk, while No. 6 has to do with the manufacture of ice cream under the new pure-food laws.

Professor Erf also has general supervision over the poultry department, and now has under way a large number of experiments in the feeding and care of the different breeds of poultry and the increase of the laying power of hens by proper selection and breeding. These experiments also include the proper construction of poultry houses and fixtures; problems of hatching by electricity, and the determination of the proper time of year at which birds should be hatched in order to secure the best egg laying ability.

The work of the dairy department is so comprehensive and so important to the whole of Kansas that THE KANSAS FARMER attempts to give only a very brief statement, in the hope that it will result in our readers' calling upon the department for the bulletins as they are issued and for the personal assistance which Professor Erf and his associates are always ready to give.

ANIMAL HUSBANDRY DEPARTMENT.

Successful agriculture the world over depends, in these later days, very largely upon the class of live stock that is kept on the farm. This live stock must be considered as a skillfully constructed machine for the purpose of transforming the crude products of the farm into more highly concentrated articles of commerce, such as beef, pork, butter, etc. So important is this fact that progressive farmers as well as investigators, advise that no crude products should ever be sold from the farm, but should be there manufactured into the more valuable and less bulky articles just named. This is tersely expressed in the often-quoted sentence; "Do not haul your farm products to market, but drive them."

Realizing the importance of the live-stock industry then, not to the State only, but to the Nation at large, the work of the animal husbandry department of the Kansas State Agricultural College has been planned to give instruction along all lines that in any way pertain to the live stock industry. At the head of this department is a young man who has won early recognition for his ability and his comprehensive knowledge of the subjects included in his field of investigation.

Professor R. J. Kinzer has been in Kansas but a few years, but in that short time he has won a standing among breeders and a reputation among all classes that is second to none in the United States. Through his writing in THE KANSAS FARMER and through his work as a judge of live stock at various important fairs and live stock expositions, together with his thorough knowledge and ability as a teacher, and his skill in fitting and showing live stock at such expositions as the American Royal and the International, he has won a place in the esteem of the farmers of Kansas and of the breeders of the entire West such as has never been won by any Kansas professor before him.

Professor Kinzer fully realizes the great and increasing demand for trained young men in the field of scientific and practical animal husbandry work. This demand is almost unlimited, and the salaries paid for such services are not exceeded in any other calling. The young men who have had their training under Professor Kinzer have been found equipped to at once assume the more important duties in positions open in this line of work and it is a matter of satisfaction to him and of pride to the State

the number of animals that should be owned by the college, but plans are now perfected whereby other breeds of both horses and cattle are to be represented. That these animals are used as object lessons and as illustrations is shown in the daily work of the student who is required, as a part of his first work, to devote the morning hours to lectures on the points to be observed in stock judging and the characteristics of the different breeds. The afternoons are then devoted to work of judging which is conducted in a pavilion especially prepared for this purpose. Here the students are equipped with score cards and pencils and the animals are brought before them with the result that they rapidly attain a skill which makes them experts and their services are in constant demand for judging the animals shown at the various county fairs.

A second step in the course of the student is the work of learning live-stock feeding and animal nutrition. This is followed in a later term by the principles of animal breeding, which include selection, heredity, atavism, propotency, in-breeding, cross-breeding, line-breeding, etc.

Live-stock management includes the housing, care, management, and mar-

and another battle against the prejudice which exists in the minds of too many farmers toward the person and profession of a "hoss" doctor. The latter fight has been won, while the former one will never cease as long as domestic animals exist.

In doing the work of this department, the professors have for years past been constantly hampered by lack of proper recognition on the part of the college authorities as well as the farmers of the State, by lack of means with which to carry on the work and by lack of suitable accommodations. In spite of these difficulties, the department has made important growth in two directions. First, in the education of the people of the State as to its value and usefulness; and second, in the growth in numbers of both instructors and students. A new feature of the graduating exercises of the Kansas State Agricultural College appeared this year when seven young men were graduated from the veterinary department with a degree of Doctor of Veterinary Medicine.

At the head of this department is Dr. F. S. Schoenleber, who modestly states that he believes that these young men are so well qualified that they will be able to compete with any of the



Judging Cattle.

that these young men who have gone out from the animal husbandry department have in every case "made good."

To acquire proficiency in judging live stock it is essential that one should become familiar with all classes and types of domestic animals. Upon one's ability to judge live stock rests, in no small degree, his ability to succeed. Knowledge of this kind can be received only by close touch and thorough familiarity with the live animals themselves. For this reason Professor Kinzer maintains at the college at Manhattan representative animals of different breeds which are used, primarily, as object lessons in the course of instruction and, secondarily, as a means of financial profit to his department. The equipment of pure-bred animals now at the Agricultural College includes 8 Percheron horses; 24 Shorthorn, 18 Hereford, and 13 Angus cattle; 60 head of sheep of the following breeds: Shropshires, South-downs, Cotswolds, Dorsets and Rambouillettes; 300 head of hogs of seven breeds: Poland-Chinas, Berkshires, Duroc-Jerseys, Chester-Whites, Yorkshires, Tamworths, and Hampshires.

These animals are of the highest breeding and individual merit and come from the herds of the best known breeders where the blood lines represented will be profitable to use in the college herds. Professor Kinzer has lately acquired a Shorthorn bull that we predict will rank among the very best to be found in the State.

Financial restrictions have limited

keting of all classes of live stock. In addition to the four years' course provided for these students, their work is supplemented by the use of hand books prepared by eminent authors on the various breeds, and by reading THE KANSAS FARMER, which is constantly on file in the department for their use.

A supreme test of efficiency attained by these students is made in the annual stock-judging contests which are provided by the management of the American Royal Stock Show at Kansas City and the International, at Chicago each fall.

This department is one of the most valuable in any institution and its work does more to increase the profitable returns derived by the farmer from his labors in animal raising than could be done in any other way. Kansas is particularly fortunate in having a man of Professor Kinzer's ability at the head of this department.

VETERINARY DEPARTMENT.

Kansas, with her great wealth of wheat and corn which have made the State famous; her alfalfa which has made her rich and her beef and pork which have made her fat, has given all too little attention to the care of the animals through which the rough products of the farm are manufactured into concentrated and merchantable commodities. For years the Agricultural College has maintained a Department of Veterinary Science, and for years it has been fighting the great battle against diseases of domestic animals

older practitioners, and the State of Kansas will reap the fruits of their labors. With the modern training with which Dr. Schoenleber and his assistants have been able to equip these young men they have an immense advantage over the older practitioners of the west and are able to begin their work farther in advance than many of the older men would attain to after years of practise.

Statistics show that there is now in Kansas only one registered graduate veterinarian for every 86,000 head of live stock. As it is manifestly impossible for one man to care for the health of this great number of animals, scattered as they are over large territory, it will be seen that there is ample room for a large increase in the number of veterinarians in the State. One of the dominant industries in Kansas is the production of live stock, and success in this must rest, in a considerable degree, upon the skill, knowledge, and ability of the veterinarian. The last Legislature has recognized the importance of this department of the Agricultural College and the work it has done and is now doing, and has voted an appropriation of \$70,000 for the erection of a veterinary building and its equipment. Add to this the fact that the board of regents has increased the teaching and experimental force in the veterinary department by 50 per cent and it will be seen that this department will be an efficient aid to the live-stock interests in Kansas in the future.

Working with Dr. Schoenleber as

associate professor is Dr. C. L. Barnes who has long been known as the Veterinary Editor of THE KANSAS FARMER to whose columns Dr. Schoenleber is also a liberal contributor. Dr. L. W. Goss, and Dr. Burton L. Rogers are assistants. The latter has been doing special work for the United States Department of Agriculture for some time past in the investigation of tuberculosis. This subject will be a matter of special investigation at the Experiment Station during the ensuing years.

For some years the work of this department was restricted to the examination of contagious diseases in different parts of the State, and a course of lectures on the nursing of sick animals on the farm which was given to the students in agriculture. There were two veterinarians employed to do this work but with the inauguration of the present veterinary course, as distinct from the old agriculture course, another veterinarian was added to the force and last year a fourth member of the Board of Instructions was added.

The present course of training consists, in great part, of a large amount of practical work in the laboratory and clinic besides the lectures and dissections. The curriculum is equal to the best and superior to most courses given in veterinary colleges in this country. The results of experiments, together with advice in emergencies, will still be given to the readers of THE KANSAS FARMER by the highly trained experts in charge of the veterinary department of the Agricultural College, who will also issue for the benefit of the farmer and stock-grower, timely bulletins showing results of their investigations and experiments.

THE FARMERS INSTITUTE WORK.

In the early history of the Agricultural College, farmers' institutes were by no means common and the connection of the college with their work was not close. Locally, the farmers, with the assistance of some of the college professors, had organized the Blue Mont Farmers Club. This club flourished, more or less for several years, and then ceased to exist. It was not until the fall of 1879 that the farmers institute work was organized. This organization was effected by the late President Geo. F. Fairchild with Professor E. M. Shelton as the most efficient college worker. For years a few institutes were held in different sections of the State each season but the funds of the college were very limited and the number of institutes was always small. The work done by the college men at these institutes was so good and the interest of the farmers so great that the college authorities increased the number by the expenditure of funds that were sorely needed in other departments. Finally, the legislature, was induced to appropriate funds for the farmers institute work which immediately assumed such proportions that an expert was employed to devote his entire time to it. The office of Superintendent of Farmers Institutes was created and Prof. J. H. Miller was elected to fill it. With the work and untiring energy of Professor Miller, our readers are familiar. Under his direction there have been held farmers institutes in practically all of the counties of Kansas.

He has arranged for and superintended, more than 100 of these institutes each year, and in addition has arranged for and managed numerous special "lecture trains" on the different railroads of the State. Wheat, corn, alfalfa, dairy, and poultry trains are among those that he has thus managed besides being present at, and taking part in the meetings of numerous State and local live-stock and other associations. The field of his operations was great but the man is the embodiment of energy and has met all demands made upon him. It is a matter of satisfaction to know that no State has a better or more efficient farmers' institute organization through which the usefulness of the Agricultural College has been made available to thousands who could not enroll as students.

In this review it has been possible to call attention to a part only of the many departments of work at the Kansas State Agricultural College and Ex-

periment Station. Others are scarcely less important. In every department there are tried and capable assistants without whose labors those mentioned would be unable to accomplish their great work.

The total number of professors, assistants and other officers employed is 147. The institution is so large and varied in its make-up and work that short of making a book only samples can be given, and this is all that is attempted in the foregoing.

The State has so well appreciated the work that the last Legislature made liberal appropriations for the various branches including provisions for three additional buildings, namely: For Domestic Science Building \$70,000 For Veterinary Building..... 70,000 For Engineering Building..... 80,000

Kansas does not intend that it shall be necessary for any of her sons or daughters to pass over a State line to find opportunity for instruction in the arts and sciences that affect industry in either agriculture or the mechanic arts. The State will also provide liberally, and well for all experimental work that may properly be undertaken and will be satisfied where negative results are obtainable and pleased where positive progress is made.

TITLE BY POSSESSION AND USE.

EDITOR KANSAS FARMER:—As I notice that you are giving subscribers advice on certain points of law, will you please give an opinion on the following road question? In 1883 A who owned an 80 acre tract, gave to B who owned the adjoining 80, a bond for deed for right-of-way one rod wide along the south side of his 80, which bond for deed B duly recorded. Said bond called for deed in 1893. In 1892 A gave to C a bond for deed for his 80, except a right-of-way of sixteen feet wide on the south side of said land. In 1894 A gave C a warranty deed for the 80 acres, and no exception was made as to the right-of-way given to B. B sold his land before the bond expired to D, who has used the road continually till this spring, when C sold out to E who has fenced up the road.

What I want to know is this: (1) Had A a legal right to sell the 80 to C after giving B a bond for deed? (2) Does the fact that the wife of A did not sign the bond given to B invalidate the bond? (3) Does the present owner of land, formerly owned by B, have any recourse on the heirs of A who have been dead some years? (4) Had C a right to accept a deed from A knowing that B had a contract on record for the right-of-way, which was also excepted in the bond given to him by A? A SUBSCRIBER.

Clay County.

This is a case in which had either side gone to a lawyer he would probably have been told that he had a fighting chance, or perhaps, that his side was sure to win. To answer the several questions, assuming that all of the essential facts are as stated it may be said:

(1) A should have excepted the right of way in describing the land deeded to C.

(2) If A's land was the family homestead, A could not convey any part of it without his wife's consent. The fact that she consented if she did consent, might be proven, even though she did not sign the deed. But the evidence must be such as would be sufficient to prove any other important fact. Her failure to protest would not be sufficient proof. In any such case the instrument should be signed by the wife. If the land in question were not the family homestead, the wife's failure to sign would affect only her interest in the land. It is, however, a serious defect in the bond.

(3) The present owner probably has no recourse upon the heirs of A who has been dead for several years. While the iniquities of the fathers are visited upon the children for several generations, according to scriptures and in fact, yet in law there are limitations of time in which all matters of this kind must be brought in question if ever. The Kansas Statute fixes three years as the limit of time for filing claims against all estate. The

children of the deceased can not be held responsible for his errors.

(4) C had a right to accept the deed from A, but the fact that he knew of B's contract, added to the fact that this contract was a matter of public record, obliges C to recognize the contract for all that it is worth, and makes it impossible for him to plead ignorance of the contract and that he is subjected to hardship on account of having been taken by surprise.

But it seems to the editor that the most important question, is whether D has now a right to use the right of way, which A contracted to B and which B sold to D, and whether E has a right to fence it up.

In the case often referred to as the M. K. & T. case, the Kansas Supreme Court, 52 K, 459, decided that the continuous and undisputed use of land by any person, claiming title, for fifteen years gives title.

In this case it was also held that the transfer of the holding and possession from the original to another holder during the fifteen years in such a way that the possession and the claim of ownership were continuous, made the title of the holder good. This form of title is called "title by adverse possession" or by "prescription."

It is a well established principle of law that right to an easement, such as a right-of-way, may be acquired by prescription under the same conditions as pertain to the acquisition of fee simple by this method.

In this case A entered into an agreement with B to grant him a right-of-way. If the writing executed—the bond—was so defective as to be inoperative, it is still evidence of the intention of the parties and of the date at which the arrangement was entered into. This date was followed by about nine years during which time B was in undisputed possession of the easement in question. He then sold out to D. It is not stated whether B's deed to D specified this right-of-way or whether it was presumed in the general description of the farm and "all appurtenances thereunto belonging." If the right-of-way was specifically conveyed there can be no doubt but that D succeeded to B's right and that on the completion of fifteen years of open and undisputed possession and use of the right-of-way D had as strong a right to it as if he had obtained it by warranty deed. If, however, it was merely understood to be included among the rights and appurtenances belonging to the farm and not specifically mentioned in the conveyance the case is not so clear. But in this case the original intention of the owners of the two properties is clear and this intention was acted upon and acquiesced in for a continuous period of some twenty-four years during which time the succession in the possession and use of the easement was consecutive and close. There appears from the statement of the case to be no doubt but that B intended to transfer to D the right-of-way for which he had contract with A. D also understood that he had acquired the right. C also recognized the right as having passed to D and permitted him to continue to use it. This recognition on the part of A and C is sufficiently evident from the fact that A's bond for deed to C excepted 16 feet, almost the entire right-of-way. The omission of the other six inches may easily have been an oversight. The omission of the reservation in A's deed to C made two years later may or may not be significant. But the fact that C continued to recognize the right of B and subsequently the right of D to use the easement until the statute of limitations became operative and that this right was enjoyed successively by B and D for a period far beyond the statutory period and until the land over which the easement existed had passed into new ownership constitutes a case so strong in favor of D's claim that it is almost inconceivable that any court would hold against it.

The acquisition of the easement in this way makes D's right as sacred as if he had a deed for the right-of-way and entitles him to such relief from

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obstruction of his right or exclusion from it as the law gives in any case.

It is to be hoped that these neighbors will not go to law to settle their differences, but that each will look at the matter candidly and that the intention to do right will predominate. E. should remove his fences and leave unobstructed the right-of-way which has been used continuously since 1883 until this spring.

KANSAS FARMERS IN TROUBLE.

The owner of a 160-acre farm near Morrill, Brown County, was asked last spring to price his place. He replied that if anybody wanted it at \$18,000 he could have the deed. The offer was accepted. The farmer spent some time seeking another investment. After going as far as Oklahoma, he returned and bought back the farm he had sold paying \$18,600 for it.

The owner of a 320-acre farm near Waverly, Coffey County, desiring to reduce his cares and give the boys a chance to go to college, sold the farm. He also sold the stock, implements, etc., at public sale. To make it an object to give notes instead of cash for purchases at the sale, the terms were 10 months without interest if paid when due or 4 per cent off for cash. To this farmer's great disappointment cash payments were made for all but \$600 worth of the property sold at auction. This farmer bought a 60-acre farm near Baldwin, Douglas County, and fixed up a nice farm home. He attempted to loan the remainder of his money but, as he told the writer, was unable to do so because every farmer he approached except one had money of his own to loan. This exceptional farmer would take \$500 for three months at 5 per cent but would not pay above 5 per cent the money longer than three months.

Does anybody know a remedy for this kind of trouble?

Prof. E. A. Popenoe who has long been at the head of the Entomological Department of the Kansas Agricultural College has resigned. THE KANSAS FARMER is not advised as to who is likely to be elected to the place. It has been rumored that Professor Popenoe will take work in the Department of Agriculture at Washington. He is one of the most accurately informed entomologists in the Country.

A meeting of Shawnee County alfalfa growers is to be held at the rooms of the Topeka Commercial Club on Saturday, June 29 at 2 p. m. This should result in the formation of a strong association. The first meeting is to be devoted to experience of those who attend.

Miscellany

Our New Dairy Commissioner.

State Dairy Commissioner, J. C. Kendall, arrived at Manhattan in time to witness the closing exercises of commencement week at the Kansas State Agricultural College. Commissioner Kendall will be busy for some days in opening up his new office at the college and in preparing for his official duties which begin on July 1. The Commissioner is a young man of ability and energy who comes to Kansas with the prestige of good work well done and, while great things are expected of him here, his work will be much easier and his accomplishment much greater with the cordial support and help which we feel sure will be given him by every dairy interest in Kansas. Commissioner Kendall will have some good things to say to the readers of THE KANSAS FARMER in the near future.

Commissioner Washburn.

Under a new law that was passed by the Missouri Legislature last winter the office of State Dairy Commissioner was abolished and that of State Dairy and Food Commissioner was created. Hon. R. W. Washburn who had served so acceptably as Missouri's

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Pretty new wash belts of fine white poplinette with heavy, scalloped embroidered edge, and neat design in raised and eyelet embroidery. Small, neat buckles. Very stylish, and well worth 25 cents. Selling at 15 cents in our Underprice Basement Store. Order to-day. Postpaid in Kansas.

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first and only State Dairy Commissioner was recently appointed by Gov. Folk to fill the newly created office. Commissioner Washburn is undoubtedly the best man that could have been selected for this very important position and we desire to congratulate the people of our sister State upon the fact that she has a Governor of rare good judgment and a State Dairy and Food Commissioner of much more than average ability.

Constipation.

DR. HENRY W. ROBY, TOPEKA.

A correspondent of THE KANSAS FARMER asks: "What makes so many people of Kansas constipated? Is it water? If so, where does the mineral part of it lodge in the system? Would rain water boiled, run through charcoal with a strata of sulfur be a relief, a remedy or a healthful drink? Can minerals be added so as to approximate laxative spring waters? What should be the diet and habit of the person to overcome constant constipation or a relief for the same?"

These questions have been referred to me for answer, and I have to say that the same accidents and errors in diet and habits that make so many people constipated everywhere else in the country are also present here, and Kansas is not phenomenal nor even remarkable in that matter. The causes of constipation are many and varied. Too many kinds of food at a meal, some of which digest in one or one and a half hours, while others require two to four hours, thus deranging the digestive function cause constipation. Too much liquid taken with, and soon after the meal is a prolific source of the disorder, for the reason that so much liquid in the stomach, while digestion is going on, dilutes and weakens the gastric juice so that it can not properly dissolve the food to the proper extent for absorption into the circulation, thus leaving an abnormal amount of undigested matter in the bowels to load them beyond their capacity. Too much salt, pepper, vinegar, mustard, horseradish, pickles, and other condiments with the food is primarily over stimulating, and secondarily exhausting to the digestive function. Besides, most of these condiments are not foods at all, and make no blood, and have to be gotten rid of at the expense of the general vitality, while greatly interfering with digestion and assimilation.

Irregular habits of evacuation have

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much to do in the matter. There is an orderly regularity in all things that have life and motion, a periodicity to all animal functions as well as cycles and seasons in the physical universe. We breathe about twenty times a minute, the pulse beats on an average about seventy-five times a minute, we eat, when we can, three times in twenty four hours. We sleep once in the same time. In health we empty the bladder four or five times in twenty-four hours and empty the bowels once, though we occasionally find some very startling exceptions to these rules of bodily functions. I know of one well-authenticated case where a man went regularly eighteen months between evacuations of the bowels and seemed to have good health. And there are a good many cases where persons go from three to six weeks without a movement. On the other hand there are people who have an evacuation regularly two to four times in twenty-four hours and seem entirely healthy. These are exceptional cases. In a healthy and well-habited person digestion, and the primary renewal of tissue occupies twenty-four hours, at the end of which time there is enough waste matter left over from undigested food and that collected from dead and used up cells in the body to fill up the lower end of the colon—the waste basket of the body, to the extent that it requires emptying just as any other waste basket does when it is full. But, always a little more can be crowded in, and always a little more time can be taken for emptying the basket.

Right after breakfast seems to be nature's preferred time for emptying the basket, but, some one of a hundred things in life comes along and you defer to "a more convenient season" the completion of nature's cycle at the morning hour; and when the hour passes, without the doing of the thing to be done in that hour, nature goes on about her work of digesting and tissue making and in a little while periodicity is lost and a haphazard habit or want of habit is established and soon becomes "the constipated habit." And there you are, like the banker whose time lock on the vault door will only allow him or any one else to open the vault at the hour or moment it was set to open. And if he lets that opportunity go by he must wait until the clock calls the hour again. And if it runs down between hours the locksmith has to be called, and so does the doctor in your case. But, you think you are just as expert a doctor or locksmith or any one else, no matter how much training and qualifying he may have had, and so you begin to batter at your already badly abused bowels, with a lot more of abuse in the way of all manner of irritant and purgative drugs. And you batter away at your poor abused bowels till their time lock is ready for the scrap pile, and their vault door is cluttered with piles and hemorrhoidal knobs, till little could pass out if disposed to do so. As the Bible truly says, "The last state of that man is worse than the first," "And no man knoweth the end thereof." For the necessary result is more constipation, more piles and more pills, till the undertaker comes along and hides a fool from the face of the earth.

No, water does not produce constipation, but it is a great aid in getting rid of it. Drink plenty of water, lots of it, but do not drink it with your meal or for two and a half hours after it, while digestion is going on. At all other times take all you want, and then some. Seven-tenths of your body is pure water, and you need lots of it to keep up your tissues and help to keep off constipation. A glass or two the first thing in the morning and the last thing at night will do much to empty your bowels at the right time. But do not sulfur it, do not lime it, do not charcoal it, and do not drug or mineralize it. The nearer down to pure oxygen and hydrogen you can get it the better. If there are microbes or any kind of germs in it, which are inimical to health, then boil it and strain or filter it to get rid of the germs. All the so-called laxative and purgative

(Continued on page 762.)



The "Six-Minute" Washer.

Six minutes, by the clock, and your tubful of dirty clothes is spotlessly clean. And by using hardly a tenth of the strength that you must expend washing any other way. For all you have to do to start a 1900 Gravity Washer is give the handle a gentle push with your hand. Then gentle little pushes and pulls keep it going, while the weight of the tub and the little patent links under the tub do the work. They keep the tub swinging back and forth, and going up and down, with an "oscillating" motion. And this sends the hot, soapy water in the tub rubbing round, and under, and over, and through the clothes until every bit of the dirt is washed out. There isn't anything to injure your clothes. No rough insides—no paddles—no pounders. Your clothes can't even rub against the smooth sides of the tub. For the clothes are held still while water and soap wash the dirt out. This way you can wash the finest laces without breaking a thread. You can wash carpets, too, and get them clean in almost no time. And just think of the time—and labor—and wear on clothes this saves! Your clothes last twice as long. You wash quickly—easily—economically. Do you wonder my big washer factory—the largest washer factory in the world—is kept busy the year 'round filling orders? Do you wonder I have sold tens and tens of thousands of Washers in the last few years? Do you wonder that thousands upon thousands of pleased women users sing the praises of my Washer? But you do not have to take their testimony. You do not have to take my word. For I will let you prove every claim I make for the 1900 Gravity Washer—prove it in your own kitchen—prove it in your own way—prove it at my expense. I will send a 1900 Gravity Washer to any responsible party and prepay the freight. My factory facilities are ample. I can ship Washers promptly at any time, so you get your Washer at once. Take it home. Use it as if it was your own. Then—if you don't find it will do all I claim—if you don't find that, by saving your time, and strength, and labor and clothes, this Washer will also save more than enough money to pay for itself in a few months, then—don't keep it. Just tell me that you don't want the Washer and that will settle the matter. For I say "I will let you be the judge of a 1900 Gravity Washer" and I will. The month's use you have of the Washer won't cost you a penny. The trial is FREE. If you are pleased with the Washer—if you find you can't spare it because of all it saves—why then I will let you Pay Me for the Washer as it saves for you. Pay by the week—or by the month—suit yourself. This way—you Let the 1900 Gravity Washer Pay for itself. Send for my New Washer Book. It tells this whole story and has lots of pictures showing just how my Washers look and are worked. Send for this book today. You have only to mail me a postcard with your name and address to get the Washer Book postpaid by return mail—FREE. Read it and find out why the 1900 Gravity Washer is the only Washer that saves you time and labor—preserves your health and strength—and protects your clothes and pocketbook. Write now. Address R. F. Bieber, Manager, 1900 Washer Co., 688 Henry Street, Binghamton, N.Y. Or—if you live in Canada write to The Canadian 1900 Washer Co., 355 Yonge St., Toronto, Ontario.

Worms all Over the Ground

Drexel, Mo., R. D. 2, Jan. 24, 1907, F. J. TAYLOR CO. Bag of Tonic received and I put it in box as directed. My hogs eat it fine and I think it has done them good from the worms I see scattered over the feed-lot. I believe it is all right, especially for hogs. Will let you hear from me when it is all gone. I remain yours for a fair trial. W. G. BINKLEY.



Taylor's Stock Tonic does more than drive out the worms. It puts your hogs, cattle and horses in the pink of condition, makes them grow faster and stronger, prevents cholera, blackleg and all diseases arising from imperfect digestion. We want you to know all about our Stock Tonic so we will send you 50 pounds on trial if you will send us this advertisement. In 30 days you will send us \$2 for the tonic, or return the empty bag if it is not satisfactory, and there is no charge. We are sending out thousands of bags on this basis and practically every one is paid for. It shows the merit of the goods and the honesty of the farmers. Cut out this ad today and send it to us. F. J. TAYLOR CO., 361 Live Stock Bldg., Kansas City, Mo.

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A scientific remedy and cure for fistula, poll-evil and lump jaw. Price \$2 per bottle. Send us \$1 and we will send you the Remedy, and when your animal is cured send us the other \$1. State how long affected, if fistula, poll-evil or lump jaw; whether swollen, or running. Give particulars; also express office. W. T. Dowling Manufacturing Company, St. Marys, Kans.

Agriculture

Examination of Alfalfa Seed.

Please find enclosed sample of alfalfa seed and some blooms and stalks. I bought seed last fall for pure seed, but find lots of it blooms yellow and has a roundish leaf more like clover, and doesn't stand straight but spreads over the ground where the stand is thin. Please let me know what it is and if it is any good. L. P. JEANNIN, Leavenworth County.

The plant enclosed is hop clover or yellow trefoil (*Medicago lupulina*). It is a very close relative to alfalfa, but being an annual plant, less vigorous and more spreading in its habit, it is not equal to alfalfa in productiveness and value. Yellow Trefoil is not, however, a bad weed, in fact I think that after a year or two it will entirely disappear from your field, but even if it does not, no harm will be done. On the other hand its presence in alfalfa seed in large quantities would be harmful, because it would be the adulteration of a high priced seed with one which costs less and is, at least in this State, practically worthless.

The following is the mechanical analysis of the sample of seed which you sent:

SEED ANALYSIS NO. 472.

Amount of seed analyzed, one-sixth ounce.	Per cent.
Sound seed true to name.....	93.0
Dead or defective seed.....	1.7
Foreign seed.....	4.2
Trash and dirt.....	1.1
Total impurities.....	7.0
Foreign seed classified.	Seeds.

Yellow trefoil (<i>Medicago lupulina</i>)	101
3.2 per cent.	
Green foxtail (<i>Chaetochloa viridis</i>)	33
Red clover (<i>Trifolium pratense</i>)	6
Plantain (<i>Plantago lanceolata</i>)	5
Russian thistle (<i>Salsola tragus</i>)	1
Crab-grass (<i>Syntherisma sanguinalis</i>)	1
Wild carrot (<i>Daucus carota</i>)	1
Lambquarter (<i>Chenopodium album</i>)	1

Looking over the above analysis the following remarks may be made. In the first place the yellow trefoil does not occur in sufficiently large quantities to seriously affect the yield. There are however at least two bad weeds present. The first is Russian thistle and the second wild carrot. Everyone knows what the introduction of the Russian thistle means to a community. Russian thistle is not however nearly so dangerous in alfalfa as it is in wheat, since the frequent cutting of alfalfa prevents the thistle from producing abundant seeds and being an annual plant it must depend upon annual seeding in order to persist and spread. The wild carrot is not so well known as the Russian thistle since it is not yet very widely distributed in the fields of the western States. In the New England meadows, it is however, considered one of their worst pests. It will be seen that in the sowing of the above sample of alfalfa, that in addition to the nearly worthless trefoil, and the many other weeds sown, there would be distributed over each acre (sowing 20 pounds per acre) more than three thousand eight hundred Russian thistle and wild carrot seeds.

GEO. F. FREEMAN.

Assistant Botanist, Kansas State Agricultural College.

Appears to Be a Humbug.

There was great interest, a few years ago, in an announcement from the Department of Agriculture concerning dried cultures for legumes. Later the expert most concerned was dismissed under charges of using his official position to promote the interests of a company which proposed to furnish the wonderful cultures that might almost be carried in the vest pocket and applied as needed to rejuvenate languishing crops and to promote larger yields of the best. There was some skepticism among practical folk, but there were also authentic reports of favorable results.

But recently the New York Experiment Station, at Geneva, N. Y., has published a bulletin which seems to shatter whatever of fond hopes remained for the farmer in the wonderful culture. Bulletin No. 282 of that station says:

"By investigations reported in Bulletin No. 270, this station showed that the cultures for inoculating legumes, on the market in 1905, were not reliable. Many examinations of packages of such cultures were made, not only in our own bacteriological laboratory but in four other laboratories; and few or no living bacteria of the kind desired were found in any case.

"These results have now been confirmed by the tests made by sixteen other stations. These tests, both in the field and in the laboratory, fail to find evidence that the cultures are of any value to the agriculture of the regions covered by the stations making the tests.

"In explanation of the results shown by the station examinations, it was claimed, by certain sponsors for the method, that the alternation of moist and dry conditions to which the sealed packages were subjected in transit or in storage was injurious to the bacteria, but that if the cultures are placed in cotton, dried promptly and kept absolutely dry, they retain their vitality for a considerable time. The company whose packages had been examined and found valueless in 1905 took advantage of this claim and put upon the market in 1906 cultures on cotton enclosed in metal containers. These containers are collapsible metal tubes, which are closed after the cotton has been introduced, by rolling up and compressing the open end. By this device the company claims that the objections to the cultures have been met, and that the bacteria thus protected will give effective inoculation.

"If this claim be true it is but fair that the station should give the modification as widespread favorable mention as it had given condemnation to the original method.

"Accordingly, eighteen packages were secured for us by a disinterested farmer, which included duplicate acre packages for alfalfa, crimson clover, and vetch from each of three seedsmen. The cultures for alfalfa and crimson clover were in the metal containers; but those for vetch were wrapped in parchment paper and tinfoil as in 1905.

"Two careful laboratory tests of each package were made, using flasks containing water and chemicals as directed by the manufacturers and taking every precaution to give proper conditions for growth of the bacteria and to prevent contamination by undesirable forms. Two series of check flasks were also used. The flasks in one series contained water and chemicals as did the test flasks; but were inoculated with pure cultures of legume bacteria developed in the laboratory. These flasks produced abundant and pure growths of the germ with which they had been seeded, thus proving the conditions all right for growth of such bacteria. The flasks of the second check series contained water and chemicals as did the others, but were not purposely inoculated in any way. They were handled, with the exception of the inoculation, just like the other flasks and therefore were exposed to similar accidental contamination in the laboratory with undesired forms. All of them remained sterile—good evidence that few or no undesirable germs would be introduced into the cotton-culture flasks by the laboratory manipulation.

"Under such favorable conditions for testing, legume bacteria were found in the flasks from only four of the eighteen packages tested and in two of the four cases the bacteria were present in such small numbers that there would have been very little chance of successful inoculation under field conditions. In the other two cases the legume bacteria made up from 20 to 50 per cent of the germs present, probably enough to have given some inoculation as handled by a farmer.

There was no apparent difference, so far as legume bacteria are concerned, between the packages in the metal tubes and those in paper and tinfoil; but there was more contamination with undesirable forms in the paper packages.

"It would seem from these results that the strong claims made by the

culture company for the metal containers are not at all in accord with the facts.

"It should be clearly understood that this publication concerns itself only with the commercial cultures which up to this time have been exclusively those dried upon cotton in accord with the method of Dr. Moore. These cultures have proved essentially a complete failure in tests made in practically all parts of the country and it is hard to understand how any firm can feel justified in continuing to offer such cultures for sale."

Advice to Plains Settlers.

*BY J. E. PAYNE, IN PRESS BULLETIN NO. 46, COLORADO EXPERIMENT STATION.

We recognize it as a fact that many new settlers have taken up residence in the Plains region during the last few months who have merely enough capital to put up houses, break a few acres of sod, and live during the first six months.

The people can not wait for results promised by the exploiters of "Scientific Soil Culture." They must have results this season. It is to this class of people that we would address the following suggestions:

First. If you have a milch cow, give her the best care possible, and get as many more as you can. Sell cream, or make good butter or cheese. Sod cow-houses are within the reach of all who can work.

Second. Keep as many hens as you can take care of. Feed well and protect from coyotes and other beasts of prey. If you can raise turkeys and geese, they will pay. Turkeys and geese may be herded by children, and turkeys are the best grasshopper exterminators known.

Third. For field crops on sod, plant early amber cane, yellow Milo maize and corn. The seed-corn used should be grown in the vicinity if possible; if not choose some early variety. If you are able to do so, prepare a small field for fall wheat.

Fourth. Plant a garden. If you have no well, plant a small plat near the house and water it with the waste water. Bury every drop of waste water beside some vegetable by making a furrow beside the plants and after the water has sunk away fill the furrow with dry dirt. Old tin cans sunk in the ground by the side of hills of cucumbers aid in watering them economically. Punch holes in the bottoms of the cans.

If you have a well, plant a large garden, but plant all garden stuff in rows so that it may be cultivated with horse power. Use the water with the same economy that you would if using only waste water. Never flood the ground purposely. If any should be flooded, stir it thoroughly as soon as it is dry enough.

It is a common mistake with beginners in irrigation to try to make water take the place of cultivation. The result is failure. Another common mistake is to plant a larger area than can be watered from the well. Better begin with only a few square rods and extend the area as experience dictates.

In case you can not irrigate from a well, select a small patch of ground upon which you can turn the flood-water from the prairie by means of furrows. If you can make a small reservoir above the patch, do it. The reservoir may hold a few barrels of water until you have time to direct it to the

[Mr. Payne has fought grasshoppers and drouth in Eastern Colorado for many years. Besides early training in Kansas, he was in charge of work on the Plains for the Colorado Experiment Station from 1896 to 1904, as superintendent of the sub-station at Cheyenne Wells, and as field agent for the Experiment Station. He is now in the employ of the U. S. Department of Agriculture in the Dry Land Division, located at Garden City, Kans. While this bulletin comes rather late in the season to be of the greatest service to the Plains settlers, the information and advice it contains coming at this time may point the way for the future and be an antidote for discouragement.—EDITOR.]



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plants which need it. Cultivate thoroughly and keep all weeds down.

Besides the small truck, a good patch should be planted to Mexican beans, early cow-peas, watermelons, muskmelons, stock melons, pumpkins, squashes, popcorn, sweet corn, and potatoes. These will sometimes bring good crops without irrigation. Enough should be planted so that a plentiful supply of winter food for the family will be assured. Stock melons are very productive, and if stored in sod buildings, above ground, they will furnish green food for the milch cows during winter. I have grown stock melons at the rate of 20 tons per acre. I have kept ordinary watermelons until the last of November by packing them in hay and storing in a room where they kept cool, but did not freeze. There are varieties of winter watermelons and muskmelons which are good from Christmas until March.

By planting the following seven varieties of sweet corn on the same day—and often near the last of May—I have had roasting ears from July 26 until September 26. The varieties were: Cory, Black Mexican, Perry's Hybrid, Stowell's Evergreen, Country Gentleman, Mammoth Evergreen, and Egyptian. The large varieties may be dried for winter use or allowed to ripen to be used parched. Parched sweet corn is a luxury, but one which is within the reach of the poorest settler. White Pearl and Queen's Golden popcorn have done well for me, and my family have had many meals consisting only of whipped cream and popcorn.

Potatoes, squashes, and pumpkins may be grown successfully by keeping up a constantly successful fight against potato beetles and squash bugs. This means to battle almost daily with the pests from time the squash plants are up until the squashes are ripe. To describe methods of fighting these pests would require volumes, but we advise you to use your ingenuity in killing them. I prefer to kill them with clubs.

Grasshoppers are the worst enemies to field crops, but by keeping plenty of poultry, the grasshoppers will be kept down.

To produce crops of any kind may require an amount of labor which seems enormously out of proportion to the market value of the produce; but we assume that people who have settled here desire to build up homes and they have come here because they failed to get homes elsewhere. It may be a comforting thing to remember that you may not be working any harder here while trying to establish independence than you would be if working by the day for some one for just enough wages to support yourselves.

Stock Interests

Producing Healthy Pork.

ANDREW M. SOULE.

It is an old saying that "the hoof of the sheep is golden," and though that is a very wide statement, it does not adequately convey the true value of the hog to the American farmer, for he, after all, has been the real mortgage-lifter, and has done more to free American farmers from debt than any other class of stock raised on the farm. The hog, however, has one serious drawback in that he is, subject to disease from which other animals are free, so that even under excellent management the herd is liable to decimation every few years, with the result that what would otherwise be enormous profits are after all cut down to a modest percentage of the money invested. One of the great and vital questions, therefore, to every person interested in hog-rearing is a discussion of how these valuable animals may be kept healthy, for if they could be kept healthy and were as free from disease of a destructive nature as cattle, the profits from hogs in proportion to those now obtained would be vastly increased, and would be very much greater than is nominally obtained from cattle or sheep. The hog

in the state of nature is comparatively free from disease, and one of the great mistakes that has been made is placing him under too artificial conditions, confining him in narrow, cramped pens, and cutting off exercise which has a tendency to undermine the health and weaken the constitution. But more of this later on.

One of the first essentials to obtain a healthy, vigorous offspring is the necessity of having strong, active parentage, and if this is a hereditary trait intensified through several generations, so much the better. Not long ago, the writer was visiting a farm and was requested by the owner to examine the hogs thereon and give some estimates of the price of certain animals. This farmer had several very good brood sows which were undoubtedly hardy and vigorous, as the large litters they had farrowed distinctly showed. The young pigs were also in excellent condition and growing rapidly. The farmer seemed to have a high appreciation of these brood sows and said they were valuable animals and that he disliked to part with any of them. It is true they were only grades, but nevertheless they were possessed of those qualities most valuable in the brood sow. Imagine what a surprise it was to see the male kept on this farm. He was a veritable scrub, long and lanky, and without any of the qualities one would seek in an animal, at least half of which are supposed to be transmitted to the offspring. This sire was narrow in the chest and tucked up in the quarter, and certainly did not show any evidence of being a healthy animal possessed of a good constitution. The example quoted is too often met with and is one of the contributing causes to the outbreaks of hog-cholera which frequently occur. It is of the utmost importance that the parents, both male and female, should possess every evidence of health, for they are bound to transmit their qualities to the offspring, and if naturally weak and lacking in constitution, disease will take hold of them easier and its ravages will be more complete.

The management of the parents is another matter of great concern. Too often they are confined in narrow lots which prevents them taking the exercise necessary to the proper development of the lungs and all the other organs of the body. The hog naturally is of a roving disposition, and if given his liberty he hunts around over the fields and through the forest growth gathering various leaves and herbs that suit his taste. At the same time he is taking exercise which is vital to his well being, and if the breeding animals, whether pure-bred or grade, were given more liberty they would keep in better health at all times, reproduce more freely, and the offspring would be hardier and possessed of better constitutions. It is often a wonder that hog-cholera is not a more frequent visitor than proves to be the case, for the hog is frequently expected to live in a filthy, wet pen, cleaned out as a matter of convenience two or three times a year, and rarely if ever properly supplied with bedding, and never disinfected so as to ward off disease. This is an old, old story, and yet it is a condition too commonly met with, even in this enlightened day when proper sanitation, for farm animals, is recognized as a matter of the utmost importance and one of the surest ways of keeping the animals healthy and preventing disease.

Another reason why hogs are so subject to attacks of cholera and other troubles is due to the fact that the males used at the head of grade herds are, generally speaking, purchased from men who are interested in producing pure-bred hogs. These men often deem it advisable to keep their animals in show condition so they will sell to better advantage. It is truly an interesting sight to visit one of these breeding establishments where the animals are kept so fat they can scarcely walk, and are thus perfect models of what a hog should be. But it is needless to say that animals so fed and pampered from the time they are young have their constitutions under-

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mined, and have not that vigor and ability to throw off disease which animals allowed to rough it a little more possess. Of course, the man with grade hogs must expect to buy his sires from the breeder of pure-bred animals, but it seems too bad that these men should persist in keeping their animals in such high condition and forcing them on such rich foods from the time they are farrowed until they are ready for service. Vigor in the sire is of the utmost importance, for after all he is much more than half the herd, and in choosing an animal it is well not to choose one that has been fitted for show purposes or that has been pampered when young. There are some who will take exception to this statement and say that some of the greatest sires ever produced in this country were show animals and kept in the highest condition through several years of their lives. This is all true, but at the same time those were exceptional animals; animals which naturally possessed marvellously good constitutions or they would never have been able to stand the strain to which they were subjected.

Weaning is a critical period in the life of the hogs, and they should receive the closest attention at that time, for if cut off from the mother's milk too suddenly they are certain to be stunted and so receive a set-back from which they may never recover, and even under favorable circumstances do not overcome it for a long time. Weaning would not be such a critical matter if more attention were given to teaching the young pigs to eat as soon as possible. If the sow is allowed to run at large the little ones will very soon learn to root in the ground and gather a certain part of their food, as it is a natural instinct for them to do so, but a large per cent of the hogs produced in the country are confined to pens at the time of farrowing and kept there certainly until after the weaning period. Unless some provision is made to teach the pigs to eat they are likely to depend largely on the mother for their nourishment, and then when the weaning period comes their digestive tract has not been sufficiently developed to enable them to consume and assimilate as much food as is needed for their uniform growth. It is a mistake to confine sows to pens any more than is absolutely necessary. Of course, a warm, dry place should be provided for farrowing, and the little pigs must be protected from the snow and ice, but at other seasons of the year, and even in the winter whenever possible, both the sow and the pigs will do better if they can take plenty of exercise.

Then, a separate trough should be provided in an adjacent pen to which the little pigs can find ready access, but from which the mother is effectually barred. There such supplemental foods as skim-milk, middlings, wheat bran, and finely ground oats and barley with a little corn and oil-meal should be placed. If the food is made into a thin slop or if it can be mixed with a little skim milk so much the better. The little fellows will soon learn to eat it, and this will help to develop their digestive organs and make them independent of the mother when the time for weaning comes. Under these conditions they are not likely to suffer a serious set-back, and if they are then fed on protein foods, they should grow uniformly. When separated from the dam they should be liberally fed and given all the exercise they will take. Large pastures are as essential on a good hog farm as on a good cattle farm, but the truth of this statement is not generally recognized.

Experiments have been made to determine the relative value of feeding hogs in confinement and where they have their liberty. It was thought for a long time that if they were shut up in close pens they would gain more rapidly. It now seems, however, that if moderate exercise is provided, they not only keep healthier, but their appetites are better and they gain more rapidly than the closely confined hogs. There is also much less danger of disease under these conditions, which

is a matter of the utmost importance. Good pastures and fresh air, besides being essential to the production of vigorous and healthy animals, provides a cheap means of maintaining the hogs through a good part of the year. In sections of the country where clover does well and cow-peas, soy-beans, peanuts, and other leguminous crops can be grown successfully hogs can be grown to a good weight at the age of from 9 to 12 months with the consumption of only 10 to 12 bushels of corn; whereas, they are frequently confined to pens and fed fully three times as much corn as is necessary. The cost of producing pork in one case, is of course much higher than in the other, and is to say the least, not the best practise.

In winter feeding, it may be argued that exercise can not be provided. There is some truth in this because the animals can not be allowed to run out when the ground is too wet, but even then it is not necessary to confine them to close, wet pens, and if they are confined, a platform raised above the ground should be provided and kept well bedded with straw for their comfort and protection. Animals kept in damp surroundings are likely to suffer from rheumatism and are often attacked with various forms of indigestion. When so confined during the winter they should be given a plentiful supply of mineral matter in the form of blood and bone, or a mixture of ashes, salt, copperas, and a little lime or some charcoal made from burning corn cobs. The feed during the winter should be as varied as possible, unless the animals are to be fattened for immediate slaughter. Then, of course, heavy feeding may be followed for three months. Little success has ever been made in trying to feed hogs in the winter with any form of roughness other than grain.

For summer feeding, pastures arranged so as to provide a rotation are indispensable, as well as essential for making choice pork. The animals growing on pasture and taking plenty of exercise yield meat showing a better marbling of fat and lean than those confined in pens and fattened on corn alone. It is the exercise and the mast gathered in the forest that is chiefly valued by those interested in the production of Smithfield hams and the reputation that this meat has made should be sufficient evidence of the importance of exercise and of a variety of food for the production of pork of the highest quality.

The making of so-called baby pork is now becoming an industry of great importance, and to secure the desired gain in the given time, the animals must be kept growing from the time of farrowing until slaughtered. For this purpose they must be fed nourishment and concentrated foods. If the farmer breeds his sows twice a year, he should certainly be able to work off one litter in the summer on grazing crops with a small consumption of grain. This will be the most economical method of handling the pork. In the winter-time, he will of necessity be obliged to feed a good deal more grain. If more attention be given to the general surroundings of the hog it will be kept in a better state of health and will make larger and more uniform gains, both in summer and winter, and there will be less complaint of the decimation of the herds through attacks of hog-cholera.

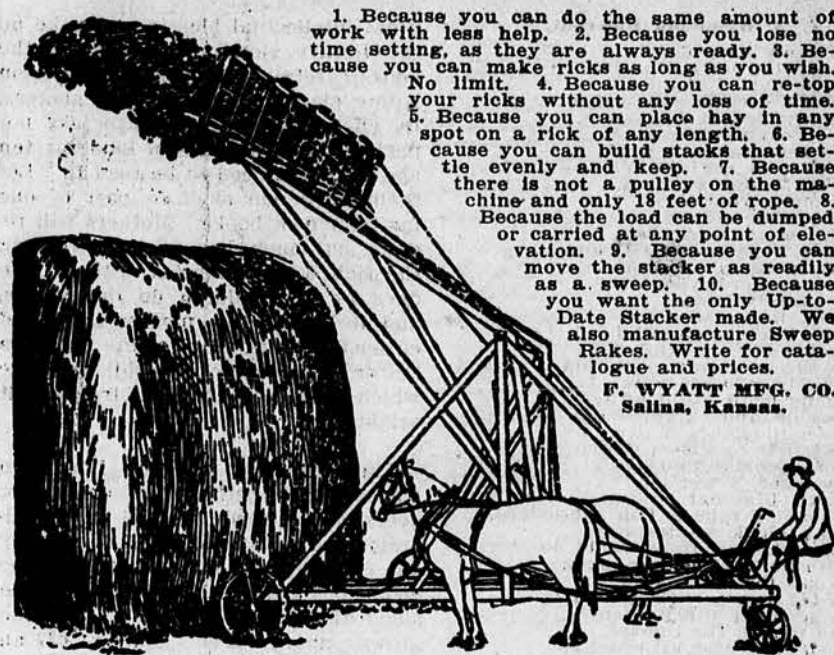
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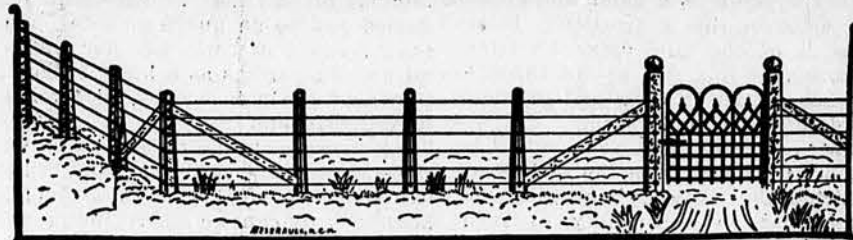
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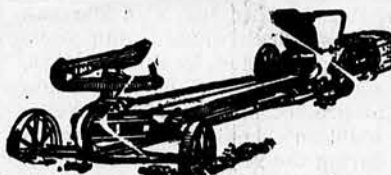
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A Woodland Bluecoat.

"Tis my busy day,"
Quoth the jolly Blue Jay,
As he darted about
With a scream and a shout.
"Here, Madam Redbreast,
Keep out of that tree!
It's been taken a week.
Can't you see? Can't you see?
Now, Master Squirrel,
Do open your door;
Of acorns and walnuts
I know you've a store.
Come, come, my old fellow,
Now give us a share.
My cupboard, you know,
Is entirely bare.
Here, little Dee-Dee,
Don't cock your pert head,
With an eye to this hole.
As Friend Downy just said
That he and his wife
Would begin right away
To chip and to chisel—
Here, Bluebirds, I say,
This hole has been rented
Since sunrise to-day!
I wonder, I wonder,
Quoth Bluecoat so gay,
"Should I take a trip southward,
Some bleak winter day,
What the woodfolk would do
With no 'cop' flitting round
To see that each kept
To his own private ground?
To scold at the fighters
And punish the thieves,
Keep an eye on all mischief
Among the green leaves—
Soon they would be shouting,
With might and with main;
'Oh, Bluecoat, dear Bluecoat,
Do come back again!'"

—Margaret Wentworth Leighton, in N. Y. Tribune.

Bookless Homes.

The bookless home is almost as much to be pitied as the breadless home. One means starvation of the mental and spiritual part of man and the other starvation of the physical. The former means dwarfing the intellect and all that part that lives forever and lessening his powers for happiness and his abilities for making happiness. Every home should have some of the best standard literature upon its shelves and tables, and read them. Lyman Abbot in an editorial upon "Bookless Homes" deplores the existence of so many of these homes—and comments upon the subject, blaming the American home for many of the faults that have been charged against the American school. He says:

"There are too many fathers and mothers in this country who act as if the whole duty of a parent were met when house, food, and clothes are provided. They exercise no authority over their children, and have no knowledge of or concern with their reading, their friends, their amusements. They never go near the schools in which these children are spending five or six hours a day, and their only relation with the teachers who are trying to give their children these rudimentary lessons in conduct, manners, and speech which they ought to have learned without effort at home is the writing of excuses that ought not to be granted."

Van Dyke says: "Through the vast wilderness of book flows the slender stream of literature, and often there is need of guidance to find and follow it." And again as a guide and an index he gives this suggestion: Literature is of one kind only, the interpretation of life and nature through the imagination in clear and personal words of power and charm."

There are books and books, and it is difficult to choose from the multitude, especially for the busy housewife who rarely has an opportunity to read much less to make the choice. It is better to read a few books of the right sort and read them thoughtfully than to skim through many of the present day books that purport to be literature but many of which are only trash, or to hastily and superficially skim through even standard books without thought. In selecting reading matter great care should be used and if the parents' time is too limited to first read the book and judge for themselves or do not know how to select them there are almost always librarians or others who are well qualified to advise them in their choice. It will be found to be a pleasure as well as a

great intellectual blessing to make up the library slowly, by selecting the books carefully and first reading them before placing them upon the shelves. In choosing reading matter do not neglect the little ones of kindergarten age who will need to be read to. Let them have one shelf or part of one for their own books. Mothers will receive as much benefit from reading the right kind of stories to their little ones as the children do themselves, and it brings the mother and child closer together and gives the mother a better knowledge of the child's nature which will help her in training it aright.

There may be bookless homes in Kansas, but whether there are or not every home needs to add to the library, and it is to be hoped that every one contemplates reading at least one good book during the summer. Some suggestions may be of use. For the grown ups: "The Making of an American" and "The Life of Theodore Roosevelt" by Jacob Riis; "The School of Life," "The Blue Flower," "Tolling of Felix," by Henry Van Dyke. Of the present day fiction, of which one must choose with care, some of the best are, "The Crisis" and "Coniston," by Winston Churchill; "The Rise of Silas Tapham," by W. D. Howells; "Lady Baltimore" and "The Virginian," by Owen Wister; and "The Fighting Chance," by Robert W. Chambers. Then if you want to read something to rest your mind and body and smooth out the wrinkles read, "Colonel Carter of Cartersville," by F. Hopkinson Smith. "The Training of the Human Plant," by Luther Burbank is a book that may be read by all ages and sexes, but parents will find it a great benefit and a rare privilege to read. There are many good books for the young published, and I will only mention a few that are for the little ones—to whom mother will read them: "In Story Land," by Elizabeth Harrison; "Mother Stories," by Maud Lindsay; and "In the Child's World," by Emilia Poulson. A book by Mr. Walter Taylor Field "Fingerposts to Child's Reading," has recently been published that gives guidance in the choice of children's books.

Man's Duties.

L. A. WELD, CLYDE, OKLA.

Man, as a social being, has a great many duties in life which must be faithfully discharged in order to properly develop his physical, mental, and spiritual natures. Upon the performance of these duties will depend human character. Character is simply the sum total of how we have thought, acted, and lived, exhibited to our fellowmen. It is the ledger of life which contains a record of all our past acts. Our first duty is to our body; to keep it clean, to make the proper use of food, clothing, and shelter so that these temples of God may be pure and undefiled and be an image of Him. We should never use whiskey nor tobacco nor other drugs as a habit because they are costly in money, disgusting in practice, and harmful in results. They lower our vitality and make us more susceptible to disease and bribe our conscience. Only with a sound, healthy body can we derive the greatest pleasures from life in a physical sense and, as the exercise of intellectual desires and spiritual needs depends on the body in a great measure it is doubly essential that our temples be pure and clean.

Our intellectual desires are functions for the purpose of adjusting our physical being in harmony with the natural laws which surround it and to exercise due precaution, in various ways, to protect the body. It is the parents' duty to protect and properly develop their children's bodies and to teach them during the years of growth to use their intellect as a means to develop and protect the physical being. After

maturity it is our personal duty. A body can stand only so much exposure, labor, effort, dissipation, and nervous strain during life. It is our duty to so care for our bodies that we may be able to enjoy the legitimate pleasures of life a long period. Our duty to others is prescribed in our duty to ourselves. Then posterity lays a mighty claim on us which must be considered. Is it possible that the offspring from one who has wasted the fountains of youth can be vigorous in body, strong in intellect and morality? Perhaps, we doubt it. Like begets like you know. The duty to posterity becomes greater than the duty to ourselves. We are not only our own keeper but we are brother's keeper and the future's keeper as well. The spiritual desire is that function which exercises a choice between the selection made by intellect or physical desires with a purpose to purify the body and harmonize it. This brings peace. To cultivate a spiritual desire to live its mandates is a duty and very important.

To each one I say: Keep your body clean; be moral and honest; exercise charity and mercy and remember you only pass this way once and the way you live may leave a broad pathway down the future which will bless posterity for generations to come, or you make the way dark and thorny for those who follow.

Children.

Did you ever send your children away on a visit? If not, let me give you this advice: Don't.

You may flatter yourself that you are going to accomplish great things in the few days that the house is quiet. After the first excitement of getting them off on the train is over, you settle down to the real business on hand, congratulating yourself on the stillness. But pretty soon the silence becomes so noisy as to distract your attention from your work. The furniture creaks. Strange sounds invade the stillness. Away off somewhere you hear a boy whooping and you try to shut out the sound. You tell yourself that the noise of that whooping makes you nervous and creates an inclination to weep.

Then your glance encounters a matted haired doll, lying neglected on the floor. Near by is a little run-down-at-the-heel slipper that has been dropped. Thinking to regain your equilibrium you start out doors. The passage through the house is fraught with so much meaning. There a child's book has been dropped near a chair. On the table are some roughly drawn pictures and a childish scrawl. And the house is so still! You can hear your heart beat. When you reach the door you hear, in a neighbor's yard, the voices of happy children at their play. And then you know! It is your children that you want! It is the confusion and the noise and the disorder. It is that part of you that went out of the house when they left, and without which no poem can ever be written; no song can ever be sung.—Mrs. Jarrell in the Holton Signal.

Recipes.

Rhubarb.—In this year of fruit shortage those who have a good rhubarb patch should by all means put some of it up for winter. The stalks should be selected while young and tender and cut into dice without peeling, after thorough washing. Sterilize the jars, rubbers and can tops thoroughly. Pack the rhubarb in the cans the day it is gathered. Fill the jars with fresh water put on the rubbers then the caps, but do not screw the latter down tight. Set in the boiler, and fill in water till well over the tops of the cans. Let them set for several hours or over night, then without raising the cans to the air screw the tops down tight. Remove from the water, wipe dry and test for leakage. Keep in a cool dry place. Gooseberries may be canned the same way and a friend of ours cans green currants for pies but we would prefer to use the currants when ripe.

Rhubarb Sauce.—Cut tender stalks that are of good acid flavor, wash and cut into one-inch pieces; place in a granite kettle, and add two and one-

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half cups of granulated sugar to one quart of cut pie-plant, cover closely and place on the range where it will cook slowly. It requires no water; stir occasionally to make sure that the sugar is being dissolved by the juices of the rhubarb. When cooked, clear, it is done. This is delicious served as a sauce, or as a filling for a cake; it is also nice served with tapioca as a substitute for apple. This may be canned and used for preserves in winter.

Another Method of Canning—Pare the rhubarb and cut into one-inch pieces. Pack in a jar, place under the cold water faucet and let the water run for about twenty minutes, then screw on the cover. Be sure to have the jar, lid and rubber thoroughly sterilized before using.

Rhubarb Jelly.—Allow only one pint to two cups of water and four pounds of rhubarb.

Rhubarb Marmalade.—This is good and may be used in many ways in winter. Use three-fourths as much sugar as you have rhubarb by weight. Cut the rhubarb in one-inch pieces; add sugar and let stand over night. In the morning, place in a granite pan and cook slowly for one hour; stir frequently. After it has cooked for about three-quarters of an hour, add to each quart of fruit the juice and rind of one lemon.

The Young Folks

The Sandpiper.

Across the narrow beach we flit,
One little sandpiper and I,
And fast I gather, bit by bit,
The scattered driftwood bleached and dry.

The wild waves reach their hands for it,
The wild wind raves, the tide runs high,
As up and down the beach we flit—
One little sandpiper and I.

Above our heads the sullen clouds
Seud black and swift across the sky;
Like silent ghosts in misty shrouds
Stand out the white lighthouses high.
Almost as far as eye can reach
I see the close-reefed vessels fly,
As fast we flit along the beach—
One little sandpiper and I.

I watch him as he skims along,
Uttering his sweet and mournful cry,
He starts not at my fitful song,
Or flash of fluttering drapery.
He has no thought of any wrong;
He scans me with a fearless eye.
Staunch friends are we, well tried and strong,
The little sandpiper and I.

Comrade, where wilt thou be to-night
When the loosed storm breaks furiously?
My driftwood fire will burn so bright!
To what warm shelter canst thou fly?
I do not fear for thee, though wroth
The tempest rushes through the sky:
For are ye not God's children both,
Thou, little sandpiper and I?

—Celia Thaxter.

A Prayer.

"If there be some weaker one
Give me strength to help him on;
If a blinder soul there be
Let me guide him nearer Thee;
Make my mortal dream come true
With the work I fain would do;
Clothe with life the weak intent;
Let me be the thing I meant;
Let me find on Thy employ,
Peace that dearer is than joy;
Out of self to love be led,
And to Heaven acclimated.
Until all things sweet and good
Seem my natural habitude.

—J. G. Whittier.

SKETCHES FROM LIFE.

The Western Lady.

There are so many things in real life being enacted before our very eyes that it seems unnecessary to draw upon the imagination in order to interest and instruct. Last week I told the Young Folks about the Eastern Girl as I saw her; this week I shall show you the Western Girl. It was on the same journey that I met her but on the latter part of it. She boarded the train at Ogden just at dark and I was impressed with her manner and general appearance. She seemed perfectly at home and it was easy to perceive that she was accustomed to the ways of the world and had been about much. In the morning—the train had been detained to change engines at a small railroad station and many of

the travelers took the opportunity of exercising by walking up and down the tracks, glad to feel the earth under their feet again. I had forgotten the new corner, and it was after I was seated again ready to resume the journey that I was reminded of her by her sitting down beside me and in a frank and cordial manner beginning to converse. I now had a good chance to see her face. She was of that uncommon type—very dark hair with blue eyes and clear white complexion. Her eyes were frank and honest in their expression, but shy and sympathetic. We had talked but a short time when a man came along and seating himself near joined the conversation, which showed that they had met before. I soon found it convenient to excuse myself and go to another seat and left them to themselves. A little later when we were nearing that grand and beautiful scene in nature, the Royal Gorge, and it was announced that the observation car had been attached, when she came hastily to me saying she wished me come with her to the car, that she wished to rid herself of the man and hoped I would stay with her. She explained that he had heard her say to the conductor that her destination was Denver and there upon had begun to talk to her about the city saying it was his home, and so the acquaintance began but she did not wish it to continue. I was glad to be of assistance to her and found her to be very charming and interesting, but I did not seem to entirely shield her from the intrusion of the stranger for he followed us up. She addressed her conversation exclusively to me and ignored him so much as possible. When lunch in the diner was called he invited us to lunch with him, but of course we refused with thanks. After pressing his invitation he departed and she said to me, "I would rather go hungry than be guilty of such an improper and imprudent action." Now that we were rid of the intruder, she talked of herself. She told me about her life, past and present, and I will tell you a part of it. Her father was Irish and her mother English. She was born in the east but her father having died when she was two years old, her mother who was in poor health, took she and her sister and moved to Arizona, where they lived until she was thirteen years old. It was then that she had her first sorrow. Her mother died leaving her to the care of the mother's sister in California.

Although it had been thirteen years since the sad event it was as fresh in her mind as if it was but yesterday, and it was with tears in her eyes and tremor in her voice that she related the same. She misses and still longs for the mother love, which nothing can replace. She said, "There is only one true, genuine love, and that is the Supreme Love—The Mother Love."

She took the journey alone to the home of the Aunt who was kind to her, but could not give her the love of the beloved mother. She witnessed day by day the affection bestowed by the Aunt upon her own children and it was to her a continual reminder of what she had lost until she became embittered and when she was sixteen she determined to go away and earn her own way in the world. Her older and only sister had married and lived near Denver, and it was here that she came. The Aunt having found out about her departure, sent her a letter telling her if she would return she would send her a railroad ticket and give her an allowance from her money—of which the aunt had control until she should become of age—but if she refused, she could not have any. But this only tended to raise her Irish ire and pride and she determined she would die before she would return.

She did not know how to do anything but she went into the city and found a kind lady with whom she found room and board cheap, and procured a place as clerk in a dry goods store at five dollars a week. She went to night school and learned stenography and shorthand and studied till late in the night to get her lessons.

"I would be so tired that every night I would go to sleep saying my prayers," she said, "and I lived very cheaply but I held up my head and didn't let any one find it out." It was not many



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months, however, until she was able to command good wages. I said to her, "and did you not find many temptations in your way? I have always thought it dangerous for a young girl to go out into the world to make her own way. There are so many dangers in her way." She replied, "No I never had any difficulty to speak of, I have made it a rule always to be a lady and then I never allowed a man to touch me. Once a man took hold of my arm, and I firmly demanded that he keep hands off, he begged my pardon and kept his place."—R. H. C.

The Girl Who Pays Her Way.

"You probably have no conception of your importance as a unit. Few of us have," writes Margaret E. Sangster in WOMEN'S HOME COMPANION for July. "Yet society is so constructed that we depend on one another, and, without quite understanding it, we constantly assist in molding the opinions and shaping the conduct of people whom we may never meet, and who apparently never approach our neighborhood. For instance, I knew intimately a young girl who was born in a tenement house on the East Side of New York, who scrambled up as best she could through a meager and poverty-stricken childhood, working as a cash girl in a department store when she was fourteen, and later earning her livelihood in a tobacco factory. Her work when she first became one of my girls was very hard and unwholesome. Her face was pale, her fingers were stained, her hours were long, and her weekly wage, most of it given to her mother, was a sum that many girls in well-to-do families spend on candies and chiffons without a thought of economy. But she had a dainty air, was fastidiously neat, arranged her hair very prettily and was gentle and attractive in speech and manner. She had the sweet and refined air of a lady. How to account for it would have been a

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puzzle had I known girls of only one condition and training. I asked no questions, yet I found out without much trouble what I wanted to know. My little friend was spending a Sunday with me, and she said, incidentally, "When I was a 'Fresh Air,' the year I was ten, I saw a young girl who must have been fifteen. She was the loveliest thing you could imagine. She used to drive down the road past the farm where we were staying, and I knew she was going to the train to meet her father. Often she stopped with her mother and visited a little with us, and I made up my mind that I would be like that girl. I tried to talk as she did. I made her my pattern. Afterward, when I was a 'cash,' I sometimes saw her in the store, and oh! what a joy it was when at last she came to the Settlement and sang for us in the evenings. That girl has been my ideal."

"Did you ever tell her about it?" I asked.

"I have never spoken a single word to her," was the reply. "I don't want to. I like better to think of her as a star or a beautiful flower. She belongs to me and I belong to her, and if we were acquainted maybe it wouldn't be so perfect."

How The World says Good-By.

In different countries, just as the manner of greeting is varied, so is the habit of saying good-by. The Turk will solemnly cross his hands upon his breast and make a profound obeisance when he bids farewell. The genial Japanese will take his slippers off as you depart, and say with a smile: "You are going to leave my despicable house in your honorable journeyings. I regard thee."

In the Philippines the parting benediction is bestowed in rubbing a friend's face with one's hands. The German's "Lebe wohl!" is not particularly sympathetic in its sound, but it is less embarrassing to those it speeds than the Hindu's performance, who, when you go from him, falls in the dust at your feet. The Fiji Islanders cross two red feathers. The natives of New Guinea exchange chocolate. The Burmese bend low and say, "Hib, hib!" The "Auf wiedersehen" of the Austrians is the most feeling expression of farewell.

The Cuban would consider his good-by anything but a cordial one unless he was given a good cigar. The South Sea Islanders rattle each other's whale teeth necklaces. In the islands in the Straits of the Sound the natives at your going will stoop down and clasp your foot. The Russian form of parting salutation is brief, consisting of the single word "Braschal," said to sound like a sneeze. The Othahale Islander will twist the end of his departing guest's robe, and then solemnly shake his own hands three times.—St. Louis Post-Dispatch.

How to Manage a Husband.

According to an exchange this is the way to treat "Him:"

When you marry him, love him.
After you marry him, study him.
If he is honest, honor him.
If he is generous, appreciate him.
When he is sad, cheer him.
When he is cross, amuse him.
When he is talkative, listen to him.
When he is quarrelsome, ignore him.
If he is slothful, spur him.
If he is noble, praise him.
If he is confidential, encourage him.
If he is secretive, trust him.
If he is jealous, cure him.
If he cares naught for pleasure, coax him.
If he favors society, accompany him.
If he does you a favor, thank him.
When he deserves it, kiss him.
Let him know how well you understand him, but never let him know that you "manage" him.

PRELIMINARY STEP.—"Any divorce news to-day, John Henry?"

"No, not exactly," responded her husband, looking up from the paper, but an actress who can't act has just been married to a young millionaire not worth a cent."—Philadelphia Ledger.

The Little Ones

A Trip on the Train.

Come, little children, come with me,
And away we will go, the world to see.
Here is the train—we'll all get on;
Now, good conductor, let us be gone.

How fast we go, how cool the breeze,
How pure the air, how green the trees;
Here the clip and clatter, and bang and din,
As if running a race, and bound to win.

Over the river, wide and deep,
Our train runs on with curve and sweep.
Clatter and whiz the wheels go round,
We like the pleasant rhythmic sound.

Ho! for the farms are now in sight;
The fields grow green, and the sun shines bright.
There a barefoot boy by an old tree stands,
See—it is to you he is waving his hands.

Hurrah, little farmer! hurrah for you!
Barefoot boy, knee-deep in dew,
Blue overalls match eyes of blue.
Hurrah, little man! hurrah for you!

See, little children, the ripe brown wheat,
Which will make the bread for you to eat.
The miller, you know, will grind it fine,
And the baker's loaves will be yours and mine.

Now we are tired and must have a nap,
But the train runs on with a clappy clap.
Soon we shall reach the sandy seashore,
And watch the blue waves and hear them roar.

Then stop, Mr. Conductor, stop, I say;
We shall go no farther with you to-day.
Some other time we'll come this way,
And ride with you again all day.

—Lucy A. Wiggin.

The Ant and the Grasshopper.

A FABLE.

In the grassy field one bright summer's day a grasshopper was hopping about, chirping and singing. An ant passed by, bearing with great difficulty a grain of wheat which he was taking to his home.

"Come and chat with me instead of toiling like that," said the grasshopper.

"I can't," said the ant; "I'm helping to lay up food for the winter, and I advise you to do the same."

"Why trouble yourself about winter?" said the grasshopper. "Winter is a long way off and we have plenty of food at the present."

But the ant went on with his work. When the winter came the grasshopper had no food and found himself dying of hunger, while the ant had an abundant store of grain which he had collected during the summer. Then the grasshopper thought: "I have learned it is best to prepare for the days of need."

The Dirty White Rabbit.

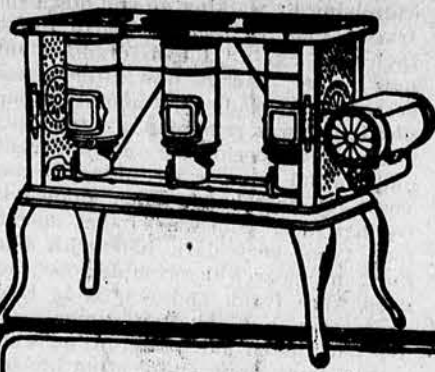
"I truly don't know what to do with that naughty Peter," said Dick, gazing reflectively at his white rabbit. The white rabbit was white only by nature. In reality he was sooty black, so that his funny white nose and his bright pink eyes looked most comical.

"I've washed him, and brushed him, and spanked him," said Dick, "and it doesn't do a single bit of good. I can't imagine where he gets so dirty. None of the other rabbits has a speck on him."

It certainly was hard to imagine where Peter could get so sooty. Every morning he was brushed until his beautiful white coat looked like milk, and then, sometimes not more than an hour afterward, he would come hopping along looking like a chimney sweep. It was all the more exasperating, because Peter was really the finest rabbit of the lot. So at last Dick's elder brother set to work earnestly to solve the mystery.

He watched Peter, and soon noticed that the big white rabbit would scamper under the woodshed as soon as he thought no one was noticing him, and then after awhile he would come out as black as coal. So Dick's brother began to clear away the kindling wood, and at last he got down to a place where Peter had made himself a comfortable nest. And that nest, of all places in the world, was in the end of an old dirty stove pipe.

Peter was terribly offended when his fine house was taken away, but after a few days he stopped sulking, and from that time on he was the handsomest white rabbit for miles around.



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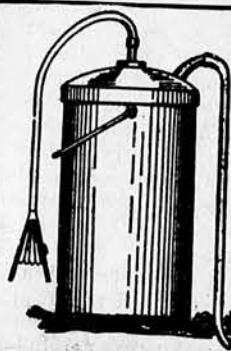
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JUNE 27, 1907.

Dairy Interests

Dairy Barn Sanitation.

E. L. ADERHOLD, BEFORE THE WISCONSIN CHEESEMAKERS' ASSOCIATION.

It would be an easy matter to find evidences that the question of stable sanitation has been badly ignored and, in some features, entirely misunderstood by the masses of milk producers.

In case we were to inspect a promising lot of twenty stables we might find a few that have fair ventilation, plenty of light, white-washed walls and ceilings, sanitary floors, an absence of strong odors and where clean cows are kept.

In most stables, however, we would find the ventilation very faulty, not enough light, cob-webs and dust overhead; in some we would find leaky, rotten floors, putrid soil underneath, strong odors and cows plastered over with dung.

Milk produced under such conditions does not belong in the same class with milk that comes from clean cows which are kept in a sanitary healthful stable.

The man who works in a tannery becomes so accustomed to the odor connected therewith that he fails to notice it. In a like manner, the man who daily works in a filthy stable may not appreciate the odors that prevail therein.

The law requires that the stable shall be well lighted, well ventilated, not filthy and the cows shall not be filthy. A penalty of from \$25 to \$100 for each offense is imposed for a violation of this law. Stable inspection will be in progress hereafter so it behooves every dairyman to thoroughly post himself on the stable question.

CONTAMINATION OF STABLE AIR.

An experiment is recorded that throws some light on this subject. The weight was kept of the food and water consumed by a steer weighing 1,600 pounds, also the weight of the solid and liquid manure voided and the gain in weight of the steer.

The weight of said voidings plus the gain in weight of the steer proved to be 49 pounds less in twenty-four hours than the weight of food and water consumed.

It was presumed that these 49 pounds were discharged mostly from the lungs in the form of carbonic acid gas and moisture nearly half of it being carbonic acid gas.

When one animal will discharge so large an amount of impurities we must conclude that with a stable full of live stock the constant discharge of impurities amounts to considerable. To this must be added the odor arising from the manure and possibly from an unsanitary floor.

Upon reflection it becomes at once apparent that if the stable air is to be kept comparatively pure it must be kept rapidly changing.

VENTILATION.

The system of ventilation in use in many stables is an opening in the ceiling with everything else closed in cold weather. That system does not remove the foulest, coldest air; it does not provide good circulation; it does not remove the heat. The only thing well done by that system lies in its demonstration of the ignorance of the masses on stable ventilation.

We should aim to have the stable as fresh as possible yet sufficiently warm. Cows will not yield milk profitable if they are obliged to suffer from cold.

The principle features of the King system of ventilation is that it removes the lower layer of air but does not permit the warm air to flow out. In a well constructed stable this insures a rapid change of air without unduly lowering the temperature. Outlet flues are built tight usually of lumber, beginning 8 to 10 inches from the floor and extending higher than the peak of the roof, to insure a good draft under any circumstances. When made of metal ice is liable to form on the inner walls. One such flue is sufficient for a small stable, but many stables

MILK CANS ROB YOU

Look through a microscope at milk set to cream in pans or cans and you'll see how they rob you. You'll see the caseine—the cheese part—forming a spider web all through the milk. You'll see this web growing thicker and thicker until it forms solid curd. How can you expect all the cream to rise through that? It can't. This



caseine web catches a third to half the cream. You stand that loss just as long as you use pans or cans for they haven't enough skimming force to take out all the cream. But, just the minute you commence using Sharples Dairy Tubular Cream Separator, you stop that loss.

Sharples Dairy Tubular Cream Separators have 15,000 times more skimming force than pans or cans, and twice as much as any other separator. They get all the cream—get it quick—get it free from dirt and in the best condition for making Gilt Edge Butter. Caseine doesn't bother the Tubular. The Tubular is positively certain to greatly increase your dairy profits, so write at once for catalog I-10 and our valuable free book, "Business Dairying."

The Sharples Separator Co.
West Chester, Pa.
Toronto, Can. Chicago, Ill.

would probably be better served with two flues some distance apart.

The proper capacity of the outlet flues is determined by the total weight of all the live stock in the stable, figuring one square foot of cross section inside for each 5,000 pounds of live stock. For instance, if the stock weighs about 20,000 pounds four square feet would be required, which could be furnished by one ventilator 2 feet square inside, or by two flues each 12 by 24 inches inside. Each flue should be provided with a slide, or damper, for regulating the flow of air when there is a very strong wind. The lower layer of air at every part of the stable should have an opportunity to follow the floor to an outlet flue.

Outlet flues may be placed where they are least in the way. If such a flue happens to be placed close beside a cow she should be protected from draft by a partition several feet high and as long as the cow. Fresh air is admitted through small flues at the walls which compel the air to travel upward 3 feet or more and discharge at the ceiling, where it meets the heat and becomes warmed. This arrange-

ment prevents the warm air from flowing out inasmuch as it will not travel downward against the colder, heavier air outside. These inlet flues are usually 4 to 5 inches in diameter and are distributed on two or more sides of the stable, say one every 10 feet. I think in some cases some of these flues should be extended so as to deliver air over the center of the stable.

Unless the walls and ceiling are pretty tight the inlet flues are not of great importance, but I would urge dairymen generally to install the outlet flues as soon as convenient and follow directions closely.

Heat in a stable represents food, so during the winter months we cannot afford to waste it. It should be utilized to the fullest extent possible in warming fresh air. It should not be permitted to leak, flow or be conducted out. That implies a tight ceiling, tight walls, preferably with one or more dead air spaces or some other good insulation.

LIGHTING.

Sunlight doesn't cost much so we should not deny it to cows. The amount of window space recommended by the United States Department of Agriculture is 6 square feet per cow. Windows should be long, placed vertically, most of them on the south and east sides where they are protected from the coldest winds.

Whitewash is a most effective, inexpensive agent of sanitation and should be used about twice each year on ceiling, walls, and fixtures. It can be best and most conveniently applied with a spray pump.

FLOOR.

The plank floor, as usually laid, during the greater part of its lifetime permits liquids to leak through into the soil, which becomes foul. One of the worst smelling stables I ever visited had a floor of block paving.

Where the floor is of wood it is, as a rule, unsanitary and not durable. It is expensive in the long run and not really satisfactory. Whenever a new floor is to be laid cement concrete should be used by all means. Then there will be no leaking and no decay. The platform where cows stand should be covered with an inch board or plank floor. The pitch of the platform should not exceed 1 inch from manger to gutter. The size of the gutter, according to some of our progressive dairymen, should be 8 inches deep by 20 inches wide. Other good dairymen maintain it is not necessary to have it so big. The majority, perhaps, prefer it about 6 inches deep by 20 wide.

The walk back of the gutter may be lower than the platform. It should slope slightly towards the gutter and should have a rough surface to prevent slipperiness.

The inner surface of the manger should be very smooth to facilitate cleaning.

Common decency, as well as the law, requires that cows shall be kept clean.

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any dairy farmer ever
made is a

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It is not expected that farmers need spend much time at cleaning cows. The sensible thing is to arrange the stalls so that they cannot get filthy, and on this point some farmers will have to do some studying, otherwise they may get into trouble.

The proper thing is to have each cow lined up to the gutter. To accomplish this the mangers, or gutter, may be made on the bias, in order to provide stalls of different lengths. For instance: the stalls at one end of the row may be 6 inches longer than the stalls at the other end. The cows may then be placed in stalls that nearly fit them. The fit can be made perfect by using an adjustable fastener. We can not change the length of the cow so we should make the stalls fit her. Besides that, to be comfortable the cow should be free to move her head sideways. The rigid stanchion does not permit that freedom so the cow should not be subjected to the punishment of being fastened in such a device. A box stall should be available at calving time.

ABSORBENTS.

Land plaster sprinkled behind cows daily as practised by some dairymen tends to hold the ammonia in the manure, thereby preserving fertility and lessening the contamination of the stable air.

Where horses and calves are kept in the same building it is an advantage to have them partitioned off. Where manure is stored in the barnyard it should, if possible, be piled up some distance away from the stable so that cows do not need to wade through it.

Having provided sanitary, healthful, comfortable quarters such as every cow owner ought to have, the cows should not be left too long outside on winter days. The stable keeps the cows warm and the cows keep the stable warm. They can not do it if left outside too long.

Cow is Hard to Milk.

Replying to an inquiry as to what to do for a cow that is hard to milk, Prof. O. Erf, of the Kansas State Agricultural College says:

"I know of no practical way to make

The Secret of Successful Farm Dairying

We have a book, which we have prepared with much time and expense, entitled "THE SECRET OF SUCCESSFUL DAIRYING, or Cream-Shippers' Guide." We believe this is the best book ever issued for instructing the farmer about shipping cream. It tells how to do less work and make more money in this branch of farming; it tells why we don't have receiving stations and local agents, and why these stations are failures; it tells of the benefit of shipping direct to the creamery, how it is economical and profitable; it tells how we want to co-operate with you and how we make payments; it tells you from what distance you can ship cream and the kind of cans to ship it in; what kind of cream to ship; in fact, it tells everything the farmer wants to know about this business. We had a man who got one of these books last year say it was worth \$100 to him. We believe it is worth that much to every farmer. If you are neglecting your farm by not developing the dairy business, this book will tell you what you are losing. It won't cost you but one cent for postal card to ask for copy of this book. We are sure you would be willing to pay 100 times more to get a copy if you were to lose the one we send you.

Send to us right away and get posted on this valuable information so that you can begin shipping cream to us and get your dairy department on the best paying basis.

Blue Valley Creamery Company,
St. Joseph, Mo.



a cow milk easier except by using a milking machine. There are instruments for the purpose of dilating the opening of a cow's teat, but frequently the results causes the cow to milk harder than before.

By the use of these instruments the sphincter muscle is cut, and care must be taken to keep the opening expanded or the incision will heal over part of the opening of the teat.

In some cases plugs are used, but these plugs if inserted will set up an inflammation which is not at all conducive to a good milk flow, and it will take a long time to expand the opening by the use of plugs.

GUARD THE HEALTH OF THE COWS.

Every day brings tidings of the destruction of valuable herds of cows because of tuberculosis. Why all this destruction? Simply because the men who owned the cattle did not inform themselves thoroughly concerning the disease. Many of them have been stoutly contending that all this tuberculosis talk was a humbug, gotten up for the benefit of veterinarians. When the Hoard's Dairyman herd was started, a number of fine grade heifers and cows were purchased from neighboring farms. We proposed to start safe and stay safe. As soon as we got those cattle home we tested them and, before we got through with it, we killed seven animals. Yet we could make no impression on the farmers from whom we purchased the diseased cattle. They refused to believe a word of it. Yet was it not just as important to them to keep their herd healthy as it was to us? Why should farmers nurse and coddle this disease keep it and hide it and refuse to know the truth, flattering themselves in a weak way that their "cows are all right." It is not an expensive matter to test a herd. If the disease is there, shouldn't the farmer know it as soon as possible? If it presents a clean bill of health, shouldn't he be vigilant to keep it so?

It is a simple matter; start clean, and then keep clean. Test regularly every year. Never take in an animal that has not been tested. Use disinfectants, such as whitewash and zenoleum, carbolic acid freely. Put the King system of ventilation in the stable. Spend a little money to be safe rather than lose a lot of it in slaughtered cattle.

These are all common sense precautions; just plain common sense. Some people ask us if we think the country will ever be cleared of tuberculosis. Probably not. But it is no great thing for any farmer to keep his farm clear of it and that will save him a good deal and the country a little.—Hoard's Dairyman May 31, 1907.

Horticulture

Value of Swallows as Insect Destroyers.

H. W. HENSHAW, W. S. BIOLOGICAL SURVEY.

The present circular has a twofold purpose: First, to make known the great value of swallows as insect destroyers and to emphasize the importance of protecting them wherever found; second, to widely publish the peculiar value of these birds in the war now being waged in the South against the cotton boll weevil, and to ask for the cooperation of citizens of Northern States, where these birds chiefly nest, in an effort to increase their numbers.

That insect-eating birds are of immense value to the farmer and the forester is so well known that their protection is now believed to be absolutely necessary to the welfare of any country. But the value of certain kinds in the United States has been recently emphasized through the invasion of the cotton States by a new and destructive insect—the boll weevil. This new pest despite every effort to stay its march, is spreading at the rate of about 50 miles a year, and

sooner or later is certain to infest the entire cotton-producing area—a fact which not only seriously concerns the southern planter, but in its ultimate consequences affects the well-being of the whole country.

Birds are among the natural enemies of the weevil, but by themselves are quite inadequate to the task of controlling the ravages of the pest. The losses it inflicts are of such magnitude, however, that no aid can be safely neglected, especially when so important as the services rendered by birds. As the result of investigations by the Biological Survey, thirty-eight species of birds are now known to feed upon the weevil. Prominent among these are the several species of swallows, including the purple martin.

The martin, the barn swallow, the bank swallow, the cliff swallow, and the rough-winged breed—some of them only sparingly—in Texas and elsewhere in the South. They breed also in the North, but the tree swallow and the cliff swallow—very important members of the group—appear in the South, the former during spring and fall migration only.

Steps have been taken to acquaint the farmers and other residents of Texas and the remaining cotton-producing States of the importance of increasing the numbers of the local species and of extending the range of certain species in the cotton districts. This may be done by strictly enforcing the laws protecting swallows and by providing additional accommodations for nesting. These steps alone, however, are not sufficient. It is very important also that all of the swallow tribe nesting in the Northern States and migrating through the cotton belt be increased to the limit, more particularly since in late years a steady diminution of their numbers has been noted.

TREE SWALLOW.

The tree swallow, as is well known, has been persecuted by the English sparrow until it has entirely abandoned many districts where formerly it abounded. Unless a systematic effort be made to reduce the number of sparrows and to protect from invasion the boxes put up for the occupancy of swallows, it is difficult to see how the tree swallow can reoccupy the old territory from which it has been driven, or even long hold its present area. An energetic war on the English sparrow and the careful protection of the swallow domiciles in a few years would result in a complete change of the situation so far as this, one of the most beneficial of the swallow tribe, is concerned.

BARN SWALLOW.

The barn swallow formerly was abundant throughout the Northern States, especially in New England. The tightly built modern barn, however, no longer invites the presence of the barn swallow by affording it friendly shelter, and the birds are becoming scarcer and scarcer. To provide openings in modern barns and to encourage the presence in them of colonies by providing convenient nesting sites are easy and effective methods by which this beautiful species may be greatly increased in numbers. This bird also requires protection from the English sparrow, which in one foray has been known to kill the young and destroy the eggs of a large colony.

BANK SWALLOW.

The well-known bank swallow, as its name implies, nests in sand banks in holes of its own digging. Some farmers in the Northern States take special pains to protect their colonies of bank swallows from the marauding boy and the prowling cat. Some even take pains to excavate suitable banks on their farms and devote them to the exclusive use of the swallows. Gravel and sand banks are so numerous throughout the North, especially in New England, that at trifling expense the number of colonies of bank swallows may be vastly increased, to the advantage of every farmer North and South, and to that of every nature lover as well.

CLIFF SWALLOW.

The curious pouch-shaped mud

Wouldn't YOU Like to Make Twice as Much BUTTER with Less work from same cows? This man did—and more. HOW?

YOU can make more money with a U.S. than any other way. WHY? Because cream is money, and you get it ALL when you use the standard, reliable

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SEEDS

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structures of the cliff swallow, attached under eaves or to the face of cliffs, are a sight familiar enough in the Northern and Western States, but in the cotton States, save Texas alone, they are wanting, the bird that makes them being exclusively a migrant. The English sparrow persecutes also the cliff swallow; hence, in the North, the bird is much less common than formerly. Under the mistaken idea that cliff swallows are not desirable neighbors, the nests, especially when near houses, are often destroyed and the birds driven away. All birds are more or less subject to parasites, especially when nesting, but the parasites are not bedbugs nor the kinds obnoxious to man, and no one need banish the swallows for fear of trouble from this source. In Germany the presence of swallows around houses is so much desired that artificial nests made of clay or other material are put up in order to attract birds by saving them the labor of constructing their own domiciles. No doubt our own cliff swallows would be quick to respond to a similar offer of ready-made dwellings, rent-free, and in this way the range of this extremely useful species might be materially increased. The cliff swallow is one of the most indefatigable insect destroyers extant, and every motive of patriotism and humanity should prompt communities among which they live to protect and foster them in every possible way.

PURPLE MARTIN.

This, the largest and in many respects the most beautiful of all our swallow tribe, is the most local and the least numerous. In New England, and perhaps in most of the Northern States generally, this fine bird is steadily diminishing in numbers. The English sparrow often takes possession of its boxes, ruthlessly kills the young martins or throws out the eggs, and usually succeeds in routing the colony and appropriating the boxes. When measures are not taken to abate the sparrow nuisance in the immediate vicinity of martin colonies, the usual result is that the martins are forced to abandon their houses. The habit of putting up houses for the accommodation of martin colonies is not as common in the North as it formerly was, and to this indifference to the martins' presence, to persecution by the sparrow, and to losses due to the prevalence of cold storms during the nesting season, no doubt, is due the present scarcity of the bird.

Simply to put up martin boxes in localities where the birds do not now live may or may not ultimately result in the formation of new colonies, for the martin is conservative by nature

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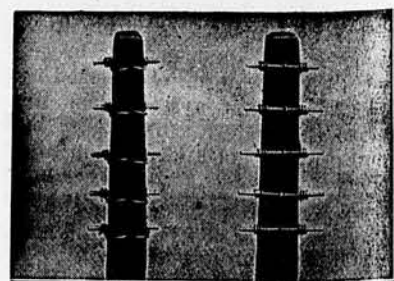
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and loves its birthplace too well to colonize strange localities until forced away by lack of accommodations in the old home. More active measures, therefore, have been suggested to induce colonization, particularly the transfer at night of one or more martin houses, with both parent birds and nestlings, from their old homes to new ones.

Having their nestlings to care for, the old birds probably will not always desert them, but are likely to resume parental duties in the strange neighborhood, especially if the old home is far distant. The theory is that the following spring on their return from the South the young martins, and possibly their parents, will go back to the new home. As the young can be raised by hand without serious difficulty, it may prove easier to start the new colony with nestlings alone, feeding them on meal, worms, grasshoppers, and the like. Six or eight pairs can well be spared from a strong colony without unduly weakening it. This method promises well, and if the experiment can be tried from year to year, even on a small scale, a gradual increase in the number of martin colonies is likely to result and new centers of distribution to be formed.

From the standpoint of the farmer and the orchardist, perhaps no birds more useful than the swallows exist. They have been described as the light cavalry of the avian army. Specially adapted for flight and unexcelled in aerial evolutions, they have few rivals in the art of capturing insects in mid-air. They eat nothing of value to man except a few predaceous wasps and bugs, and in return for their services in destroying vast numbers of noxious insects ask only for harborage and protection. It is to the fact that they capture their prey on the wing that their peculiar value to the cotton-grower is due. Orioles do royal service in catching weevils on the bolls; and blackbirds, wrens, flycatchers, and others contribute to the good work; but when swallows are migrating over the cotton field they find the weevils flying in the open and wage active war against them. As many as 47 adult weevils have been found in the stomach of a single cliff swallow.

What may be termed the interstate relations of birds are not always as simple as in the case of the swallows. Some birds are most desirable summer residents of Northern States, but when migrating greatly damage certain crops in Southern States. Not so with the swallows. Their beauty, their graceful flight, and their sociability insure them a welcome everywhere and endear them to every lover of nature. Their esthetic value, however, great as it is, is not so important as their economic worth, so constant and effective is the warfare they wage against the insect hosts which but for them and other avian benefactors would render successful agriculture impossible. To the Southern States may safely be intrusted the duty of protecting and augmenting in every possible way the numbers of resident birds that prey upon the boll weevil. But it is for the Northern States to aid the good work so far as lies in their power. An enlightened patriotism knows no State boundaries. The insect enemy of the farmer of either district is the enemy of the common weal and only from co-operation can come a full measure of success.

In the democracy of the dead all men are at last equal. There is no rank, station, or prerogative in the republic of the grave. At that fatal threshold the philosopher ceases to be wise and the song of the poet is silent. Dives relinquishes his millions and Lazareth his rage. The poor man is as rich as the richest and the rich is as poor as the pauper. The creditor loses his usury and the debtor is acquitted of his obligation. There the proud man surrenders his dignities; the politician his honors; the worldling his pleasures; the invalid needs no physician and the laborer rests from unrequited toil. Here, at last, is nature's final decree in equity. The wrongs of the time are redressed. In justice is expiated and the irony of fate is refuted.

—John J. Ingalls.

The Poultry Yard

CONDUCTED BY THOMAS OWEN.

Poultry Notes.

If you are going to sell some of your surplus hens to the butcher, it would be well to fatten them up for a couple of weeks before selling. The extra price you will get for them will amply repay you for the extra feed and trouble. Some poultry-raisers use this bill of fare for fattening purposes. The last feed for one day is all corn, as much as they will eat; the next day boiled corn; the third day boiled buckwheat, corn-meal mush, made as fine as possible, allowed to get cold and then slightly warmed, is fed at noon. In the morning a little wheat is given. Green food is given daily, and clean, fresh water and grit are always before them. This kind of feeding will do where the fowls are allowed their regular freedom. A quicker way to fatten them is to coop them up and feed them a mushy food, composed of corn-meal, ground oats, or buckwheat in which quite a quantity of lard or tallow is mixed. This with plenty of pure water will fatten them in ten days.

Indigestion is one cause of many deaths and is probably the result of lack of grit, which is a great aid to digestion. Grit and granulated charcoal should be accessible to the chicks at all times.

It is difficult to keep pure water before the chicks unless it is replenished frequently, for they soil the water with their feet. Frequent filling of the jars will remedy this.

Gapes is an ailment which generally attacks chicks between the ages of six and eight weeks. Wet weather favors this trouble and it is not apt to attack chicks which are kept out of the damp in the good, dry places, in fact, the healthy, vigorous chicks are usually able to cough out the worm in the windpipe that causes this plague. A little sulfur mixed in the feed will aid in the cure of this trouble.

Now that the new crop of alfalfa is in the market, we would advise feeding the chickens all they will eat of this good and cheap food. Feed it to the young and the old chicks. Break it up in half-inch lengths and mix with cornmeal and water or skim-milk. No cheaper feed can be secured than this and none so healthy. Feed less wheat and corn, now they are so high in price, and more alfalfa.

How Feathers are Used.

Every large city has several factories which do nothing but prepare feathers for household use, after buying them from the wholesalers. The tail and wing feathers of turkeys are used mostly in making dusters, and peacock feathers are employed, as are also some turkey feathers, in making screens for fireplaces, etc. Feather boas, which are costly, are made from white chicken feathers curled with hot iron. Pillows are turned out by the thousands. White chicken, wing and tail feathers and many white turkey feathers are curled or left straight, dyed any color or combination of colors desired, and sold to milliners. Thousands of pounds of poultry feathers are glued or wired on small bases and made into wings or imitations of wings and colored to resemble the brilliant wing of the oriole or the sombre ones of the blackbird. Even whole birds are made from chicken feathers, to permit observance of the laws of certain States against the killing of birds of which the "made up" objects are imitations. Other uses of feathers are for muffs, fans, and featherbone. The latter is made from the stiff ribs of turkey feathers and are used as dress and corset stays. For decorative purposes the demand for peacock feathers is so great that there are three farms near Chicago which have scores of the gaudily plumaged fowls, contracting in advance for the sale of all their tall adornment.



White Plymouth Rocks

STOCK AND EGGS FOR SALE.

My first range consists of 100 large white hens weighing from 8½ to 10½ pounds, headed by eight large, white cockerels from my first pen. Stock—100 eggs \$10; 15 eggs \$2. Second range—100 eggs \$5; 15 eggs \$1. First pen—100 eggs \$25; 15 eggs \$5. Second pen—100 eggs \$15; 15 eggs \$3. You run no risk when you buy eggs of me. Satisfaction guaranteed.

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S. C. BUFF ORPINGTON EGGS—Extra fine stock, headed by an 11-pound cockerel. 15 eggs \$1.25. C. B. Owen, Lawrence, Kans.

CHOICE Buff Orpington and B. P. Rock cockerels, Collie pups and bred bitches. Send for circular. W. B. Williams, Stella, Nebr.

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PURE SINGLE COMB BROWN LEGHORN eggs, 30 for \$1; 100 for \$3. Jos. Caudwell, Wakefield, Kans., successor to F. P. Flower.

FOR SALE—Single Comb White Leghorn cockerels. Wyckoff laying strain. Price, 75 cents and \$1. Henry Martin, Newton, Kans.

ROSE COMB BROWN LEGHORN EGGS—15 for \$1.50, 30 for \$2.50, 100 for \$4. Mrs. John Holzhey, Bendena, Kans.

NOT TWO LATE to get a start of Hastings' Heavy Laying Strain of S. C. Brown Leghorns. Rest of season, eggs 75c per 15; 2 sittings \$1.25; or \$3 for 100. L. H. Hastings Quincy, 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, 801 East First Street, Newton, Kans.

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In handling turkey feathers the body plumage should be kept separate, and the long wing feathers left by themselves. The tail feathers should also be divided from the rest, for it does not take many of these to make a pound, worth 30 to 32 cents. The "skirt" feathers (as they are called by dealers) on a turkey are those just in front of the large, stiff tail plumage. Turkey wing feathers also are classed by themselves. In shipping turkey feathers a common practise is to make bundles of the tail plumage. Pointers are stiff feathers from three to six or eight inches long. Dealers make a reduction in the price if the feathers are "quilly," that is, if there are many stiff ones among the body feathers.

Any poultryman not wishing to go to the trouble of cleaning his own feathers can have them done at the local feather works, steam cleaned and steam dried and deodorized at 6 cents a pound for fifty pounds or more; 8 cents a pound for less than fifty pounds. They can then obtain for them, body feathers only:

Chicken feathers, 15 cents a pound.

Duck feathers, 50 to 85 cents a pound.

Geese feathers, 65 cents to \$1 a pound.

Duck and geese down, feather free, snow white, \$2 to \$2.50 a pound.

Gray mixed, \$1.50 a pound.

These feathers are used in making pillows, and pillows of duck plumage of not more than ordinary quality are sold at department stores for from \$3.50 to \$5 each, while goose feather pillows bring from \$5 to \$8, or even more. Pillows of "body" chicken feathers bring almost as much if the feathers are white, but come slightly cheaper if the plumage is colored.—Pacific Fancier.

PLYMOUTH ROCKS.

WHITE PLYMOUTH ROCKS—Exclusively pure white birds, farm range. Eggs \$1 per 15, \$1.75 per 30. R. J. Yust, Route 2, Sylvia, Kans.

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

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BLACK LANGSHANS.

American Central Poultry Plant

BUFF, BLACK AND WHITE LANGSHANS, SILVER SPANGLED HAMBURG, SILVER LACED, BUFF AND WHITE WYANDOTTES, SINGLE COMB, ROSE COMB AND BUFF LEGHORNS, BLACK MINORCAS, BUFF AND WHITE ROCKS, S. C. RHODE ISLAND REDS, BARRED ROCKS, BUFF ORPINGTONS AND LIGHT BRAHMAS.

Also Bronze Turkeys, small Pekin ducks, Rouan ducks, Toulouse geese and peacocks. Each variety kept on separate tract of farm. Write for free twenty-page catalogue giving prices on stock and eggs. Address

J. A. LOVETTE, Prop., MULLINVILLE, KANS.

PURE-BRED WHITE LANGSHANS for sale. Hens \$1.25, pullets \$1 each; also a few Silver Spangled Hamburg cockerels. Mrs. John Cooke, Greeley, Kas

WYANDOTTES.

INCUBATOR EGGS from prize-winning White Rocks and White Wyandottes at \$5 per 100. W. L. Bates, Topeka, Kans.

BROWN'S WHITE WYANDOTTES—Ahead of everything; stock for sale; eggs in season. I have the English Fox Terrier dogs. Write me for prices and particulars. J. H. Brown, Clay Center, Kans.

RHODE ISLAND REDS.

NEORHO POULTRY YARDS—Rose Comb R. I. Reds, this year's breeders for sale. We can give you better bargains at this season of the year than at any other time.—J. W. Swarts, Americus, Kans.

LAYING STRAIN S. C. REDS—Old and young stock for sale. Eggs, one-half price after June 15. R. B. Steele, Sta. B. Topeka, Kans.

RHODE ISLAND REDS—Cockerels, S. C. R. I. Reds from prize winners. Red to the skin. Eggs in season. Good Hope Fruit & Poultry Farm, Troy, Kas

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

Rose Comb Rhode Island Red eggs for sale. Circular free. G. D. Williams, Inman, Kans.

BRAHMAS.

Light Brahma Chickens

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

Minorcas.

Exhibition S. C. Minorcas, the world's greatest laying strain. Beautiful in plumage, tail and comb. Eggs \$1.50 per 15; hatch chicks \$1; hens \$2 illustrated circulars 5c. Address George Kern, 817 Osage St., Leavenworth, Kans.

MISCELLANEOUS.

CHICK-O FOR BABY CHICKS—"Just the feed and all they need." A balanced ration of pure grains, seeds, bone, etc. Ask your dealer or write to headquarters. D. O. Coe, 119 East Sixth Street, Topeka, Kans.

AGENTS—To sell and advertise our Poultry Compound: \$25 weekly; rig furnished. Franklin Manufacturing Company, Norwalk, Ohio.

FOR SALE—White Plymouth Rock eggs. Stock from two excellent strains, careful selection for years. 1907 eggs hatching as high as 95 per cent strong chicks. After May 10th, \$3 per hundred, \$1.75 for 50. Address Elizabeth M. Willett, Lawrence, Kans., Route 1.

Constipation.

(Continued from page 752.)

waters are pernicious after a little time; for the same reason that laxative or purgative drugs are. They first stimulate and then exhaust and depress the whole alimentary canal, making it torpid and sluggish.

As drugs can not cure any one of a foolish habit or set of habits, so they can not cure the result of the foolish habits while the habits continue. You can correct your habits yourself without drugs or doctors if you know wherein they need correcting, and here is the clue to that. Go to the closet just as regularly and punctually as you would go to school, or church, or court, or business, or dinner, or bed. The best time is right after breakfast. If already constipated the bowels may not move the first day or the second, and they must not be forced by hard straining, which is harmful, and helps to bring on piles. But in such a case take a copious injection of plain warm water, two, four, or six quarts. This will empty the bowels without irritation, and will not disturb digestion as a physic would. In a few days, if the time regularly is persisted in, the bowels will move without the water.

The great sympathetic nerve that governs the bowels keeps time like any good clock, and if you are on time, with the suggestion that you are ready for business, that nerve will soon respond and unlock the door.

Then eat and drink as I have suggested. Here is the diet list of a great hospital for constipation. It gives a wide range of choice, and for most people is correct:

Soups.—Meat broths, oyster soup.
Fish.—Boiled fresh fish of all kinds, raw oysters.

Meats.—Almost any fresh tender meat, poultry, game.

Farinaceous.—Oatmeal, wheaten grits, mush, hominy, whole wheat bread, corn bread, graham bread, brown bread, rye bread.

Vegetables.—Boiled onions, brussels sprouts, spinach, cauliflower, potato, asparagus, green corn, green peas, string beans, salads with oil.

Desserts.—Stewed prunes, figs, baked apples with cream, ripe peaches, pears, oranges, apples, melons, grapes, huckleberries (the blue seedless kind), cherries, raisins, honey, plain puddings, fig-puddings, apple charlotte.

Drinks.—Plenty of pure water, cold or hot, black coffee, cocoa, new cider, butter milk, orange juice, unfermented grape juice.

Must Not Take.—Salt, smoked, pot-
ted, or preserved fish or meats, pork, liver, eggs, new bread, puddings of rice or sago, pastry, milk, sweets, tea, nuts, cheese, pineapple, spirituous liquors.

Pawnee County Grange.

EDITOR KANSAS FARMER:—While on visits in Grange work I had the opportunity of attending the grange picnic at Pawnee County held in the new park near Larned, Kans., on June 6. Although it threatened rain in the forenoon hundreds came to town in the morning from all parts of the country, and as it cleared off and the sun came out at noon thousands of people gathered in the grove. The business men and bankers of the beautiful city of Larned closed their places of business, and many of the town people came out to enjoy the farmers' picnic, whose committees had arranged a very entertaining program which was well rendered.

While in the county, and under the kindly guidance of A. B. Lovette, the brother who has been so successful not only upon his farm but in organizing granges in different parts of the county, we visited six good, and wide-awake subordinate granges. These granges were composed of the very best citizens in the surrounding country. We found the wheat crop had been damaged on the low lands by the frosts, and the oats and barley had, in some cases, been eaten up by the bugs and the weather seemed a little dry, yet we found the farmers cheerful, no long faces or any one seriously complaining. The most of the farmers will cut their wheat, and have planted their barley and corn on oat

ground, and sowed some to millet and some to kafir-corn and sorghum, and are suiting themselves to the conditions. The farmers of Pawnee County are in pretty good shape financially, they have fine houses and barns and are increasing their membership in the grange and are striving to build up a better citizenship and get better acquainted with each other.

A. P. REARDEN, Lecturer.

Creameries of Kansas.

Acme—Acme Creamery Co.
Abilene—Belle Springs Creamery Co.
Arrington—Chas. Castelline.
Arkansas City—C. T. Wells Produce Co.
Belleville—C. F. Daggett.
Burlington—Smith & Pilkington.
Blue Mount—Martin Schadt.
Clyde—C. F. Armstrong.
Cawker City—Cawker Dairy Co.
Concordia—Concordia Creamery Co.
Council Grove—Independent Creamery Co.
Chanute—H. F. Ahlers.
Colby—Jos. Voisin.
Columbus—Jos. Ebbstein.
Dwight—Dwight Creamery Co.
Durham—H. C. Funk.
Dresden—Goodrich Bros.
Eldorado—Eldorado Creamery Co.
Ellinwood—Murphy & Doll.
Fort Scott—Fort Scott Butter Co.
Fulton—Fulton Creamery Co.
Garnett—Geo. S. Currier.
Gardner—J. B. Bond.
Garnett—Garnett Creamery Co.
Haven—Haven Creamery Co.
Holsington—Holsington Creamery Co.
Hanover—Hanover Creamery Co.
Hutchinson—Swift & Co.
Hesler—Hesler Creamery Co.
Hayes—Hayes Creamery Co.
Iola—J. T. Watkins.
Jacobs (Ramona P. O.)—A. L. Belts.
Junction City—Junction City Creamery Co.
Kingman—Kingman Creamery Co.
Kansas City—Meyer Sanitary Milk Co.
Larned—Larned Creamery Co.
Leavenworth—Leavenworth Creamery and Dairy Co.
Lincolnton—Lincolnton Creamery Co.
Lindsborg—Smoky Valley Creamery Co.
McCune—McCune Creamery Co.
Marion—Marion Creamery Co.
McVern—C. Thomas Co.
Newton—Hesson Creamery Co.
Newton—Hess & Erb.
Oberlin—Decatur Co. Creamery Co.
Oberlin—Goodrich Bros.
Ottawa—Ottawa Condensing Co.
Pittsburg—Crawford Co. Creamery Co.
Richmond—Richmond Creamery Co.
Spring Hill—Spring Hill Creamery Co.
Tufner—Ely Creamery Co.
Tampa—Geo. Rumold.
Tonganoxie—Tonganoxie Creamery Co.
Topeka—Topeka Pure Milk Co.
Topeka—The Continental Creamery Co.
Wayne—Wayne Creamery Co.
White City—R. C. Hendershot.
Wilton—Wilton Creamery Co.
Wichita—Wichita Creamery Co.
Winfield—A. S. Kinninmouth & Co.
Winfield—Seymore Pkg. Co.

The Inter-State Fair and Kansas Exhibitors.

Because of the convenient dates selected and because it is such a big thing the interest of Kansas breeders and exhibitors is aroused in the Inter-State Fair and Exposition to a remarkable degree. This fair will be held at Elm Ridge, Kansas City, Mo., during the two weeks from September 23 to October 5, with a special arrangement of exhibits for the accommodation of all classes of exhibitors. During the week of September 23 to 28 inclusive, there will be an exhibition of Thoroughbred and Standard-bred breeding horses, carriage, saddler and driving horses, jacks and Jennets, mules, dairy and dual-purpose cattle, dairy products and machinery, swine, sheep, poultry, the milking-machine, and a model dairy in operation.

During the week of September 30 to October 5 inclusive, there will be shown draft horses, coach horses, ponies, beef cattle, fat cattle, draft teams in harness.

During both weeks the exhibits of agriculture, horticulture, floriculture, domestic, women's clubs, merchants, manufacturers, implements, etc., will be in place together with a wonderful array of other attractions. There will be thirteen days of racing.

The State Legislature of Missouri appropriated the same amount for the Inter-State Fair and Exposition that they gave to the Missouri State Fair. Premium lists or other information may be had by addressing the Inter-State Fair and Exposition Company, Dwight Building, Kansas City, Mo.

The Kansas Angus Sale.—Sixty Head of "Premier Beef Breed" at Auction July 10.

The sales held so far have shown an especially healthy demand for this time of year for good, useful Aberdeen-Angus cattle. The fact that the best money being made on beef cattle is being made on the very best kind for making beef is turning attention everywhere to what is known as the "Premier Beef Breed."

This is just as much the case in Missouri, Oklahoma, and Kansas as in the more northern sections. In the States to the north, however, Angus herds are abundant and are regularly drawn upon for the blood that makes better feeders. In the Southwest, Angus cattle are scarce and in view of this fact it is more than usually fortunate that as great a herd as that of Anderson & Findlay is soon to make a public sale. For this sale, which we are now advertising and which will be held July 10, nearly sixty cows and heifers just in

the best condition to do the buyer good, have been selected. These will all be safe in calf or have calves at foot, mostly by the imported bulls at the head of the big Anderson & Findlay herd. To accommodate those parties who have need now or expect soon to have, of an Angus bull, a few good bulls of serviceable age will be presented also. This will make the offering complete and of the sort to meet the needs of a great many of the country's best stockmen.

The sale will be held on the Kansas ranch of this historical firm, in Allen County, Kansas, convenient to Iola and LaHarpe and on the Santa Fe, Missouri Pacific, and M. K. & T. Railways. Electric cars marked "Concrete" at either of these two points will take parties within a few steps of the farm. For catalogues address Thos. T. Anderson, Mgr., Gas, Kans., or Anderson & Findlay, Lake Forest, Ill.

I. B. Good's Poland-Chinas.

I. B. Good, of Peabody, Kans., is starting an advertisement in this issue of THE KANSAS FARMER. Mr. Good is comparatively a new breeder but is one who has started in the business right, by carefully selecting foundation stock of good individuality, and the best blood lines. He has recently purchased to head his herd, the fine young boar, Big Bone Chief, a good son of Highland Chief Jr., who won first in class at Nebraska State Fair 1905, who weighed 830 pounds in show condition, with 11-inch bone, and measured 41 inches heart and flank girth. Big Bone Chief promises to be as big and good a hog as his sire. He is only 10 months old and will weigh in flesh close to 400 pounds. He has 8-inch bone, and measures 47 inches heart and flank girth, he has a strong, thick-fleshed back, fancy head and ears, and stands up on short, strong legs set well apart, with the best of feet. The herd sows are good individuals of the best families of the breed. Two are by Kansas Chief, a prize-winner, and whose brothers and sisters won 150 prizes at Nebraska and Iowa State Fairs. Loya 73758, the dam of these sows, was also a prize-winner, winning first in class at Kansas State Fair 1902, and sweepstakes over all breeds at same place 1903.

Two other good ones are by Mischief Maker I Know, a three-fourths brother to Meddler, the World's Fair champion. Other good ones are by Faultless Jr. 2d and Klever's Perfection. Faultless Jr. 2d by Faultless Jr. (who won first in class at Kansas State Fair 1902-3) is the sire of Mr. Good's fine crop of spring pigs, which numbers nearly 40; these are coming on fine, and are a promising lot, with plenty of bone, good backs, stylish head and ears and are up on the best of feet.

Mr. Good is offering some fall gilts for sale, and his spring pigs will be ready for shipment after August 1. Everything he has will be priced worth the money. Write him for prices and descriptions and mention THE KANSAS FARMER.

Becker's Poland-Chinas.

We call special attention to the card of J. H. Becker, of Newton, Kans., which starts in this issue of THE KANSAS FARMER. Mr. Becker is proprietor of one of the best herds of Poland-Chinas in that part of the State. His swine combine some of the best bloodlines of the breed and are among the best in individual merit. He has selected his foundation stock from some of the good herds in the country, and as he is an excellent judge he always buys good ones. Dandy Rex 42706 heads the herd, and he is worthy of this place, for he is an individual of outstanding merit, and one that it is hard to beat. He is one of the thick-fleshed, mellow fellows, with lots of style and finish. He has plenty of bone, good length, strong arched back, heavy hams, very fancy head and ears, and stands up on the best of feet. He is also very active and has great constitutional vigor. He is a great breeding animal and his get is among the best the writer has seen this year.

Dandy Rex is a line-bred Perfection; his sire is Prince Proud 32727, he by Proud Perfection. His dam is Mabell 92727, she by U. S. Perfection Jr. He is also a show hog, having won first in class at Kansas State Fair 1905, first in class at Colorado 1906, and first in class at Wichita Fair. He is also the son of prize-winners, his sire, Prince Proud, being first and sweepstakes boar at Kansas State Fair 1905. His dam is by a first-prize boar and his granddam by a champion.

The herd sows are a choice lot and fit to mate with this great young boar. Among them are Miss Hadley U. S., by U. S. Model, Edna Corwin by C. M. Corwin 2d, Prudence, sire Beautiful Sunshine, and others of equal merit.

The spring crop of pigs from these matings is simply out of sight. They are as square as blocks, have plenty of bone, good backs, and very fancy heads and ears; a large number of these came early, and these are what Mr. Becker is now offering for sale. If you want something good, that will be priced worth the money, send Mr. Becker an order and you will not be disappointed.

Mr. Becker is noted for his square dealing, and the high quality of his shipments; "Satisfaction Guaranteed" is his motto. He is shipping pigs to Oklahoma and Texas, and has some fine letters from his customers there.

"The West as It Was."

Cheyenne, Wyo., is getting ready again for its celebration of frontier days, July 25, 26, 27, in which the "West as it was" will be staged upon its own native prairies and the actors will be the men, soldiers, horses, Indians and stage coaches that were once the only occupants of the frontier, but which would soon be forced off the stage entirely were it not for the annual call for their return to the Magic City of the Plains. The frontier days is a realistic reversion to the early days and the whole city gives itself over to the celebration and to a hospitable entertainment of its guests that is still characteristic of the free and easy West.

**CONGO ROOFING**

The time to be satisfied with your roofing is five years after you bought it. That's the test that Congo asks for. Durability is the only thing about a roofing that is really indispensable, and Congo is full of it in the shape of high-grade weather-proof materials put together in the right way. Send for a free sample and see for yourself. Cut open the sample—test it. If you can recognize what is good in a roofing, you will decide on Congo.

BUCHANAN-FOSTER CO.,537 West End Trust Bldg., Philadelphia.
Chicago and San Francisco.**"Strenolith"**

116 West 6th Street, TOPEKA, KS.

Manage Your Own Cement Construction.

Secrets of practical cement construction by Fred Eckhard, cement engineer, 25 years of practical experience in cement construction, besides the knowledge obtained from the German, French and English cement experts at the Louisiana Exposition held at St. Louis in 1904. Information on any one of the subjects treated in this book is well worth the price. Every farmer and mechanic or any one interested in the construction of cement should have one of these books. Price postage paid \$1.50. Send money order, writing your name and address distinctly and the book will be forwarded to you.

R. D. BLAINE, General Agent,
525 Kansas Ave., Topeka, Kansas.**HOTEL KUPPER**

11th and McGee St.

Kansas City, Missouri



One of the newest and most centrally located hotel in the city. Absolutely modern in every detail.

European Plan, \$1 per day and up.

BALES 15 TONS HAY A DAY

Say "Baler Book" on a postal to us and we will send you free a book telling the results of our experience since 1897 making hay presses. You want profit, so should spend a penny to learn about our Gem Full Circle Steel Baler and how we save you about \$25 in price and sell you a press which will save you as much more each year in repairs and do the most work. Patent power head, short trip lever arms, long plunger stroke with quick rebound, large feed opening and two charges for each round of the team are advantages of our presses.

GEO. ERTEL & CO., QUINCY, ILL.

**Save Your Machinery.**

Use Lowell's hard rollers on your machinery, especially adapted for use on disc drills, easily attached and will last a life-time. For full particulars and prices write

Lowell Manufacturing Co.
Salina Kansas.**Scotch Collies.**

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

Weather Bulletin

Following is the weekly weather bulletin for the Kansas Weather Service for the week ending June 25, 1907, prepared by T. B. Jennings, Station Director.

DATA FOR THE WEEK.

	Temperature.			Precipitation		
	Maximum.	Minimum.	Mean.	Departure from normal.	Total.	Per cent of sunshine.
WESTERN DIVISION.						
Ashland.	94	55	73	.....	2.68	82
Cimarron.	91	50	69	.....	2.24	..
Colby.	96	41	70	.....	0.36	..
Coolidge.	96	39	66	.....	0.67	..
Dodge City.	92	53	71	—3	2.28	78
Dresden.	95	47	72	.....	0.60	57
Farmersburg.	97	44	71	.....	0.84	73
Garden City.	93	48	72	.....	1.70	74
Hill City.	97	50	74	.....	1.56	..
Hoxie.	96	43	72	.....	0.30	76
Lakin.	96	46	71	.....	0.46	..
Liberal.	93	52	70	.....	2.35	..
Norton.	95	48	70	.....	1.94	51
Scott.	91	47	70	.....	0.50	53
Wakeeney.	95	50	70	.....	1.39	..
Wallace.	94	39	70	.....	0.21	..
Division.	97	39	71	.....	1.26	68

MIDDLE DIVISION.

Alton.	98	51	74	.....	1.94	..
Chapman.	92	53	72	.....	1.12	64
Clay Center.	94	50	74	.....	T	..
Coldwater.	91	58	72	.....	0.59	79
Concordia.	93	55	74	+1	0.22	-0.76
Cunningham.	89	55	72	.....	0.90	..
Eldorado.	90	..	..	.....	1.17	36
Ellinwood.	92	49	72	.....	2.34	42
Ellsworth.	95	50	73	.....	0.68	..
Greensburg.	95	55	72	.....	1.86	..
Hanover.	96	50	73	.....	1.04	79
Hays.	94	50	70	.....	1.64	75
Hutchinson.	93	54	73	.....	1.47	65
Jewell.	94	52	74	.....	1.13	82
Larned.	93	53	72	.....	0.12	..
Macksville.	94	54	72	.....	0.76	64
McPherson.	95	55	74	.....	0.41	57
Minneapolis.	84	54	72	.....	0.83	49
Norwich.	97	53	73	.....	2.39	74
Phillipsburg.	95	56	74	.....	1.18	64
Pratt.	96	54	74	.....	1.89	67
Republic.	91	55	..	.....	1.76	..
Rome.	94	51	72	.....	2.54	..
Russell.	96	52	72	.....	0.54	..
Salina.	90	60	72	—3	1.72	+0.47
Wichita.	98	49	73	.....	1.39	61
Division.	98	49	73	.....	1.39	61

EASTERN DIVISION.

Atchison.	92	54	74	.....	0.85	70
Baker.	91	57	72	.....	1.37	57
Burlington.	91	58	74	.....	1.55	..
Columbus.	91	60	74	.....	2.35	46
Emporia.	91	56	72	.....	1.10	..
Escondido.	90	61	74	.....	0.65	79
Fall River.	89	58	74	.....	2.85	..
Fort Scott.	90	58	74	.....	0.55	64
Frankfort.	97	50	74	.....	1.08	57
Garnett.	88	58	72	.....	4.70	33
Grenola.	94	59	74	.....	2.53	..
Horton.	95	62	76	.....	2.54	55
Independence.	88	62	73	.....	1.54	63
Iola.	90	65	75	+3	1.97	+0.67
Kansas City.	94	60	74	.....	1.59	57
Lebo.	91	55	..	.....	1.97	..
Madison.	95	52	74	.....	0.72	86
Manhattan.	86	55	70	.....	1.63	..
Olathe.	91	55	74	.....	3.14	..
Osage City.	93	61	74	.....	2.04	42
Oswego.	91	57	72	.....	1.36	64
Ottawa.	91	60	74	.....	1.80	62
Paola.	87	61	73	.....	2.88	57
Pleasanton.	91	60	74	.....	3.07	43
Sedan.	91	60	74	0	0.97	-0.15
Topeka.	92	53	72	.....	0.45	71
Valley Falls.	97	50	74	.....	1.73	59
Division.	97	50	74	.....	1.51	62
State.	98	39	73	.....	1.51	62

DATA FOR STATE BY WEEKS.

Week Ending.	67	18	54	.....	0.12	..
April 6.	93	15	49	.....	0.06	..
April 13.	80	12	44	.....	0.15	..
April 20.	89	16	51	.....	0.27	..
April 27.	88	5	44	.....	1.42	..
May 4.	90	30	54	.....	0.65	54
May 11.	95	17	62	.....	0.46	76
May 18.	97	37	70	.....	0.13	79
May 25.	83	20	55	.....	0.68	33
June 1.	101	36	67	.....	0.56	71
June 8.	103	41	75	.....	1.03	81
June 15.	98	39	73	.....	1.51	62
June 22.	98	39	73	.....	1.51	62

GENERAL SUMMARY.

The weather has been fine. Altho not quite so warm as the preceding week it has been the wettest this season. It averaged three rainy days in the western and middle divisions and four in the eastern. The maximum temperatures, with few exceptions, occurred on the 16th. The minimum temperatures occurred on the 19th in the western part of the State and on the 20th in the eastern portion, except in the extreme southeastern counties, where they occurred on the 17th. The rainfall was very heavy from Seward and Clark Counties to Russell County and in the southern counties of the western division. It was light in the extreme northwestern counties and very light in Clay, but a trace falling in Clay Center.

EASTERN DIVISION.

Allen.—The temperature averaged one degree below normal. The first two days were clear, the others cloudy, with thundershowers amounting to 1.54 inches. Anderson.—Temperatures were seasonable and rains fell on each of the last four days, making very favorable weather for growing crops. Atchison.—This has been fine growing weather. Warm weather prevailed thruout, with a large amount of sunshine and showers on four days. Bourbon.—Temperatures were moderately high, especially the fore part. Moderate showers fell on

each of the last four days, furnishing all the moisture required to make vegetation grow rapidly.

Brown.—Rain has fallen on four days, the heaviest of the season occurring on the 18th when 1.96 inches fell. Corn fields are too wet to cultivate.

Chautauqua.—The week began hot, dry and clear but closed cooler, with showers on the last four days, aggregating 3.07 inches.

Cherokee.—The nights were uniformly warm, and the days moderately so. Much cloudiness occurred and rains were frequent the last four days.

Coffey.—Over an inch and a half of rain and seasonable temperatures have resulted in fine growing weather.

Elk.—Rains, amounting to 4.70 inches, fell on the last five days making the ground so wet that all farm work has been brought to a standstill. The fore part was clear the latter part was cloudy and temperatures about normal.

Franklin.—The week began with a maximum of 91° on the 16th, but temperatures were somewhat lower by the latter part. Partly cloudy and showery weather prevailed the last five days.

Greenwood.—Showers and thunderstorms were general the last four days, with much warm, sultry weather.

Jefferson.—The week began hot and clear, but there was a tendency to lower temperatures and increasing cloudiness the latter part. Light showers fell on the 18th, 19th, 20th and 21st.

Johnson.—Showers and warm, sultry weather prevailed the latter part producing very favorable conditions for the growth of crops.

Labette.—While the days were not excessively warm, temperatures were uniform and some sultry weather occurred. Showers on the 19th, 20th and 21st amounted to over two inches of water.

Linn.—Minimum temperatures ranged in the sixties and maxima generally in the eighties, with an abundance of rain distributed over the last four days.

Lyon.—Temperatures were not extremely high, but were oppressive on account of the humidity of the air. Showers fell on the 18th, 19th, 21st, and 22nd, those on the latter date being excessively heavy.

Marshall.—A maximum of 97° occurred on the 16th, but temperatures were lower as the week progressed, with much cloudy and showery weather.

Osage.—The first three days were clear and warm, the latter four cloudy and showery, a total of 1.80 inches of rain falling.

Montgomery.—The 16th and 17th were warm and sunny, the rest of the week cloudy, with showers amounting to over two inches and a half.

Ottawa.—The week began hot and dry, but ended showery and cooler. A heavy rain fell on the 19th and showers the remaining days.

Riley.—Seasonable temperatures and moderate showers occurred.

Shawnee.—Very favorable weather for growing crops was experienced this week. Temperatures averaged slightly above the normal and showers on each of the last five days furnished all the moisture that was needed. Three days were clear and four partly cloudy, with light southeasterly winds prevailing.

Wabunsee.—The nights were uniformly warm and maximum temperatures generally ranged in the nineties, with plenty of rain.

Wyandotte.—The week was one of even temperatures and ample rainfall. Thunderstorms occurred on the 20th, 21st and 22nd.

Barton.—The week began quite warm, but closed cooler. Showers on the 18th, 20th and 21st amounted to 2.34 inches, making this the most favorable week of the season for all growing crops. Five days were partly cloudy and two cloudy, with three thundershowers on the 22nd.

Butler.—Good showers fell on the last five days and temperatures were seasonable.

Dickinson.—Temperatures were uniformly seasonable from day to day and showers amounting to 1.12 inches fell on the 18th, 19th and 22nd.

Clay.—The first two days were hot, the rest somewhat cooler. The only rainfall was a trace on the 18th.

Cloud.—Temperatures were much above normal the first two days, but cooler weather followed, reducing the mean temperature on the 19th to 7° below normal. Light showers fell on the 18th, 21st and 22nd.

Comanche.—Temperatures were seasonably high and a rain of 0.58 on the 18th furnished all the moisture that was needed.

Ellis.—The week began and ended with temperatures slightly above normal, but slightly cooler weather was enjoyed the middle part. An abundance of rain was received on the 17th, 18th, 20th, and 21st.

Ellsworth.—The 16th and 17th were hot and dry, the next day cooler, with a light rain. Another good rain on the 22nd was very favorable to growing crops.

Jewell.—Seasonable temperatures and fine rains on

the 18th and 21st have kept all vegetation growing rapidly.

Kingman.—The nights were uniformly warm, but none of the days excessively hot, the several were very sultry and oppressive. Moderate showers occurred on a majority of the days.

Kiowa.—The best rain in a month and a half, amounting to 1.86 inches, fell on the 18th, and with seasonable temperatures has been of great benefit.

McPherson.—The first two days were hot, with temperatures 94° and 95° respectively. The week closed with good showers.

Osborne.—More heavy rains were received, the weekly total being 1.94 inches. The nights were warm, but no very high temperatures were recorded except on the 16th when the maximum was 98°.

Ottawa.—Temperatures were seasonably high, the forepart being the warmest, with a maximum of 94° on the 17th. The rainfall of 0.41 of an inch was light but was sufficient for all needs.

Pawnee.—The week was slightly cooler than the preceding one. The heaviest rain of the season fell on the 17th and 18th, and 21st and 22nd, making a weekly total of 5.12 inches.

Phillips.—Showers fell on four days and aggregated 2.39 inches; most of the water soaked into the ground as it was quite dry.

Pratt.—Fine growing weather has been experienced. Reno.—Clear and hot weather marked the beginning of the week and slightly cooler and showery weather the ending. The rainfall was the heaviest in seven weeks.

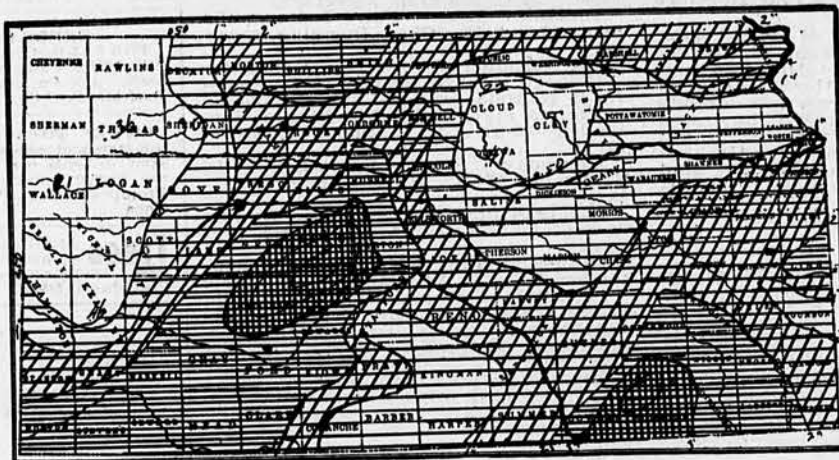
Republic.—Plenty of rain, warm weather and sunshine occurred.

Russell.—The rainfall was heavy, more, in fact, than was needed.

Salina.—No very high temperatures occurred, temperatures being uniformly moderate, with showers on the 18th, 20th, 21st and 22nd.

Sedgewick.—Temperatures were somewhat below

RAINFALL FOR WEEK ENDING JUNE 22, 1907.



SCALE IN INCHES:

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

Lyons.—Temperatures were not extremely high, but were oppressive on account of the humidity of the air. Showers fell on the 18th, 19th, 21st, and 22nd, those on the latter date being excessively heavy.

Marshall.—A maximum of 97° occurred on the 16th, but temperatures were lower as the week progressed, with much cloudy and showery weather.

Osage.—The first three days were clear and warm, the latter four cloudy and showery, a total of 1.80 inches of rain falling.

Montgomery.—The 16th and 17th were warm and sunny, the rest of the week cloudy, with showers amounting to over two inches and a half.

Ottawa.—The week began hot and dry, but ended showery and cooler. A heavy rain fell on the 19th and showers the remaining days.

Riley.—Seasonable temperatures and moderate showers occurred.

Shawnee.—Very favorable weather for growing crops was experienced this week. Temperatures averaged slightly above the normal and showers on each of the last five days furnished all the moisture that was needed. Three days were clear and four partly cloudy, with light southeasterly winds prevailing.

Wabunsee.—The nights were uniformly warm and maximum temperatures generally ranged in the nineties, with plenty of rain.

Wyandotte.—The week was one of even temperatures and ample rainfall. Thunderstorms occurred on the 20th, 21st and 22nd.

Barton.—The week began quite warm, but closed cooler. Showers on the 18th, 20th and 21st amounted to 2.34 inches, making this the most favorable week of the season for all growing crops. Five days were partly cloudy and two cloudy, with three thundershowers on the 22nd.

Butler.—Good showers fell on the last five days and temperatures were seasonable.

Dickinson.—Temperatures were uniformly seasonable from day to day and showers amounting to 1.12 inches fell on the 18th, 19th and 22nd.

Clay.—The first two days were hot, the rest somewhat cooler. The only rainfall was a trace on the 18th.

Cloud.—Temperatures were much above normal the first two days, but cooler weather followed, reducing the mean temperature on the 19th to 7° below normal. Light showers fell on the 18th, 21st and 22nd.

Comanche.—Temperatures were seasonably high and a rain of 0.58 on the 18th furnished all the moisture that was needed.

Ellis.—The week began and ended with temperatures slightly above normal, but slightly cooler weather was enjoyed the middle part. An abundance of rain was received on the 17th, 18th, 20th, and 21st.

Ellsworth.—The 16th and 17th were hot and dry, the next day cooler, with a light rain. Another good rain on the 22nd was very favorable to growing crops.

Jewell.—Seasonable temperatures and fine rains on

the 18th and 21st have kept all vegetation growing rapidly.

Kingman.—The nights were uniformly warm, but none of the days excessively hot, the several were very sultry and oppressive. Moderate showers occurred on a majority of the days.

Kiowa.—The best rain in a month and a half, amounting to 1.86 inches, fell on the 18th, and with seasonable temperatures has been of great benefit.

McPherson.—The first two days were hot, with temperatures 94° and 95° respectively. The week closed with good showers.

Osborne.—More heavy rains were received, the weekly total being 1.94 inches. The nights were warm, but no very high temperatures were recorded except on the 16th when the maximum was 98°.

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Phillips.—Showers fell on four days and aggregated 2.39 inches; most of the water soaked into the ground as it was quite dry.

Pratt.—Fine growing weather has been experienced. Reno.—Clear and hot weather marked the beginning of the week and slightly cooler and showery weather the ending. The rainfall was the heaviest in seven weeks.

Republic.—Plenty of rain, warm weather and sunshine occurred.

Russell.—The rainfall was heavy, more, in fact, than was needed.

Salina.—No very high temperatures occurred, temperatures being uniformly moderate, with showers on the 18th, 20th, 21st and 22nd.

Sedgewick.—Temperatures were somewhat below

the normal after the first two days. Copious showers on the 18th, 20th, 21st and 22nd did a great amount of good.

Stafford.—Showers were frequent thru the week and temperatures, tho not excessive, were about seasonable.

Sumner.—The week was wet and cloudy. Rain fell on five successive days, aggregating 1.76 inches.

Washington.—Temperatures and rainfall were very favorable to the growth of crops. Five days were clear, one partly cloudy and one cloudy.

WESTERN DIVISION.

Clark.—The heaviest rain of the season fell on the 18th and benefited crops greatly. Warm weather occurred the fore part of the week and cooler weather the latter part.

Decatur.—Temperatures averaged slightly below the normal. Much clear weather was experienced and showers fell on the 18th and 22nd.

Finney.—The week opened cloudy and slightly cooler than the preceding week, followed by rains on Monday and Tuesday aggregating 1.70 inches, the heaviest rain since May 2nd. The week closed with warmer weather and ideal conditions for the growth of vegetation.

Ford.—Heavy rains fell on the 17th and 18th, the first of any consequence since May 3rd. The week was slightly cooler than the seasonal average and there was also a slight deficiency in the sunshine.

Graham.—The weather has been partly cloudy each day and heavy dew occurred each night. Heavy rains fell on the 17th and 18th.

Gray.—The long interval of dry weather was broken by a rain of 2.20 inches on the 18th. The week was cooler than the preceding one and partly cloudy.

Hamilton.—With the exception of the 15th, temperatures were unseasonably low, the maximum temperature being below 8

Kant's Model out of Savana, and many other good ones. Remember that Cummings & Son are headquarters for Durrocs. They have the breeding and the individuality in their fine herd. These pigs are now ready to ship. Write them for description and prices, which will be reasonable, and mention THE KANSAS FARMER.

Save the Hay Crop.

The hay crop is always valuable, but in the fat years when other crops are big and profitable we have noticed that hay is to a certain extent overlooked by many farmers. Late frosts and too much wet weather may destroy or reduce the wheat, corn, and other similar crops but the grass survives all these conditions.

At the present time hay is bringing a higher price than for several years past. These prices may fall somewhat as the new crop comes in, but the indications are that good prices will prevail throughout the season.

To handle profitably hay must be baled, not only for shipping purposes, but for the fact that in this shape every pound is saved, it is easier to handle, takes up less storage room, and is less liable to fire.

A number of hay presses are advertised in our columns, and one of the best lines are those offered by the Kansas City Hay Press Company, 129 Mill St., Kansas City, Mo.

M. T. Farris Purchases a Fine Hereford Bull.

Mr. M. T. Farris, of Winchester, Kans., was in Topeka June 18, and selected a fine 3-year-old Hereford bull from the Rose Lawn Herd, owned by L. L. Vrooman. Mr. Farris is already well and favorably known, having a fine stock farm at Winchester, Kans., upon which he is running over 150 head of fine Hereford cattle. We are glad to see him add this purchase to his already excellent herd.

Gossip About Stock.

E. B. Grant, owner of the Westlawn Shorthorns and Duroc-Jerseys, Emporia, says that he has never had pigs do better than those he now has on the farm. The pigs of April farrow will beat 100 pounds. He has a few gilts of September farrow that were bred to sons of Tip Top Notcher and Dolly that will farrow this fall and that he will price worth the money. They are choice. Write about these before they are gone.

New Advertisers.

C. R. Ryan, grinding outfit.
J. B. Good, Poland-Chinas.
J. A. Becker, Poland-Chinas.
T. F. Guthrie, Berkshires.
W. M. Forbes, 355 acre ranch.
Hastings Business College, college.
J. D. Miller, 400-acre farm.
J. P. Mast, Holstein bull.
University of Kansas, State university.
Kansas Intelligence Bureau, schools.
Henry M. Kinsley, Strenoloth.
Owner, Atchison homes for land.
H. C. Bowman, land bargains.
Moore Chem. & Mfg. Co., fl-kil.



Horse-Owners, Don't Miss This.

Every one having the welfare of his beast at heart is anxious to make him as comfortable as possible both while in the harness and out of it. These patient servants of man amply repay the attention given them, and the more perfectly their needs are looked after the better service they will render.

A copy of "The Horse Book" published by the Bickmore Gall Cure Co., of Old Town, Me., should be in the hands of every horse-owner. The response to their offer last year has induced the Bickmore Gall Cure Co. to repeat it again this season.

To every reader of THE KANSAS FARMER sending name and address and 10 cents to cover cost of postage and mailing, a copy of "The Horse Book" and a sample box of Bickmore's Gall Cure will be sent free. It is said opportunity knocks once at our door and departs never to return. Let every horse-owner who reads this take advantage of this opportunity and send at once for the book and box of Gall Cure.

Address The Bickmore Gall Cure Co., Old Town, Me., mentioning this paper.

A Book on Silage Free.

A vast amount of knowledge on the subject of Ensilage, in plain practical language one can easily understand, has been boiled down to 216 pages in a new book entitled "Modern Silage Methods."

The book is library size, copyright 1906, has over 40 illustrations, and is well indexed. Many State Agricultural Colleges use it as a text book in teaching. A copy will be sent free by the publishers, Silver Mfg. Co., Salem, Ohio, to all who mention the KANSAS FARMER in writing.

A Good Use for Spectacles.

There was a little Scotch boy who had the quality of astuteness highly developed. The boy's grandmother was packing his lunch for him to take to school one morning. Suddenly, looking up into the old lady's face, he said: "Grandmother, does yer specs magnify?" "A little, my child," she answered. "Aweel, then," said the boy, "I wad juist like it 'dye wad tak' them af when ye're packin' my loonch."—Argonaut.

Expositions and State Fairs.

American Royal—Kansas City, Mo., October 14-19. T. J. Wornall, secretary.
Blue Grass Fair—Lexington, Ky., September 9-13. Jouett Shouse, secretary.

Canada National Exhibition—Toronto, Ont., August 26-September 9. Dr. J. O. Orr, secretary.

Illinois State Fair—Springfield, September 27-October 5. W. G. Garrard, secretary.

Interstate Fair—LaCrosse, Wis., September 23-28. C. S. VanAuken, secretary.

Interstate Fair, Sioux City, Ia., September 14. E. L. Wirick, secretary.

Iowa State Fair—Des Moines, August 23-30. J. C. Simpson, secretary.

Indiana State Fair—Indianapolis, September 9-13. Chas. Downing, secretary.

International Live Stock Exposition—Chicago, Ill., November 30-December 7. B. H. Helde, general superintendent.

Kansas State Fair—Hutchinson, September 16-21. A. L. Sponsler, secretary.

Kentucky State Fair—Louisville, September 16-21. R. E. Hughes, secretary.

Michigan State Fair—Detroit, August 29-September 6. I. H. Butterfield, secretary.

Minnesota State Fair—Hamline, September 2-7. E. W. Randall, secretary.

Interstate Fair and Exposition—Elm Ridge, Kansas City, Mo., September 23-October 5 inclusive. Dr. J. S. Gardner, president, Dwight Building, Kansas City, Mo.

Missouri State Fair—Sedalia, October 7-12. J. R. Rippey, secretary.

Nebraska State Fair—Lincoln, August 30-September 6. W. R. Mellor, secretary.

New York State Fair—Syracuse, September 9-14. S. C. Shaver, Albany, secretary.

North Carolina State Fair—Raleigh, October 14-19. Jos. S. Pough, secretary.

Ohio State Fair—Columbus, September 2-6. T. L. Calvert, secretary.

Oregon State Fair—Salem, September 16-21. F. A. Welch, secretary.

South Dakota State Fair—Huron, September 9-14. Geo. M. McEathron, secretary.

Tennessee State Fair—Nashville, September 23-30. J. W. Russworm, secretary.

Texas State Fair—Dallas, October 19-November 3. Sidney Smith, secretary.

Washington State Fair—North Yakima, September 23-28. Geo. E. Graham, secretary.

West Virginia State Fair—Wheeling, September 9-13. Geo. Hook, secretary.

Wisconsin State Fair—Milwaukee, September 9-14. John M. True, secretary.

West Michigan State Fair—Grand Rapids, Mich., September 9-13. F. D. Conger, secretary.

Grain in Kansas City.

Kansas City, Mo., June 24, 1907.
Receipts of wheat, 1 Kansas City to-day were 72 cars; Saturday's inspections were 59 cars. Prices were unchanged until near the close, when there was a decline of 1c. The sales were: Hard Wheat—No. 2, 1 car 95c, 1 car 93c, 1 car 92c, 1 car 90c, 1 car 89½c, 7 cars 89c, 4 cars 88c, 2 cars 87½c, 13 cars 87c, nominally 86½c; No. 3, 1 car 91c, 1 car 86½c, 1 car 86c, nominally 84½c; No. 4, 1 car 88c, 1 car 84c, 1 car 82½c, 2 cars 82c, 1 car 81c, 1 car 80½c, 6 cars 80c, 1 car 78c, nominally 76½c; rejected, 1 car 77c, 6 cars 76c. Soft Wheat—No. 2 red, 2 cars 90c, nominally 89½c; No. 3 red, nominally 86½c; No. 4 red, nominally 76½c; rejected, 1 car 77c, 6 cars 76c. Durum Wheat—No. 3, 1 car 80c. Mixed Wheat—No. 2, 1 car 88c; No. 3, 1 car 86½c; No. 4, 1 car 83½c, 1 car 75c; rejected, 2 cars 76c.

Receipts of corn were 46 cars; Saturday's inspections were 20 cars. Prices were unchanged to ¼c lower. The sales were: No. 2 white, 5 cars 52c; No. 3 white, 1 car 51½c; No. 2 mixed, 7 cars 51c; No. 3 mixed, 2 cars 50½c, 14 cars 50½c, 3 cars 50½c, 3 cars 50c; No. 4 mixed, 1 car 49c; No. 3 yellow, 1 car 51c, 1 car 50c.

Receipts of oats were 9 cars; Saturday's inspections were 4 cars. Prices were unchanged. The sales were: No. 2 white, 1 car 47c, 3 cars color 46c, nominally 45½c; No. 3 white, 4 cars 46c, 2 cars color 46c, nominally 45½c; No. 2 mixed, nominally 45½c; No. 3 mixed, nominally 44½c.

Barley was quoted at 62½c; rye, 77½c; flaxseed, \$1.05@1.08; Kafr-corn, \$1.10@1.15 per cwt.; bran, 89½c; shorts, 95c@1.01 per cwt.; corn-chop, 97½c per cwt.; millet-seed, \$1.60@1.65 per cwt.; clover-seed, \$7.50@11. The range of prices for grain in Kansas City for future delivery and the close to-day, together with the close Saturday, were as follows:

	Open.	High.	Low.	Closed	Closed
				to-day.	Saturday.
WHEAT					
July . . .	86½	87½	85½	85½	86½
Sept. . .	83½-¼	83½-¼	82½	82½	83½
Dec. . .	90½	90½	88½-9	89	90½-¼
CORN					
July . . .	49½	49½	49½	49½	49½
Sept. . .	48½	48½	48½	48½	48½-¾
Dec. . .	46½	46½	45½-¾	45½	46½

Kansas City Live-Stock Market.

Total cattle receipts last week exceeded 50,000 head for the first time this year, the large total being caused by extraordinary supplies of quarantine cattle, receipts of this class aggregating 21,000 head. Cattle supply to-day is 10,000 head, a reduction of 4,000 from last Monday's supply, three-fourths of the decrease in the quarantine division. Fed steers weighing above 1,150 pounds advanced 10¢ to 25¢ last week, and are steady to-day, and the general average of fed steer prices last week was highest of the year, the range being

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.

FOR SALE CHEAP—A butter bred young Holstein bull, by J. P. Mast, Scranton, Kans.

FOR SALE—Good milch cow. E. B. Cowgill, 1825 Clay St. Topeka, Kans.

JERSEY BULL—Pedro and St. Lambert blood, fine individual; also a heifer and calf for sale. J. S. Taylor, Route 5, Lawrence, Kans.

FOR Red Polled bulls or heifers, write to Otto Young, Udo, Ness County, Kans.

DOUBLE-STANDARD POOLED DURHAM BULLS—Extra good quality, well bred, good color. Address C. M. Albright, Overbrook, Kans.

SPECIAL SALE—5 straight Cuckoo-shank Short-horn bulls for sale at bargain prices for quality. H. W. McAfee, Topeka, Kans.

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

SEEDS AND PLANTS.

SEEDS FOR LATE SOWING.

FOR SALE—Cow-pess, Cane Millet, Buckwheat, Milo Maize, Waffr corn, Rape, Turnip, and all other seeds. Ask for prices. Kansas Seed House, The Barteldes Seed Co., Lawrence, Kans.

SWEET POTATO PLANTS—8 varieties; also tomatoes and cabbage, \$1.75 per 1,000; less than thousand, 20 cents per hundred. All varieties. Have the famous Southern potato "Pumpkin Yam." Prompt shipment. W. A. Schreier & Son, Argonia, Kans.

Trees At bargain prices. List now ready tells all about our cleaning-up sale of choice trees. Send for it to-day. Easterly Nursery Co., Cleveland, Ohio.

Hastings

BUSINESS COLLEGE for a thorough training in Business and shorthand. This year's graduates are in positions in Texas, Colorado, Arizona, Wyoming, Iowa, Kansas and Nebraska. Our rates are very reasonable. We do not employ a corps of solicitors; you get the saving of this expense. Earn your own commission by writing for full particulars. Address, GEO. BOGGS, Pres., Hastings, Neb.

from \$5@6.80. Top steers to-day sold at \$6.65 and bulk of steers at \$5.90@6.55. The only feature in the controversy between packers and sellers last week was a settlement of the difficulty by the St. Joseph Exchange, whereby shippers receive little if any advantage over a straight rule forcing them to sell "subject." All other exchanges have repudiated this proposed settlement, and the situation is exactly the same as a week ago at all the markets except St. Joseph. The cooperation of country bankers with the sellers is regarded as a great advantage scored against the packers, and the inclination of the latter the last few days to make overtures for peace is considered an indication of ultimate victory for the sellers. Cows declined 10¢ to 25¢ last week, are about steady to-day, at \$2.50@4.50, heifers \$3.75 @5, bulls \$3.25@4.85, calves lower than a week ago at \$3.75@5.75, stockers and feeders scarce and trade quiet without much change in prices, stockers \$3.75@4.80, feeders \$4.25@4.80. Reduced marketing of hogs first of last week caused an advanced in prices, but heavier receipts since Wednesday have brought a loss, 5¢ to 10¢ lower to-day on receipts of 8,500 head. A heavy run at Chicago is the bear feature to-day, but the market is not able to stand up under as heavy supplies now as a few weeks ago, and declines may be expected on heavy runs. Light and medium weight hogs sold at \$5.85@5.95 to-day, heavy hogs \$5.80@5.90.

Sheep supplies were fairly liberal last week at 30,000 head, market 25¢ lower on sheep, lambs about steady for the week. Supply to-day is 7,500 head, market 15¢ to 25¢ lower, lambs selling at \$7@7.50, wethers and yearlings \$5.50 @6.25, ewes \$5.25@5.60. Bulk of the supply is a range stuff of only fair quality, choice natives probably quotable above these figures. J. A. RICKART.

South St. Joseph Live-Stock Market.

South St. Joseph, Mo., June 24, 1907. Moderately liberal supplies of cattle arrived for the opening day of the week, and trade held fairly good tone for fairly fat steers with the good, smooth, heavy and medium styles selling fully steady. A long string of Nebraska fed steers sold up to \$7.75, which is the season's top price at this point, although it should not be forgotten that this market has not been getting the kind of steers that make top prices. This was the nearest to a prime bunch of beefs that has been here since last fall. Other steers of good quality and medium to heavy weights sold largely at \$6 @6.50 with good quality light weights and just fair quality medium weights selling a range of \$5.40@6. Common to fair light steers were slow sale and prices a little easier. This was the first day of selling cows and heifers under the new arrangement, and while the liberal supply sold rather lower than late last week, the big scare about packers taking everything in the she stock line as dairy cows and canners did not materialize. Out of a liberal supply of cows and heifers probably 1,800 all told, there were but 31 tagged as suspects to be slaughtered post mortem. There was some trade in stockers and feeders at about steady prices for good feeders, but the common and medium stock met slow outlet and prices were a little lower. A liberal supply of hogs materialized at all points, with Chicago having enough to break the market sharply at that point, and reflect a weakness to all river markets. Locally the market ruled 7½¢ to 10¢ lower with tops selling at \$6 and the bulk at \$5.85@5.95. Fairly liberal run of sheep and lambs was largely made up of Western Nebraska stuff, some Oregonians, the first of the season put in an appearance. The market was in fairly good tone, but of course was on a basis of grass stuff, and prices from now on should not be compared with the prices being made a few weeks ago, when nothing but long-fed stuff was arriving. The trade is in moderate good tone but may work somewhat lower with the gradually increased receipts. WARRICK.

SWINE.

FOR SALE—Large boned, extra size thorough bred Poland China boar, 2 years old, best of breeding. J. W. Cunningham, Route 2, Meriden, Conn.

FOR SALE—Thoroughbred Duroc Jersey boar, large enough for service; also my herd boar. Price right. Address I. W. Poulton, Medora, Reno Co., Kans.

POLAND CHINAS—A few extra fine sills bred for September and October farrow; farm raised; prices right. C. E. Romary, Olive, Kans.

POLAND-CHINAS—A special lot of fall born, smooth, stretchy kind, large bone, of approved breeding at bottom rock prices. 150 to 225 pounds. A. P. Wright, Valley Center, Kans.

FOR SALE—A fine Berkshire herd boar, 18 months old. Best breeding in the land. G. D. Williams, Route 3 Inman, Kans.

FOR SALE—Forty registered Duroc sows and gilts bred for August and September farrow. Also a few unpedigreed sows, bred to fine boars. R. O. Stewart, Alden, Kans.

HORSES AND MULES.

FOR SALE—A Jack Daw stallion, dam Happy Heir; 4 years old, color dark brown and nicely marked. Good disposition, stylish driver, time 2:38. Can be seen for a short time at 523 Van Buren St., Topeka, or write F. R. Baker. A bargain.

PERCHERON STALLION FOR SALE—Owing to circumstances I am forced to sell my 7-year-old registered Percheron stallion. He is sound, kind, has fine action and is a perfect show horse. Will fully guarantee him. Terms: Cash, approved notes, or will trade for cattle. J. B. Weldon, Eureka, Kans.

TWO JACKS FOR SALE—3 and 4 years old, Missouri bred. Address S. C. Hedrick, Tecumseh, Kans.

FOR SALE—One black team, 6 and 7 years old weight 2,000 pounds. Mr. and Mrs. Henry Schrader, Wauneta, Kans.

FOR SALE—Registered Percheron stallion colt, yearling, Dapple black. American-bred but has more style and action than his French ancestors. He will weigh 2,000 pounds when matured. Sidney S. Linscott, Holton, Kans.

MISCELLANEOUS.

Address THE KANSAS INTELLIGENCE BUREAU for any kind of help—male or female. Professional and clerical a specialty. 222 E. 6th street Topeka, Kans.

FOR SALE CHEAP—Or trade for cattle, horses or hogs, \$1200 grinding outfit, in first class shape, consisting of a 10-horsepower Lewis gasoline engine, one No. 7 and one No. 3 Brown grinders, one sheller with all belts, elevators and attachments complete. Will sell for less than half the cost. Address C. R. Ryan, 400 S. Esplanade, Leavenworth, Kans.

EVENING SESSIONS ONLY during the summer months at the Commercial Shorthand Coaching School. 10 weeks \$10.00, 222 E. 6th, Topeka, Kans.

FOR SALE—A complete threshing outfit. A bargain if sold soon. Address J. O. White, Sterling, Kans.

FOR SALE—One 14 horse-power Minneapolis Tractor Engine. Address, J. E. Kumil, Marquette, Kans.

RURAL BOOKS—Send for descriptive list of book for farmers, gardeners, florists, architects, stock raisers, fruit-growers, artisans, housekeepers and sportsmen. Sent free. Address The Kansas Farmer Company, Topeka, Kans.

FULL COMMERCIAL COURSE—10 weeks \$10.00 at the Commercial Shorthand Coaching School. 222 E. 6th St., Topeka, Kans.

DRUGS AND PHOTO SUPPLIES—Eastman's Kodak, Premo Cameras, Velox and Sollo paper. Films for all cameras and kodaks. Fred T. Walker, 825 Kansas Ave., Topeka, Kans.

FOR SALE—Special bargains in rebuilt engines and separators. They will make you money. Write us quick before they are all sold. The Gelsner Manufacturing Co., 1410 Union Ave., Kansas City, Mo.

WANTED—A secondhand traction engine, not less than 16 horse power. Dr. W. E. Barker Chautauque, Kans.

Stray List

Week Ending June 13.

Chautauque County—L. G. Wells, Clerk.
HORSE—Taken up by J. W. Ellis in Niotaze, Kansas, May 21, 1907, one light bay, 4 foot 11 inches high, weight 1,100 pounds, 9 or 10 years old, laid face, blind in left eye, hind foot white, C brand on left jaw; valued at \$100.

Week Ending June 20.

DICKINSON COUNTY—H. W. King, Clerk.
STEER—Taken up by Gustaf Albrecht, in Union tp., May 29, 1907, two 3-year-old steers; one brown, with half tail, branded V on left hip; the other red, white face and legs, branded A on left hip, and C on left hind leg. Valued at \$25 each.

BROWN COUNTY—Jessie Campbell, Clerk.
COW—Taken up by J. P. Larson, in Powhattan tp., May 25, 1907, one light red cow, notch on top of right ear, white bush on tail, dehorned, weight about 850 lbs; valued at \$20.

Week Ending June 27.

Montgomery County, E. H. Steward, Clerk.
COWS—Taken up by R. Hironymus, 1 mile east and 1¼ miles north of Caney, Kans., May 1, 1907, one bay mare colt, 2 years old, and one black mare colt 1 year old.

Barber County.

MULES—Taken up by J. W. Wright, in Moore Tp., (P. O. Kiowa), May 16, 1907, one bay mare mule 4 years old, tags in ears. Also one gray horse mule 4 years old, tags in ears. Also one black horse mule, 4 years old, tags in ears. Valued at \$75 each.

Sedgwick County, C. N. Cartwright, Clerk.
HORSE—Taken up by J. H. Harns, in Payne Tp., (P. O. Greenwich), June 14, 1907, one red bay horse, 12 years old, letter E, on left jaw, U on left shoulder; valued at \$80.

LEGAL.

FRED C. SLATER, Lawyer,
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