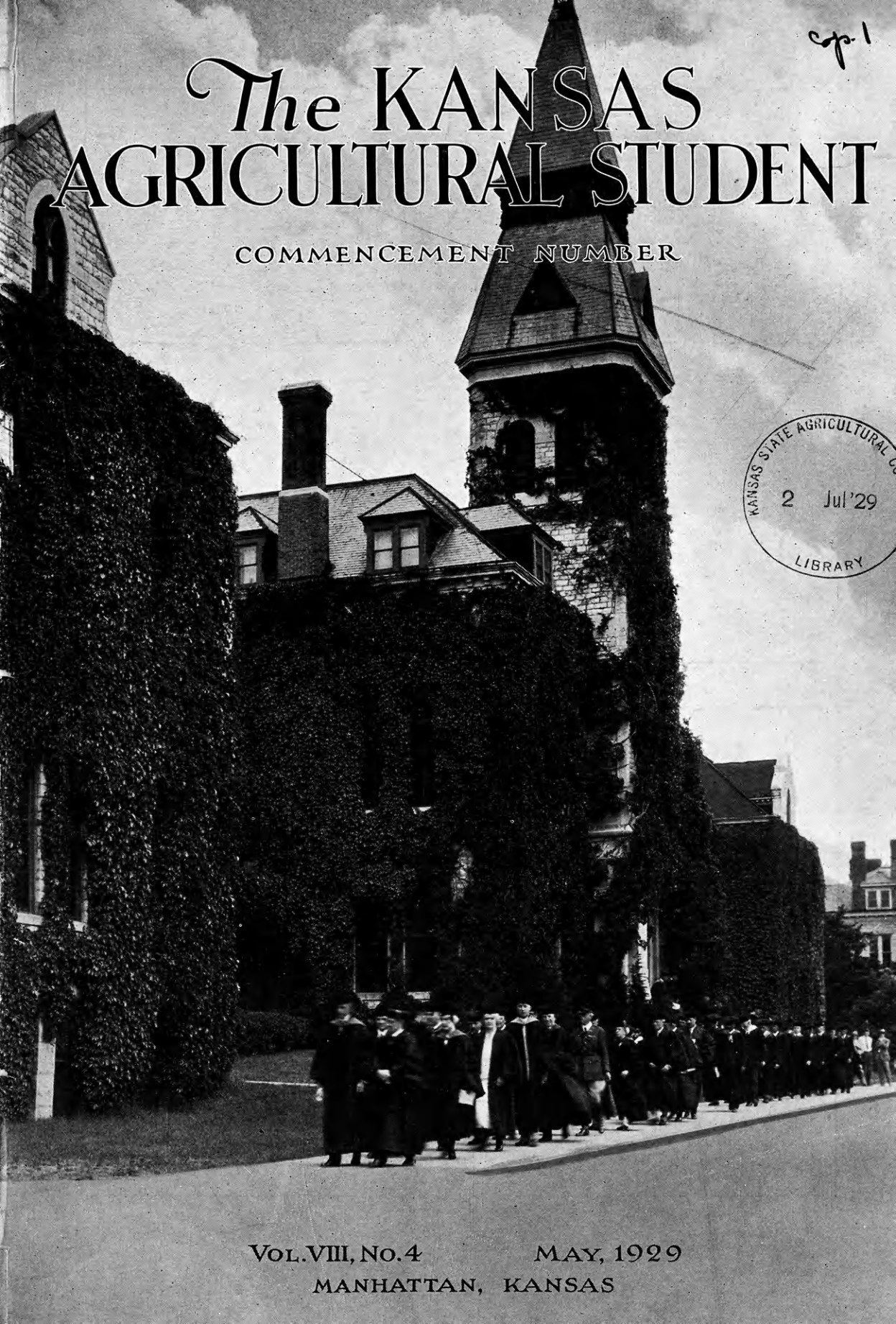


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The KANSAS AGRICULTURAL STUDENT

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MAY, 1929

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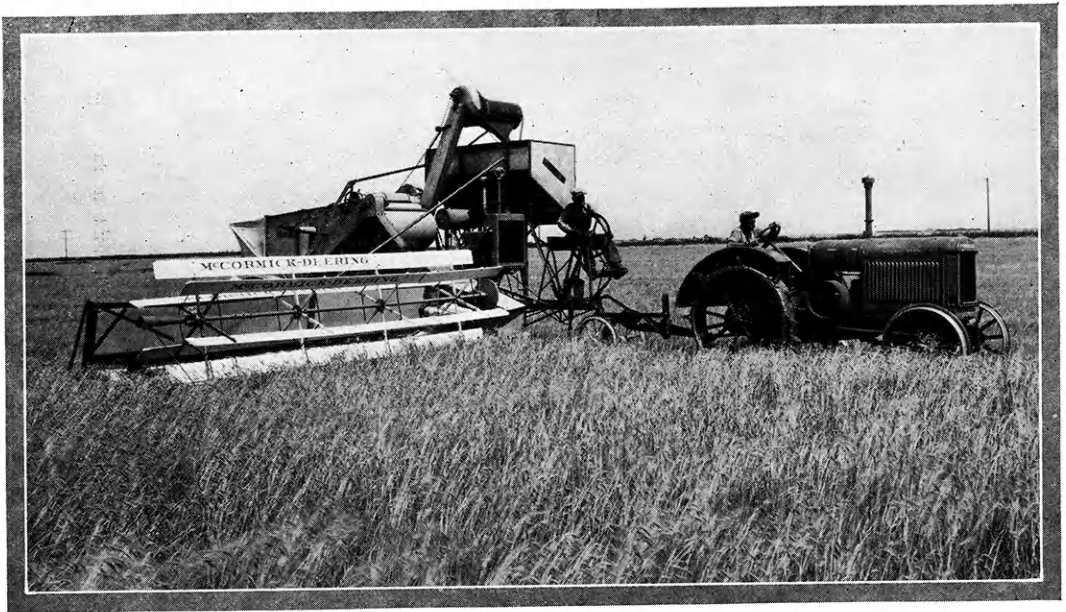
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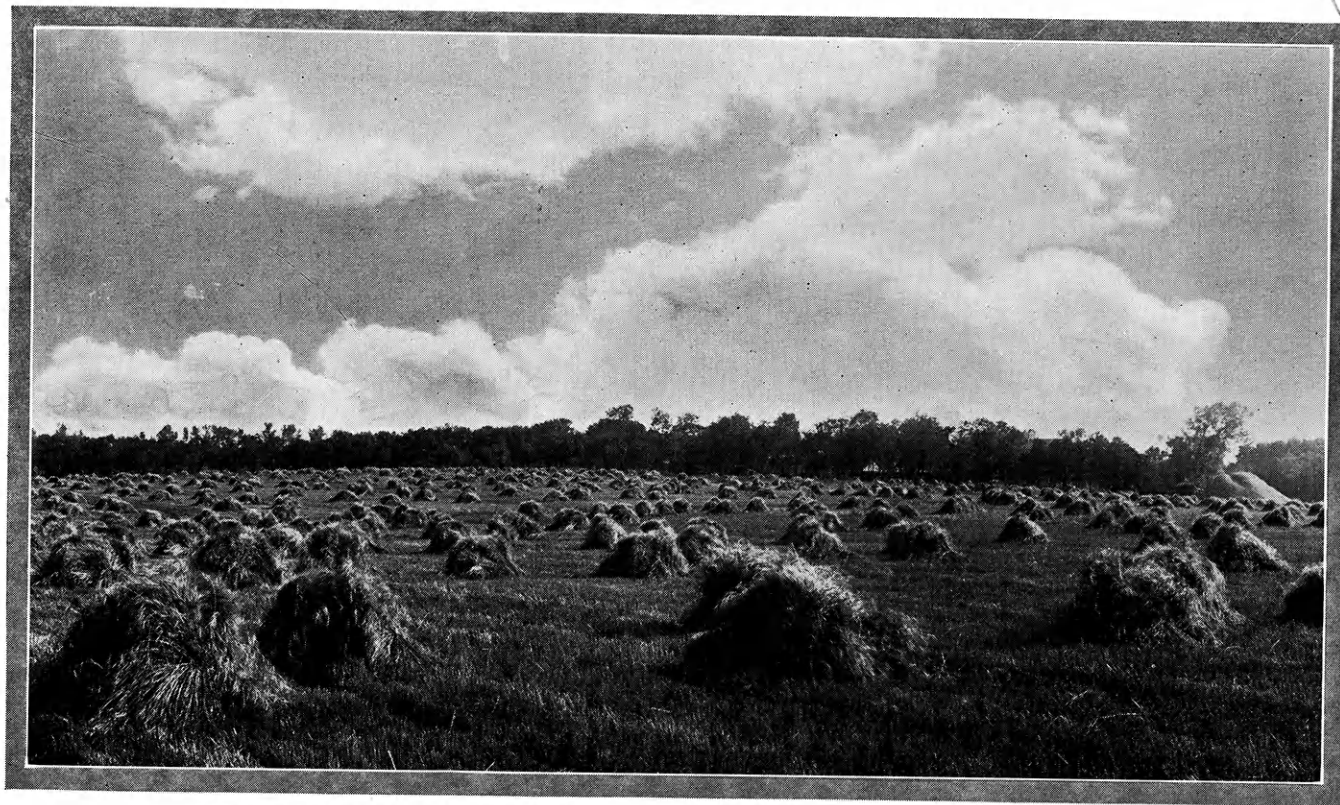
THE COMMON METHOD OF HARVESTING WHEAT IN MOST OF THE KANSAS WHEAT BELT

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A WHEAT HARVESTING SCENE COMMON IN THE EASTERN WHEAT BELT OF KANSAS
The 50-bushel yield secured from this field requires good seed, an early and well-prepared seed bed, and a favorable season.



The Kansas Agricultural Student

VOL. VIII

Manhattan, Kansas, May, 1929

No. 4

Facts About Kansas Wheat Varieties

H. H. Laude, '11

Associate Professor of Agronomy

The first wheat grown in the United States was brought by the colonists from various European countries where varieties of soft winter wheat were grown. Some of these varieties proved to be well adapted and were grown as far west as Kansas. Although considerable soft wheat was produced in earlier years in the central part of Kansas it often failed to survive the winter and the yield was ordinarily low. In eastern Kansas soft wheat did relatively well and in several counties, particularly on bottom land, it is now the leading type of wheat grown.

Spring wheat also was grown by the early settlers but has been replaced almost altogether by hard winter wheat.

About 1870, hard winter wheat was introduced from Russia by the Mennonites into central Kansas. This Russian or Turkey wheat proved to be much better than the soft winter and spring wheats that had previously been grown and greatly stimulated wheat production in Kansas. About 90 per cent of the wheat crop of Kansas is now of this type.

Turkey wheat is well adapted to the entire hard winter area in the state. This variety is winter-hardy, yields well, and produces flour of high quality. For many years Turkey was the principal variety grown in the central and western parts of Kansas, and today it is extensively grown and is one of the best varieties available.

Kanred is the product of a single head selected from an importation of Turkey which had been introduced from Russia by the United States Department of Agriculture. In 1906, 544 plants were selected and grown in short rows. The poorer ones were eliminated and the remainder grown for several years in rows and plats. Finally the best single one was named Kanred and cultivated for distribution to farmers. Kanred is similar

to Turkey in practically all respects and it requires an expert to distinguish between them. This variety has been hardy and slightly earlier than the more commonly grown Turkey.

The region to which Kanred is well adapted is identical to that best suited for Turkey which is the entire hard winter wheat belt. It does well on the uplands of eastern Kansas. Kanred has yielded higher than Turkey on the Agronomy farm at Manhattan and on the branch experiment stations at Fort Hays, Colby, Garden City, and Tribune. In the last 16 years, Kanred and Turkey have been compared in 679 tests on Kansas farms. Kanred out-yielded Turkey an average of 2 bushels annually and yielded higher than Turkey every year except one.

Blackhull, which was originated by Earl G. Clark, of Sedgwick, Kan., and first distributed by him in 1917, has attracted much attention and is the most extensively grown variety in south-central Kansas. It has coarser, stiffer straw, a heavier test weight, and a softer kernel than Turkey or Kanred. Kanred and Blackhull have been tested together since 1919 in 527 places in this state. Blackhull has out-yielded Kanred in 7 of the 10 years by an average of 1.6 bushels per acre. Blackhull is not so winterhardy as Turkey or Kanred and, therefore, is not a safe variety to grow in the northwestern part of Kansas.

Mr. Clark has more recently offered a strain of Blackhull known as Superhard Blackhull. In tests made by the Kansas Agricultural Experiment Station in all parts of the state, Blackhull and Superhard Blackhull have yielded about the same. There was no significant difference in any season. The varieties are practically alike although the kernel of Superhard is said to be darker and there is some evidence that the flour is of

poorer baking quality.

Soft winter wheats are confined to the eastern third of the state where the rainfall is rather high. They are less resistant to drought and winterkilling but have stiffer straw than the hard winter varieties. Both bearded and beardless varieties are grown.

Fulcaster was produced over 40 years ago in Maryland and is a cross between Fultz and Lancaster. It is a bearded soft wheat and is the leading variety in southeastern Kansas. In general, it yields better than the beardless varieties, especially on the thin soils of that section. It is recommended for southeastern Kansas as far north as Franklin and Miami counties.

Fulcaster is grown throughout the United States under at least 45 different names including Acme, Bluestem, Dietz, Ebersole, Egyptian Amber, Farmer's Friend, Georgia Red, Golden Chaff, Ironclad, Kansas Mortgage Lifter, Lincoln, Red Wonder, Stoner, Miracle, Wonderful, and Rattlejacket.

The leading beardless soft wheat in Kansas is Harvest Queen. It was produced from 1895 to 1897 by E. S. Marshall of De Soto, Kan. It has a stiff straw and is well adapted to the bottom lands of northeastern and east-central Kansas. In tests made by the Agricultural Experiment Station over a period of 9 years the yields have averaged a little less than Blackhull and have been a little lower than Kanred and Turkey on upland. Prob-

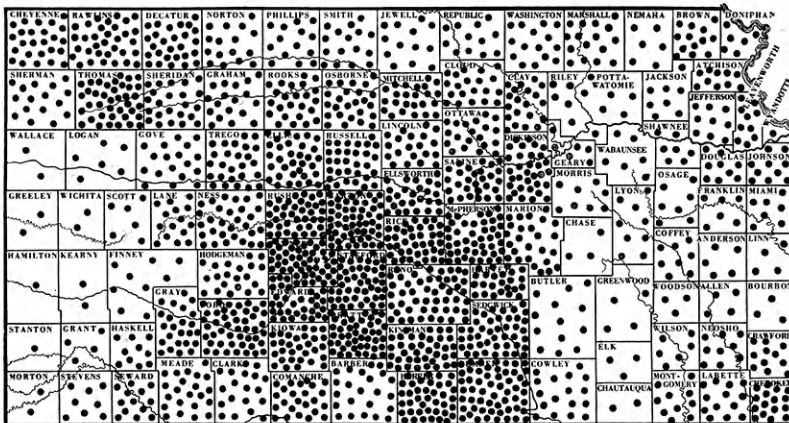
ably all of the Harvest Queen in northeastern Kansas came from the original selection made by Mr. Marshall. However, it is grown under several different names including Black Sea, Italian Wonder, Virginia Reel, Kansas Queen, May Queen, and Red Cross.

Currell, another beardless variety, is grown in the southeastern corner of Kansas. It is adapted to the same region as Fulcaster. Ordinarily it does not yield so much as Fulcaster but is preferred by many who desire a beardless wheat. Currell was originated by W. E. Currell of Virginia in 1881 as a selection from a field of Fultz wheat. A selection and well-adapted strain known as Dunbar Currell is grown in Cherokee and neighboring counties in Kansas.

From among the varieties mentioned a good variety may be chosen for any locality in Kansas. However, new varieties are being offered constantly and often at the very high price of \$8, \$10, or even \$12 a bushel. In some cases practically nothing is known about the suitability of the variety for Kansas conditions. The fact that it did well in a few cases does not warrant planting it extensively. It is a safer plan to plant pure, high-quality seed of standard proved varieties.

Attention has recently been attracted to highly-advertised importations from Russia. It should be remembered that our Turkey

(Continued on page 118)



MAP SHOWING THE AVERAGE ACREAGE OF WHEAT HARVESTED ANNUALLY IN EACH COUNTY IN KANSAS, 1918 TO 1927

The Possibilities of Beef Cattle in the Wheat Belt¹

Bruce R. Taylor, '31

Agriculture in the wheat belt of west central Kansas cannot be put on a substantial basis until a rational system of farming is adopted. This involves not only the growing of crops adapted to climate and soil but also their proper relation to each other and to agriculture as a whole.

Experience has shown that winter wheat and the sorghums are the most dependable crops for this area. Winter wheat is the most profitable cereal crop and the sorghums are more productive than any other forage crop that has been tested at the Fort Hays Experiment Station. They are also less likely to fail completely. It is well known that neither sorghums nor winter wheat should be grown continually on the same soil. The truth of this statement is shown by the fact that the average annual yield of wheat for Ellis county, which is representative of a considerable portion of the wheat belt, is only 11 bushels per acre. At the Fort Hays Experiment Station the average for a period of years on early fall-listed land cropped to wheat continuously, is only 19 bushels per acre. Similar land at the same station in a four-year rotation of sorghum, fallow, wheat, wheat, returned 28 bushels of wheat per acre for the first year and 24 bushels for the second year following the fallow.

The average production of sorghums at Hays is from one to three tons of cured hay or fodder and from three to eighteen tons of silage per acre. A four-year rotation of sorghum, barley, wheat, wheat, produced 25 bushels per acre for each wheat crop and 17 bushels of barley per acre. This latter rotation is suited to sections where a fallow is unnecessary. Farmers are fast coming to realize the importance of such a rotation system and have been increasing the acreage of sorghums for the last 20 years. These feed crops will be substituted for a considerable portion of the wheat acreage or at least introduced into a rotation system if the farmer

can find a way to market these feed crops profitably.

Considering the above facts and the recognized principle that any permanent system of agriculture must provide for live stock, the question naturally arises, "What opportunity has one to sell profitably rough feed crops to beef cattle?" Wheat farmers are usually handicapped by having little or no pasture, so a producing herd of cattle cannot be maintained. In fact, they can handle cattle only during the winter months and to compete with the corn-belt farmer as a finisher of cattle is out of the question, so they must limit their operations to the handling of stocker and feeder cattle. The practicability of this situation is partially answered by a study of the market conditions governing these classes of cattle.

Market statistics show that approximately 80 per cent of the cattle marketed each year arrive at the markets during the four fall months of the year. This rush to market results in low prices in normal years. A large number of these cattle are thin and must return to the country to be wintered on farms. In contrast with this condition grazers and corn-belt farmers are always looking for feeders in the spring. This demand often results in April prices averaging \$1 to \$2 per hundred-weight over best October prices.

Experiments have shown that a gain of 125 to 200 pounds can be put on a thin steer during the wintering period, by the use of roughages and a very small amount of concentrates. This situation seems to offer the wheat farmer a possibility of selling feed crops by stocker and feeder steers to a good advantage. Considering the average production of sorghums as six tons of silage per acre and giving the silage a conservative value of \$5 a ton, one acre of sorghum fed to live stock in the form of silage would be sold for \$30. Considering the wheat produced worth \$1 a bushel, the sorghum, fallow, wheat, wheat rotation would return a total of \$82 per acre

1. The writer is indebted to Prof. B. M. Anderson of the Department of Animal Husbandry for the information contained in this article.

(Continued on page 118)



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ACTIVITIES OF STUDENTS IN AGRICULTURE IN K. S. A. C.

The Kansas State Agricultural College is divided into six main divisions, each under a separate dean. The "Divisions," as they are called, are the Divisions of Agriculture, Home Economics, Engineering, General Science, Veterinary Medicine, and College Extension. The enrollment in the Division of Agriculture the past year was 450. This does not include agricultural engineers, since they are in the Engineering division, nor does it include any home economics students, since they are in a division of their own under a separate dean.

Although college spirit among the student body is not lacking, there is much divisional spirit shown by students of the various divisions. Divisional spirit among the Ag students runs high. Interest is maintained largely as a result of two things: First, through a distribution throughout the year of activities in which everyone can, and is supposed to, take part; and second, through the active interest taken by members of the agricultural staff in the undergraduate activities.

The Agricultural Association includes in its membership undergraduates in the Division of Agriculture and it is through this organization that all the major activities of the division are carried out.

The first major activity in the fall is the annual Ag Barnwarmer. For this occasion the college gymnasium is usually decorated to represent a barn loft, and entrance is gained, not by climbing stairs, but by ascending a substantial rope ladder. Only Ags and veterinary students are admitted. Faculty as well as undergraduates come dressed in overalls and jumpers. During the evening a co-ed, previously selected by the Ag students, is crowned Queen of the Harvest. While the Barnwarmer has as its central feature a dance on the main floor of the gymnasium, special provision is made for those who do not care to dance, so that no Ag has an excuse for not coming unless he is sick or out of town.

In the spring of the year, the Annual Ag Fair is held. This is the outstanding student event of the year and is by far the largest college function put on strictly by students in a division of the college. It requires several weeks of work and planning, but through good cooperation on the part of the students, very little time is lost from studies by any one individual. Starting Monday before the Fair, which is held Saturday, all Ag students on the campus attend classes in overalls and jumpers. This not only sharpens the enthusiasm of the Ag students, but also serves

as a very effective means of advertising the coming event among the other students on the campus, as well as among the townspeople.

The Fair starts with a parade leaving the campus at 12:30 p. m. The parade, which is about a mile in length, passes through Aggieville, the college business district, from there moving through the main business district of Manhattan and back to the campus. At 3 p. m., the Pike is opened, and from then on activities are continued until midnight when the lights are turned out. The feature of the afternoon's entertainment is usually a rodeo, with student "cowboys" and usually local horses, mules, and imported steers furnishing the thrills. Various pike features are open during the afternoon and evening. In the evening the special features are the Minstrels, the Follies, and a dance on an open air platform.

Another major activity of the Ag Association is the sponsoring of the publication of the Agricultural Student, the official organ of the Ag student body and the semi-official publication of the Agricultural Experiment Station.

The Ag Association each year awards K medals to the members of the various judging teams representing the college and to the senior alternates. Judging work is stressed very strongly and is given much encouragement by the men on the faculty.

Each of the larger departments of the Ag Division has its departmental club. These include the Block and Bridle Club, the Dairy Club, the Hort Club, the Ag Ec Club, and the Klod and Kernel Klub. These, for the most part, are very active, and not only are they supported by students, but also by the faculty of their respective departments.

Further, the students of the Division of Agriculture have four divisional assemblies or seminars each semester conducted largely by the Ag Association with the cooperation of the departmental clubs. These are very helpful in promoting good fellowship in the group. Altogether by this well-rounded group of activities common interests are recognized and stimulated and a good Ag spirit becomes so pronounced as to be readily recognized on the campus by both the faculty and the student body.

—H.E.M., '28.

ELECTIVES IN AGRICULTURE

College catalogues giving announcements for 1929-'30 are off the press. Every young man considering enrolling in K. S. A. C. during the coming college year should have one of these new catalogues at hand. Portions of the catalogue bearing on the prospective student's purposes should be read and studied carefully.

Experience with college freshmen in recent years indicates that new students have read the catalogue from which they have acquired considerable accurate information. It is our purpose in these comments to call attention to a few points regarding agricultural curricula that may be helpful to young men referring to the catalogue for information. Since it is the most difficult for prospective students to get an adequate understanding of the electives in college curricula, this phase of the subject has been selected for emphasis.

Agricultural curricula are outlined and discussed on pages 97 to 122 of the new catalogue, under the heading, "The Division of Agriculture."

The agricultural curriculum providing special training in landscape gardening is outlined on page 104. The Curriculum in Agriculture, outlined on pages 101 and 102 and the Curriculum in Agricultural Administration, outlined on page 103, are the curricula pursued by 95 per cent of the students of the division.

A total of 45 semester credits are listed under the heading, "Electives," in the Curriculum in Agriculture, page 102. These electives provide for adapting the curriculum to the needs of each individual pursuing it. The major electives call for a beginning of specialization and permit larger specialization if desired. A student may major in any phase of agriculture including agricultural engineering. His general electives may be vocational or nonvocational, or both, as seems best to the student and his administrators.

Further, to increase the adaptability of the curriculum to meet individual needs, substitutions are often granted for two or three of the required courses so as to permit more intensive work in the plant industries or the animal industries; or to provide more diversification or a more desirable preparation for teaching; or to provide a better scientific

training for college graduate work. Thus by a limited use of substitutions to meet individual needs and by a careful selection of electives for the same purpose, the Curriculum in Agriculture is flexible enough to meet scores of specific objectives, future milestones of progress, for various agricultural students.

The electives in the Curriculum in Agricultural Administration, page 103, also provide large adaptability in that curriculum. As a rule they provide for a large emphasis on business subjects, thus combining agriculture and business. They may prepare the student for any one of several businesses closely related to farming, including rural banking, crop insurance, real estate, farm machinery, agricultural writing and publishing, the grain business in any or all of its phases, the teaching of vocational agriculture, and certain types of farming in which the business hazard is particularly important.

The total of 60 semester credits of electives in the Curriculum in Agricultural Administration, practically 50 per cent agricultural and 50 per cent nonagricultural, make this curriculum adaptable to many objectives and thus to the needs of many individuals.

The interested reader who does not have a copy of the new K. S. A. C. catalogue at hand or who desires further information on curricula in agriculture or the possibilities of making adequate preparation for a certain objective, is invited to request a catalogue or further desired information of the Dean, Division of Agriculture, K. S. A. C., Manhattan, Kan.

AG FRESHMAN ADVISORS

To the young man recently graduated from high school the word "advisor" doesn't make an interesting impression. Possibly he thinks of a critic, a censor, a detective, or a hard-boiled dad. Such ideas are soon dispersed, however, when a college freshman in the Division of Agriculture gets acquainted with his faculty advisor.

New problems face the college freshman. He often needs help and friendly advice. And when he needs such service he needs it "right now." Delay frequently means stumbling on his part and perhaps such a serious set-back as to cripple or ruin his college ca-

reer. In such emergencies early in the student's college days the Ag freshman advisor often takes a helpful part.

As a rule one-third of beginners in college never reap any large benefits. Many of them apparently fail so miserably that they find a way to retire from college before a second semester is well started or at the farthest before there is a possibility of a third enrollment. Most of this unfortunate one-third are not "nuts." They are misguided individuals who fail frightfully in making their college adjustments and in getting their daily programs organized and themselves dominated by a purpose and determination that will insure a college record commensurate with their ability.

To freshmen in these trying predicaments that actually come to so large a per cent of those who enroll in college, the service, the cordial encouragement, the right information given by faculty advisors, just where needed and just when needed are real rays of light and hope. The advisors keep many from floundering and help many others on their feet. They are one means of reducing freshman disappointments to the minimum.

But not only the 50 per cent of college freshmen who experience unexpected difficulties, but the other 50 per cent as well find the Ag faculty advisors fulfill a real purpose. As big brothers and friends 24 hours a day they provide a personal touch that is often not found in the large higher educational institutions of today. In fact the experience of the Division of Agriculture during the last two years in which the present advisory system has been in effect, has been that the best students utilize the assistance of the advisors the most. Undoubtedly this fault will be somewhat overcome as the Ag advisory system has won, by actual experience, a place in the thought of the upper classmen of the division. The system simply provides a special service offered to the beginning students, of the division in particular. It means much to the freshman and much to his parents and those especially solicitous of his welfare.

Approximately a score of students who have already definitely expressed their purpose to enroll as freshmen in the Division of Agriculture next September have been assigned

freshman advisors. It is the purpose of the dean of the division to assign as many as possible to advisors before enrollment day. If students will get in touch in advance of enrollment with their advisors by letter or conference so much the better. Such forethought will provide accurate, unprejudiced information at a time when students often are too credulous as regards accidental information that may be accessible in their environment. In other words as inexperienced college students they often long for information and should have available the best there is.

It is hoped some prospective students of agriculture may be interested in these comments on the Ag advisory system. The dean of the division will welcome letters of inquiry from any readers interested. It will be a distinct advantage to a prospective student to be assigned to an advisor at an early date. Address: Dean, Division of Agriculture, K. S. A. C., Manhattan, Kan.

OPPORTUNITIES IN THE TEACHING OF VOCATIONAL AGRICULTURE

In spite of the present oversupply of teachers and the difficulty in procuring positions, there comes an increased demand for men prepared to teach vocational agriculture. This increase is due to the farmers' appreciation of the value of the training their high school boys are able to get through the departments of vocational agriculture now organized in many high schools.

At present Kansas has 100 departments of vocational agriculture. Approximately 110 teachers are now employed in this work. Six or eight new departments are to be organized this year and an increase of more than double this number is expected each year for the next five years through the aid to be received from the George-Reed Act passed by Congress, February 5, 1929.

The appropriations provided for in the George-Reed Act are to be prorated to the states on the basis of rural population, one-fifth of the total increase in appropriation becoming available the first year and approximately an equal increase being made each of the four years thereafter. Kansas will receive approximately \$5,000 additional fed-

eral aid the first year, 1930-'31. If the present proportion among federal, state, and local moneys holds for the next six years, there will be sufficient funds available to maintain 180 departments, or an increase of from fourteen to eighteen departments each year for the next five years. At the end of that period nearly 200 vocational agriculture teachers will be employed by Kansas high schools.

For next school year (1929-'30) as many men as were available and prepared for this work were placed without difficulty. With the large increase in the number of departments of vocational agriculture during the next five years (1930-1935), will there be a sufficient number of teachers of vocational agriculture in Kansas or will our state be forced to go to other states for these teachers? If this demand is to be met, Kansas State Agricultural College, where these men are trained, must meet it. At the present time we are training about 18 men each year to fill these demands. After the new plan is in full operation, 35 new men each year will be required to maintain the supply of teachers of vocational agriculture needed in Kansas.

To fill the position of high school teacher of vocational agriculture one must know the joys and discomforts of farm life from actual experience and have had special training in a well-equipped agricultural college. The farm boy as a high school graduate should not overlook such an opportunity. He can, after four years of college training, go out as a teacher of vocational agriculture at a good salary and carry on a great work for the advancement of agriculture. Further, a large per cent of American teachers make their teaching experience a stepping stone to a more satisfactory life career. A few years of efficient teaching of vocational agriculture is an asset to a future farmer or a successful worker in many phases of the agricultural industry.

OPPORTUNITIES IN AGRICULTURAL EXTENSION SERVICE

Any wise business man in considering the future of a business in which he is vitally interested would carefully estimate all the

opportunities available and intelligently prepare to develop them. Life is pretty much of a business matter, and the young man starting upon his educational career is taking the initial step on his own responsibility in the business venture of life. He will be wise if he estimates all the opportunities and prepares intelligently to take the best advantage of them. Even though circumstances may tend otherwise, it is more conducive of general satisfaction to engage in the vocation which one thinks he prefers.

Agriculture promises apparently more opportunity in the future than it has ever presented in the past. The young man contemplating a program of preparation for his life's work, who has been reared on the farm and has had the advantage of his father's training and experience, will have attained an advantageous beginning if his inclination should favor agriculture. Even so, however, it would be only an intelligent and a wise procedure for him to estimate the opportunities offered if he prepares himself for this field.

It has been said recently that in no period of time has there ever been an educational development among rural people equal to that which has taken place in America during the past twenty years. This development was probably initiated by an intelligent program of state and federal legislation which devised not only intelligent research in the field of agriculture, but which developed a most complete sales organization for such information in the Extension Service which was included as a part of this program. This remarkable accomplishment is not the result of the foresight of a few intelligent people, but is the result of a demand on the part of the masses. These masses have come to realize the importance to their business and general satisfaction of the application of intelligent procedure to their practices. They have found that it pays in dollars and cents, and consequently have indicated at every opportunity a desire to increase their financial appropriations when justifiable in support of this program.

In extension work alone this interest has created a demand for professional workers which, during recent years, has often been

hard to supply satisfactorily. It now appears, owing to the fact that the number of young men who are interesting themselves in agricultural education has not increased so rapidly as has the demand, that a dearth of professional workers available is imminent.

During the past twenty-year period the salaries of agricultural extension workers have increased from \$1,795 to \$2,605, including both specialists and county agricultural agents. The number of agricultural specialists in Kansas has increased from twenty to eighty-five. It is contemplated that within the next ten years there will be 175 employees in this state in public extension work in agriculture, and that in order to maintain this personnel it will require from thirty to fifty graduates in agriculture each year.

The opportunity in extension work is not limited to the public service. The number of successful extension workers who are finding opportunities in commercial work is increasing, as more of these agencies appreciate the value of applying intelligent thought and facts to their own methods of salesmanship. We have an increasing number of commercial concerns associating themselves for the purpose of furthering their common interests. Examples of these are the National Fertilizer Association and the National Dairy Association, and there are many others which are justifying their existence. We have, too, an increasing number of other business organizations, such as railroads, chambers of commerce, and trade associations, that find it intelligent procedure to employ extension workers in agriculture whose purpose is essentially to create good will.

Railroads are employing an increasing number of extension workers for the purpose of assisting farmers in their territories to conduct their business more profitably. Similarly, banks and chambers of commerce are engaging an increasing number of people, for while such employees serve a purpose first to create good will and act as business advisors, they exert a more important and permanent influence for greater prosperity and consequently larger volumes of business among those with whom their employers associate in a business way.

Any young man with somewhat of a background of agricultural experience and an inclination toward a college training in agriculture will do well to investigate the field of Extension Service, both the opportunities available in public extension work and in commercial service. It would seem that opportunities in this field will be exceptional during the next decade.

—H. Umberger, '05
 Director, Extension Service.

the judgment of the student members of the Kansas Chapter of Alpha Zeta and the associate members on the faculty, the student must show evidence of ability as a leader, especially an agricultural leader.

Probably no honor open to agricultural students is more coveted than membership in Alpha Zeta. The freshman, early in his college days, knows what Alpha Zeta means and well for him if he gets an Alpha Zeta bee in his freshman cap.



COLLEGE STUDENTS OF THE DIVISION OF AGRICULTURE ELECTED TO MEMBERSHIP IN ALPHA ZETA, 1928-'29

From left to right the men in each row are: Fron row—Glenn C. Isaac, Oliver G. Lear, Mar-ion L. Russell, James H. Sutton, and S. Roger Stewart. Second row—Fay A. Mueller, Merrill M. Taylor, Walter P. Powers, Floyd A. Blauer, Bruce R. Taylor, and Albert Brown. Third row—C. Porter McKinnie, Fredrick H. Schultis, Theodore R. Freeman, C. Raymond Curtis, Henry C. Abell, Roy E. Bonar, and Fulton G. Ackerman. Back row—John W. Decker, Orville E. Hays, Andrew P. Grimes, J. Allen Terrell, and Terrell W. Kirton.

ALPHA ZETA

Alpha Zeta is a national honorary fraternity open only to college students of agriculture. No student may be elected until he has completed three semesters of college work and his scholarship record must place him in the upper two-fifths of his class. But scholarship is not the only qualification. A student's character must be exemplary and in

During the past college year twenty-three K. S. A. C. students were elected to membership in Alpha Zeta. Their pictures may be seen in the accompanying illustration. Messrs. Abell, Blauer, Bonar, Brown, Curtis, Freeman, Kirton, Russell, and Sutton are members of the class of 1929, but the other fourteen are planning to be in college next year. The Ag Student congratulates each and all and will watch their future records with

interest knowing that Alpha Zeta members are selected so carefully that very seldom does one fail to live up to the standards of the fraternity.

AGRICULTURAL GRADUATES RETURN TO THE FARM

At the sixty-sixth annual commencement of K. S. A. C. to be held Wednesday, May 29, 1929, fifty-nine seniors of the Division of Agriculture are scheduled to receive the degree, bachelor of science in agriculture. Nine others are in line to be graduated at summer school commencement, Wednesday, July 31. Of this group of sixty-eight, fifty-two are students in the Curriculum in Agriculture and sixteen in the Curriculum in Agricultural Administration.

Practically every man in the class has definite plans for the coming year. Farming, extension work in agriculture, teaching agriculture, especially vocational agriculture, commercial work related to agriculture, and graduate study will claim all but three or four. The largest group will be those returning to the farm, this group numbering 26. In other words, 38 per cent of the graduates in agriculture for the present year are returning immediately to the farm.

This is an excellent showing for the farm group, the per cent of graduates returning directly to the farm being rather larger than during the years of the recent past when, as a rule, not to exceed one-third of the graduates in agriculture have returned directly to the farm and sometimes the group has been as small as one-fourth of the total.

In cases where the agricultural graduate has a reasonably good farm proposition available, it is usually a matter of wisdom and for his best interests in the long run, to lose no time in undertaking its operation. Salary jobs are often unduly attractive for various obvious reasons. Many of them prove disappointing and mere makeshifts before a decade has gone by. It therefore behooves the graduate to take a long view of the work upon which he enters. Well prepared for the business of farming under present day conditions and prepared to live in a large and useful way, farming should prove more and more satisfactory to him each succeeding decade.

THE AGRICULTURAL ASSOCIATION

The Agricultural Association, an organization of all students in the Division of Agriculture at K. S. A. C., has as its purpose the promotion of Ag spirit and broader acquaintances in the division. These purposes are accomplished largely by means of mixers, barn-warmers, Ag fairs, the Kansas Agricultural Student, the association publication, and recognition of student judging teams. Every Ag takes a pride in the cooperation and spirit of the association and the past year has shown marked progress.

In no other divisional undertaking on the campus is so much spirit and cooperation shown as when the Ags get together for their barnwarmers and fairs. At these times all Ags blossom out in overalls with fitting sayings and pictures painted on them. Sometimes they unite in calling hogs "that ain't," just to let everyone on the campus and in town know that they are Ags and that some activity is afoot. From the start of the planning until the final cleanup they secure practically 100 per cent cooperation in the work which is so carefully organized that everyone gets a job.

Besides getting a real "kick" out of the events, the boys develop initiative, ability to accept responsibility, and other traits that are expected of a college man. The events, especially the fair, bring out men who are the best leaders and give them added opportunities to show their worth. In preparing for and putting over the events everyone works and plays together—those who have rich dads and those who aren't so fortunate. Really, when they are all in overalls it's hard to tell which is which.

The publication of The Kansas Agricultural Student necessarily must be handled by a relatively few. The Ags, however, are proud of it as a real divisional publication that probably has a larger per cent of its composition written, edited, and organized by students than any other similar magazine published. At some time or other in his college career almost every student in the division gets to have an article published. The Ag Student not only is of value to the association but it helps to carry on the Ag spirit and be a connecting link between members of the Agricultural Association and both former students

and graduates and prospective students.

In awarding the coveted K medals the association recognizes the efforts and abilities of those who have represented K. S. A. C. in intercollegiate judging contests. The expenses of the teams on intercollegiate judging trips are paid from a general activity fund, for the work of intercollegiate judges is recognized as primarily of institutional value. Further, in a fine and large way the strength of the Ag Association and the merits of its purposes are readily and regularly recognized in the college as a whole.

The Agricultural Association then sponsors worth-while activities and recognizes the ability of individuals. It is a strong organization on the campus and the fine part of it all is that what success it has had has come through the will of the Ags. Last year 80 per cent of the students of the division paid their dues. These dues accomplish large results in the division and in the college. It is our hope that financially, as well as otherwise, the Ags of 1929-'30 and future years may support the Ag Association 100 per cent.

The past year has been one of progress. An increase in the per cent of those paying their dues is gratifying. A very marked change, and one that indicates real progress and spirit, is the attitude that everyone has taken in supporting the association. Individual petty differences have been overlooked, everyone has cooperated for the best of the association and laid aside differences due to their membership or nonmembership in other organizations. This is real progress toward unity in the division.

Special recognition is due Francis Im-Masche, the president during the past year. He has worked hard and shown outstanding leadership and ability. The good he has done will carry on to help the next generation of Ag Association leaders. The treasurer of the association the past year, T. W. Kirton, has also done outstanding work. This job requires work in season and out of season and Kirton did it in a first-class way.

It would be hard, indeed, for the association to progress without the support of the faculty. Their encouragement and assistance is recognized at every turn. There are no slackers among them. Dean Call is ever ready to boost and finds many occasions

to give telling assistance. Prof. Hugh Durham, assistant dean, is always a real Ag booster, dons his overalls with the other Ags and makes himself generally agreeable and helpful.

The officers elected for the college year, 1929-'30, are:

- J. A. Terrell.....President
- Howard L. Fry.....Vice-President
- Andrew P. Grimes.....Secretary
- Walter P. Powers.....Treasurer

May they be as successful and lead the association in as marked progress as those who have handed them the reins.

—J. A. T., '30.

NINTH ANNUAL AG FAIR

The ninth annual Ag Fair is a thing of the past. The question that every member of the Ag Fair Board has been asked since that date is, "Was the fair a success?" The question is one that is hard to answer because success means so many different things. The majority of people are thinking of finances when they ask the question. A few ask it with the idea of finding out whether the fair was a success from a standpoint of teaching men how to work together successfully.

The Ag Fair carries with it a large number of opportunities and advantages that few people think about. If the financial side were the important thing in the Ag Fair it is altogether probable that it would have been given up long ago. Each fair generally breaks even financially and if anything is made it is laid by for another fair to help in case that fair did not do so well.

By the work done in getting the fair ready for presentation the juniors and seniors get acquainted with the freshmen and sophomores. The three days when all the Ags are getting the fair ready mixes the different classes together and the fellows get well acquainted and know something of each other's view and purposes. By knowing each other the fellows work a great deal better together than they would were it not possible for them to become acquainted.

Responsibility is another feature that goes with the fair. From the manager to the committee man with the smallest job there is a great deal of responsibility in seeing that his unit is successfully carried out. The respon-

Row XVIII—(1) Loren Walden, (2) Glenn Pelesky, (3) James Bole, (4) V. E. Paine (coach), Haddam R. H. S.; (5) Henry Schubert, (6) Victor Benhardt, (7) Jonas Beltz, (8) J. R. Wells (coach), Ramona R. H. S.; (9) Frank Perry, (10) Lee Kaff, (11) Irwin Hansen, (12) E. I. Chilcott (coach), Carbondale R. H. S.; (13) Archie Chartier, (14) Earl Dallen, (15) Edwin Dallen, (16) John H. Kerr (coach), Miltonvale R. H. S.

Row XIX—(1) Rex Watts, (2) Clifford Fordham, (3) Reggie Graff, (4) E. P. Mauk (coach), Havensville R. H. S.; (5) Raymond Dicken, (6) Boyd Waite, (7) Donald Curfman, (8) Ira L. Plank (coach), Winfield H. S.; (9) Albert Salsbury, (10) Lawrence Morrow, (11) Everett Anderson, (12) Roy E. Clegg (coach), Burlington H. S.; (13) Claude Bell, (14) Dale Lavell, (15) Herschel Officer, (16) Clarence K. Fisher (coach), McDonald H. S.

Row XX—(1) Clyde Haynes, (2) Elmer Betz, (3) Herbert Knabe, Dickinson Co. Com. H. S. (Chapman); (4) Charles Stephens, (5) Herbert Archer, (6) Kenneth Eckerson, (7) E. A. Clawson (coach), Wellsville H. S.; (8) Kenneth Allen, (9) Hubert Hien, (10) John Flanagan, (11) H. H. Brown (coach), Washington H. S.; (12) Courtney Allen, (13) Harold Yonts, (14) Orion Towles, (15) A. E. Cook (coach), Holcomb Consl. H. S.

Row XXI—(1) Prof. A. P. Davidson, vocational education, K. S. A. C.; (2) Ronald Kolterman, (3) Cleo Tobler, (4) David Deweese, Wamego H. S.; (5) Prof. L. B. Pollom, state supervisor of vocational agriculture (Topeka); (6) Prof. Hugh Durham, Assistant Dean, Division of Agriculture, K. S. A. C.

CATTLE FEEDERS' DAY

The seventeenth annual Cattle Feeders' Convention was held at K. S. A. C., Saturday, May 25, 1929, with an estimated attendance of 1,500 persons. People were in attendance from all parts of Kansas and some from neighboring states. In the morning the visitors were shown the experimental live stock. They returned to the judging pavilion at 10 o'clock where they listened to speeches by persons of national prominence engaged in some phase of the live stock business.

The morning session was presided over by W. J. Miller, Topeka, president of the Kansas Live Stock Association. The address of welcome was given by Pres. F. D. Farrell of the college. Other addresses on the morning program were made by M. L. McClure, chairman, Board of Directors, Kansas City Federal Reserve Bank, and J. H. Mercer, president, National Live Stock and Meat Board, secretary, Kansas Live Stock Association.

At noon lunch was served the visitors by the K. S. A. C. Block and Bridle Club, the national, professional animal husbandry organization for college students.

The afternoon was taken up by reports on feeding experiments conducted by the De-

partment of Animal Husbandry of the Kansas Agricultural Experiment Station and the question box in which everyone had a chance to ask questions relative to his own particular cattle problem. In the afternoon's program the following subjects were discussed by members of the college faculty in the Department of Animal Husbandry as indicated:

More Gain from Less Grain, C. W. McCampbell.

Wintering Stock Cattle, M. A. Alexander.

Creep Feeding, J. J. Moxley.

The Relative Value of Several Protein Supplemental Feeds in Cattle Fattening Rations, B. M. Anderson.

The college is a service station constantly seeking information that will help farmers and the large number of farmers that attend these meetings each year justifies the belief that the information the college is finding is worth while. —O. W. G., '29.

STATE HIGH SCHOOL JUDGING CONTEST

(Continued from page 111)

THE CONTEST BY SECTIONS

Certain teams are well prepared for one or two sections of the contest but are handicapped by lack of training in one or more sections. The accompanying tabulations give the teams ranking first to fifth also the individuals ranking first to fifth in each section of the contest.

The highest team in each section of the contest was awarded a department prize—a parchment certificate—by the department of the college conducting that section of the contest. The highest ranking individual in each section of the contest was awarded a medal by the college students' departmental club of the department conducting the contest.

The scores were exceptionally high and satisfactory in Section I, the dairy judging section of the contest. The entrants made the best showing that has been made in the history of the contest. The judging consisted of placing four classes of four cows each—or a class for each of the four leading dairy breeds; also of giving oral reasons on each class. On each class 75 points were given for correct placing and 25 for satisfactory

COLLEGE NOTES

STATE HIGH SCHOOL JUDGING CONTEST

The ninth annual State High School Judging Contest was held Thursday and Friday, April 11 and 12, 1929. This was the earliest date on which this annual contest has ever been held, but from the point of view of the rainy week ends of April and May this year, it was a lucky date. The contest was the largest of its kind ever held at K. S. A. C.

As usual the contest was divided into four sections, a half day being devoted to each section. Hereafter, in this discussion these sections will be referred to by the Roman numerals I, II, III, and IV, being numbered in the order in which the contests were held, as follows: I. The dairy judging contest. II. The contest in the judging of beef cattle, horses, sheep, and swine, commonly referred to as the animal husbandry section of the contest. III. The crops judging contest. IV. The poultry judging contest.

Seventy-one high schools were represented in one or more sections of the contest. In Section I, 65 teams competed; in Section II,

67 teams competed; and in Sections III and IV, 52 teams competed. Naturally the most coveted honors go to those teams and individuals ranking highest in the entire contest. The President's prize—a parchment certificate—was awarded the team making the highest score in the entire contest. This prize was won by the Decatur County Community High School team, Sherman H. Howard, coach. The Dean's prize—a parchment certificate—was awarded the individual making the highest score in the entire contest. This prize was won by Alva Van Vleet of the Decatur County Community High School. Appropriate ribbons were also awarded to the first five teams and the first five individuals both in the entire contest and in each section of the contest.

The teams ranking first to tenth in the entire contest and the ten individuals making the highest scores among the 213 individuals entered are shown in the accompanying tabulations.

(Continued on page 115)

HIGH TEAMS IN THE ENTIRE CONTEST

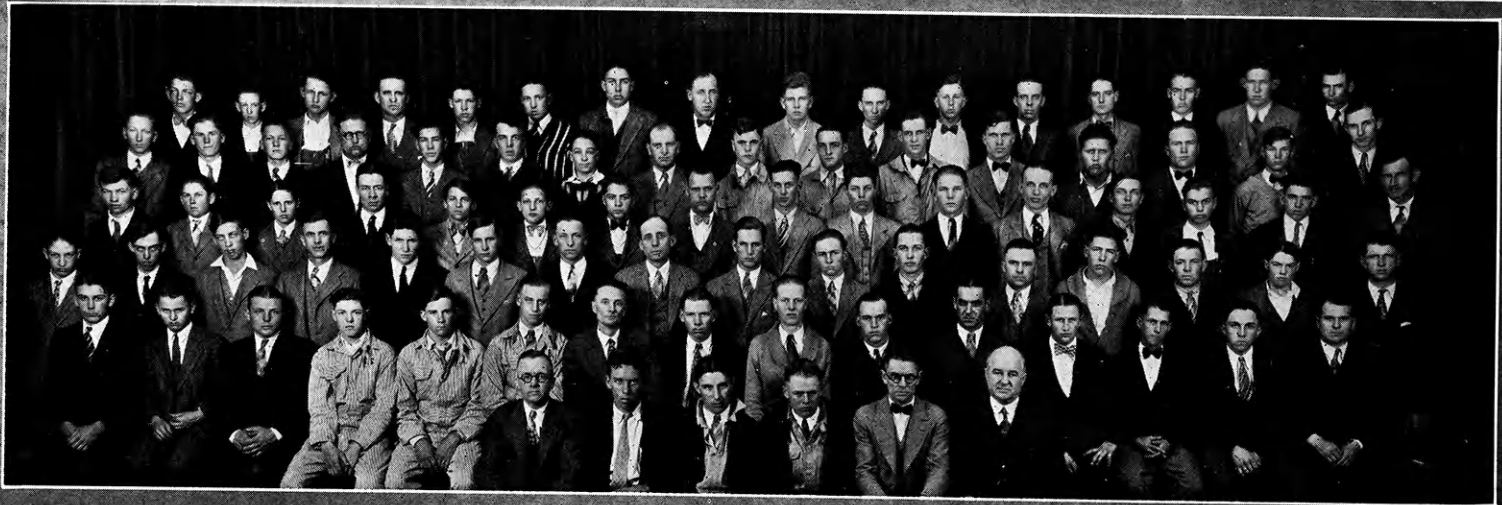
High School	Score					Coach
	I	II	III	IV	Total	
Decatur Co. Com. H. S.....	1,008	1,433	1,703	651	4,845	S. H. Howard
Carbondale R. H. S.....	1,009	1,424	1,249	771	4,453	E. I. Chilcott
Hill City R. H. S.....	972	1,507	1,253	663	4,395	A. G. Jensen
Winfield H. S.....	1,080	1,533	1,049	726	4,388	I. L. Plank
Lawrence H. S.....	913	1,421	1,359	647	4,340	W. R. Essick
Norton Com. H. S.....	934	1,515	1,226	656	4,331	L. B. Neuman
Wamego H. S.....	1,022	1,546	1,090	668	4,326	H. A. Myers
Manhattan H. S.....	892	1,485	1,259	659	4,295	H. W. Schmitz
Wakefield R. H. S.....	970	1,365	1,216	664	4,215	L. J. Schmutz
Chase Co. Com. H. S.....	1,070	1,407	1,146	542	4,165	H. L. Murphey

(Cottonwood Falls)

HIGH INDIVIDUALS IN THE ENTIRE CONTEST

Contestant	Score					High School	Coach
	I	II	III	IV	Total		
Alva Van Vleet.....	343	540	590	253	1,726	Decatur Co. Com. H. S.	S. H. Howard
Lester Chilson	332	549	570	176	1,726	Decatur Co. Com. H. S.	S. H. Howard
Royce Murphy	295	547	508	243	1,593	Norton Com. H. S.	L. B. Neuman
Robert Miller	337	537	426	269	1,569	Lawrence H. S.	W. R. Essick
Lee Kaff	354	472	464	269	1,559	Carbondale R. H. S.	E. I. Chilcott
Lester Auld	345	473	515	218	1,551	Wakefield R. H. S.	L. J. Schmutz
David Deweese	351	494	496	206	1,547	Wamego H. S.	H. A. Myers
Dale Nedrow	323	501	467	235	1,526	Norcatour R. H. S.	C. O. Fisher
Tom Furse	279	528	424	286	1,517	Manhattan H. S.	H. W. Schmitz
Irvin Hansen	323	505	389	279	1,496	Carbondale R. H. S.	E. I. Chilcott





CONTESTANTS AND THEIR COACHES, STATE HIGH SCHOOL JUDGING CONTEST, K. S. A. C., APRIL 11 AND 12, 1929
(See next page for names)

NAMES OF COACHES AND THEIR COMPETING TEAMS IN PRECEDING PICTURES

N. B.—There are four panels of pictures and for purposes of easy identification the rows are considered as numbered consecutively beginning at the top. Rows I to V constitute the top panel; rows VI to X, the second panel from the top; rows XI to XV, the third panel; and rows XVI to XXI, the fourth or bottom panel.

From left to right those in each row are:

Row I—(1) Wilbur Van Sickle, (2) Franklin Davis, (3) William Dunmire, (4) H. C. Wood (coach), Reading R. H. S.; (5) Lawrence Katzer, (6) James McCansland, (7) Horace Miller, (8) A. T. Heywood (coach), Neodesha H. S.; (9) Lester Chilson, (10) Alva Van Vleet, (11) Harley Chilson, (12) S. H. Howard (coach), Decatur Co. Com. H. S. (Oberlin); (13) Prof. L. F. Hall, itinerant teacher of vocational agriculture, K. S. A. C.

Row II—(1) Dale Nedrow, (2) Jessie Bishop, (3) Glenn Vernon, (4) Cecil O. Fisher (coach), Norcatour R. H. S.; (5) Royce Murphy, (6) Ralph Abernathy, (7) Carl Applegate, (8) Louis B. Neuman (coach), Norton Community H. S.; (9) Earl Jones, (10) Lavern Eckles, (11) Winfred Miner, (12) Earl H. Martin (coach), Pratt H. S.

Row III—(1) Osbern Ellis, (2) Edward Mozingo, (3) Ernest Monroe, (4) C. A. Perkins (coach), Oswego H. S.; (5) Melvin Winter, (6) Robert Hardin, (7) Orrin Johnson, (8) F. W. Hancock (coach), South Haven R. H. S.; (9) James Albin, (10) Russell Lind, (11) Victor Immasche, (12) P. W. Russell (coach), Saffordville R. H. S.

Row IV—(1) Arthur Hund, (2) Thomas Finney, (3) John Maginley, (4) L. F. Ungeheuer (coach), Paxico R. H. S.; (5) Gerald Tague, (6) Carl Grother, (7) William Wagner, (8) P. W. Hansen (coach), Mulvane H. S.; (9) Jay Hoeh, (10) Howard Schmidt, (11) Frederick Skinner, (12) W. W. Humphrey (coach), Beverly R. H. S.

Row V—(1) George Hall, (2) Glen Nelson, (3) Carl Luke, (4) B. J. Conroy (coach), Solomon R. H. S.; (5) Arthur Thiele, (6) Alfred Halle, (7) Harold Fulker, (8) R. W. Russell (coach), Marysville H. S.; (9) Hubert Robinson, (10) Glen Williams, (11) Cortlan Williams, (12) R. H. Perrill (coach), Coldwater H. S.

Row VI—(1) Glen Soderblom, (2) Harold Pilcher, (3) Burton Smith, (4) C. R. Bradley (coach), Delphos H. S.; (5) Hubert Robinson, (6) Joe Mentlick, (7) Raymond Washburn, (8) R. W. Fort (coach), Colby Com. H. S.; (9) Carl Berry, (10) Glen Davidson, (11) Joe Snow, (12) R. L. Welton (coach), Crawford Com. H. S. (Cherokee).

Row VII—(1) Verlan Tucker, (2) Harold Walker, (3) Merlin Cooper, (4) F. F. Higbee (coach), Macksville H. S.; (5) Howard Elbatt, (6) Lowell Price, (7) Fay Staley, (8) B. R. Petrie (coach), Goodland Com. H. S.; (9) Ernest Weaver, (10) Wayne Jacobs, (11) Frank Latta, (12) Dwight J. Patton (coach), Harper H. S.; (13) Frank Marcy, (14) H. W. Schmitz (coach), Manhattan H. S.

Row VIII—(1) Gladwin King, (2) Elmer Sieg, (3) Robert Fabricius, (4) A. G. Jensen (coach), Hill City R. H. S.; (5) Clarence Atkinson, (6) Gerald Applebee, (7) Forest Clark, (8) Thomas W. Bruner (coach), Jewell R. H. S.; (9) Benny

Reid, (10) Donald Robinson, (11) Watson Weniger, (12) W. H. Teas (coach), Kingman H. S.; (13) Tom Furse, Manhattan H. S.

Row IX—(1) Francis Ryan, (2) Eugene Spear, (3) Robert Kerr, (4) O. E. Campbell (coach), Lincoln H. S.; (5) Raymond Standing, (6) Lawrence Penner, (7) Robert Miller, (8) W. R. Essick, (coach), Lawrence H. S.; (9) Norman Kramer, (10) John Grady, (11) Ivan Thomas, (12) J. D. Adams (coach), Garden City H. S.; (13) Alastair Wishart, Manhattan H. S.

Row X—(1) Harry Patterson, (2) Dale Spratt, (3) Leroy Padget, (4) C. N. Yaple (coach), Ford R. H. S.; (5) Oscar Theate, (6) Alden McCracken, (7) Joe Pixler, (8) T. C. Faris (coach), Lebanon H. S.; (9) Dan Musil, (10) Mark Roberts, (11) Lysle Arnold, (12) Hal F. Irwin (coach), Frankfort H. S.

Row XI—(1) Frank Lowe, (2) Robert Tracy, (3) Earl Isgrigg, (4) F. Floyd Herr (coach), Argonia R. H. S.; (5) Merle McErwin, (6) Clemmens Godfrey, (7) Leonard Wahlenamier, (8) W. R. Sheff (coach), Arkansas City H. S.; (9) Levoy Carlson, (10) Herbert Almuist, (11) Marion Olson, (12) Floyd Sheel (coach), Assaria R. H. S.

Row XII—(1) Henry Oldham, (2) Clarence Anderson, (3) Roy Kimmons, (4) J. L. Jacobson (coach), Berryton R. H. S.; (5) Ralph Abram, (6) P. E. Bassford, Jr., (7) Melvin Brown, (8) R. W. McBurney (coach), Beloit H. S.; (9) Cecil Snyder, (10) Charles Bolman, (11) Gilbert Markley, (12) F. A. Hagans (coach), Augusta H. S.; (13) Dale Duncan, Cherokee Co. Com. H. S. (Columbus).

Row XIII—(1) Charles Ashcraft, (2) Donald Rohrbaugh, (3) Hilton Hollebeak, (4) J. H. Coolidge (co. agr. agt., substitute for Lawrence Norton, coach), Cimarron Consl. H. S.; (5) Glenn Wright, (6) Paul Vogel, (7) Francis Grillot, (8) L. N. Jewett (coach), Parsons H. S.; (9) Willard Tucker, (10) Le Roy Neelly, (11) Leonard Kennedy, (12) Le Roy E. Melia (coach), Byers R. H. S.; (13) Leo Chubb, Cherokee Co. Com. H. S. (Columbus).

Row XIV—(1) Louis Haller, (2) Laurence Haller, (3) Ray Watkins, Alma H. S.; (4) Elmer Gardner, (5) Lyndon Rundle, (6) Orville Lloyd, (7) Edwin Hedstrom (coach), Clay Co. Com. H. S. (Clay Center); (8) Percy Phelps, (9) Robert Tyler, (10) Earle Brooks, (11) Ernest Lyness (coach), Blue Rapids H. S.; (12) Kenneth Duncan, Cherokee Co. Com. H. S. (Columbus).

Row XV—(1) Junior Bleam, (2) Bernard Nichols, (3) Howard Bleam, (4) V. E. Fletcher (coach), Alton R. H. S.; (5) Cecil Timken, (6) Bill Howard, (7) Glenster Schaben, (8) W. E. Stone (coach), Bazine R. H. S.; (9) Truxton Hodgkins, (10) Robert Fillmore, (11) James Burns, (12) H. L. Murphey (coach), Chase Co. Com. H. S. (Cottonwood Falls).

Row XVI—(1) Loren Lyons, (2) Emmett Cox, (3) Norman Hamm, (4) O. B. Glover (coach), Oskaloosa R. H. S.; (5) Deane Seaton, (6) Willis Myers, (7) Ralph Cartner, (8) Fred D. Allison (coach), Abilene H. S.; (9) Frank Lungren, (10) La Verne Harper, (11) Ezra Walker, (12) E. R. Button (coach), Meriden R. H. S.; (13) Charlie Wood, (14) Raymond Baird, (15) Richard Price, (16) H. A. Stewart (coach), Washburn R. H. S. (Topeka).

Row XVII—(1) Ray McCammon, (2) Vernon Gunlicks, (3) Robert Isaac, (4) A. H. Hilpert (coach), Mankato H. S.; (5) Raymond Rider, (6) Loyd Hammond, (7) Lester Auld, (8) L. J. Schmutz (coach), Wakefield R. H. S.; (9) Robert Gress, (10) Mahlon Cook, (11) Harry Quisenberry, (12) O. M. Williamson (coach), Tonganoxie R. H. S.; (13) Renald Hopkins, (14) Blaine Miller, (15) Arden Rinehart, (16) B. W. Wright (coach), Greensburg R. H. S.

Row XVIII—(1) Loren Walden, (2) Glenn Pelesky, (3) James Bole, (4) V. E. Paine (coach), Haddam R. H. S.; (5) Henry Schubert, (6) Victor Benhardt, (7) Jonas Beltz, (8) J. R. Wells (coach), Ramona R. H. S.; (9) Frank Perry, (10) Lee Kaff, (11) Irwin Hansen, (12) E. I. Chilcott (coach), Carbondale R. H. S.; (13) Archie Chartier, (14) Earl Dallen, (15) Edwin Dallen, (16) John H. Kerr (coach), Miltonvale R. H. S.

Row XIX—(1) Rex Watts, (2) Clifford Fordham, (3) Reggie Graff, (4) E. P. Mauk (coach), Havensville R. H. S.; (5) Raymond Dicken, (6) Boyd Waite, (7) Donald Curfman, (8) Ira L. Plank (coach), Winfield H. S.; (9) Albert Salsbury, (10) Lawrence Morrow, (11) Everett Anderson, (12) Roy E. Clegg (coach), Burlington H. S.; (13) Claude Bell, (14) Dale Lavell, (15) Herschel Officer, (16) Clarence K. Fisher (coach), McDonald H. S.

Row XX—(1) Clyde Haynes, (2) Elmer Betz, (3) Herbert Knabe, Dickinson Co. Com. H. S. (Chapman); (4) Charles Stephens, (5) Herbert Archer, (6) Kenneth Eckerson, (7) E. A. Clawson (coach), Wellsville H. S.; (8) Kenneth Allen, (9) Hubert Hien, (10) John Flanagan, (11) H. H. Brown (coach), Washington H. S.; (12) Courtney Allen, (13) Harold Yonts, (14) Orion Towles, (15) A. E. Cook (coach), Holcomb Consl. H. S.

Row XXI—(1) Prof. A. P. Davidson, vocational education, K. S. A. C.; (2) Ronald Kolterman, (3) Cleo Tobler, (4) David Deweese, Wamego H. S.; (5) Prof. L. B. Pollom, state supervisor of vocational agriculture (Topeka); (6) Prof. Hugh Durham, Assistant Dean, Division of Agriculture, K. S. A. C.

CATTLE FEEDERS' DAY

The seventeenth annual Cattle Feeders' Convention was held at K. S. A. C., Saturday, May 25, 1929, with an estimated attendance of 1,500 persons. People were in attendance from all parts of Kansas and some from neighboring states. In the morning the visitors were shown the experimental live stock. They returned to the judging pavilion at 10 o'clock where they listened to speeches by persons of national prominence engaged in some phase of the live stock business.

The morning session was presided over by W. J. Miller, Topeka, president of the Kansas Live Stock Association. The address of welcome was given by Pres. F. D. Farrell of the college. Other addresses on the morning program were made by M. L. McClure, chairman, Board of Directors, Kansas City Federal Reserve Bank, and J. H. Mercer, president, National Live Stock and Meat Board, secretary, Kansas Live Stock Association.

At noon lunch was served the visitors by the K. S. A. C. Block and Bridle Club, the national, professional animal husbandry organization for college students.

The afternoon was taken up by reports on feeding experiments conducted by the De-

partment of Animal Husbandry of the Kansas Agricultural Experiment Station and the question box in which everyone had a chance to ask questions relative to his own particular cattle problem. In the afternoon's program the following subjects were discussed by members of the college faculty in the Department of Animal Husbandry as indicated:

More Gain from Less Grain, C. W. McCampbell.

Wintering Stock Cattle, M. A. Alexander.

Creep Feeding, J. J. Moxley.

The Relative Value of Several Protein Supplemental Feeds in Cattle Fattening Rations, B. M. Anderson.

The college is a service station constantly seeking information that will help farmers and the large number of farmers that attend these meetings each year justifies the belief that the information the college is finding is worth while.

—O. W. G., '29.

STATE HIGH SCHOOL JUDGING CONTEST

(Continued from page 111)

THE CONTEST BY SECTIONS

Certain teams are well prepared for one or two sections of the contest but are handicapped by lack of training in one or more sections. The accompanying tabulations give the teams ranking first to fifth also the individuals ranking first to fifth in each section of the contest.

The highest team in each section of the contest was awarded a department prize—a parchment certificate—by the department of the college conducting that section of the contest. The highest ranking individual in each section of the contest was awarded a medal by the college students' departmental club of the department conducting the contest.

The scores were exceptionally high and satisfactory in Section I, the dairy judging section of the contest. The entrants made the best showing that has been made in the history of the contest. The judging consisted of placing four classes of four cows each—or a class for each of the four leading dairy breeds; also of giving oral reasons on each class. On each class 75 points were given for correct placing and 25 for satisfactory

reasons. The possible score for a contestant was therefore 400 points.

In the judging of beef cattle, horses, sheep, and swine, Section II of the contest, eight classes of live stock were placed as follows: (1) Fat steers. (2) Shorthorn cows. (3) Fat barrows. (4) Poland China sows. (5) Fat wethers. (6) Shropshire ewes. (7) Draft horses. (8) Percheron mares. Reasons were given on classes 1, 4, 5, and 8. On placing each class, 75 points were allowed and 25 points for reasons where reasons were required. Thus 700 points was a perfect score for a contestant in this section of the contest.



WINNERS IN THE STATE HIGH SCHOOL JUDGING CONTEST

Standing: S. H. Howard, coach. Seated: Left to right, Alva Van Vleet, Lester Chilson, Harley Chilson, Decatur County Community High School, Oberlin.

Section III of the contest—crops judging—consisted of three parts: (1) The identification of 120 samples of grain crops, forage crops, and weeds and plant diseases. (2) The commercial grading of three samples of wheat, one sample of barley, one sample of corn, two samples of grain sorghums, and one sample of rye. (3) The judging of three classes of five samples each of wheat, oats, and yellow ear corn. The possible score for each contestant in Section III was 800 points.

Section IV of the contest—the poultry judging section—consisted of placing four classes of four hens each on the basis of egg

production. There was a class each of Single Comb White Leghorns, Barred Plymouth Rocks, White Plymouth Rocks, and Single Comb Rhode Island Reds. On each placing, 75 points were allowed. In addition to this culling test each contestant took a written examination on the American Standard of Perfection. One hundred points represented a perfect score on this examination.

The pictures of most of the 213 entrants in this state contest are shown in the accompanying illustration. Practically all of the contestants did creditable work, but the space allowed for this report will not permit further details.

HIGH TEAMS IN EACH SECTION OF THE CONTEST

High School	Sec.	Score	Coach
Winfield H. S.	I	1,080	Ira L. Plank
Chase Co. Com. H. S.	I	1,070	H. L. Murphey
Assaria R. H. S.	I	1,036	Floyd Sheel
Frankfort H. S.	I	1,023	Hal F. Irwin
Wamego H. S.	I	1,022	H. A. Myers
Harper H. S.	II	1,609	Dwight Patton
Lincoln H. S.	II	1,582	O. E. Campbell
Seaman R. H. S. (Topeka)	II	1,577	V. O. Farnsworth
Goodland Com. H. S.	II	1,571	B. R. Petrie
Wamego H. S.	II	1,546	H. A. Myers
Decatur Co. Com. H. S.	III	1,703	S. H. Howard
Lawrence H. S.	III	1,359	W. R. Essick
Marysville H. S.	III	1,295	R. W. Russell
Manhattan H. S.	III	1,259	H. W. Schmitz
Hill City R. H. S.	III	1,253	A. G. Jensen
Carbondale R. H. S.	IV	771	E. I. Chilcott
Parsons H. S.	IV	737	L. N. Jewett
Winfield H. S.	IV	726	Ira L. Plank
Augusta H. S.	IV	726	F. A. Hagans
McDonald R. H. S.	IV	716	Clarence K. Fisher

HIGH INDIVIDUALS IN EACH SECTION OF THE CONTEST

Contestant	Sec.	Score	High School
James Burns	I	376	Chase Co. Com. H. S.
Donald Curfman	I	374	Winfield H. S.
Raymond Dicken	I	369	Winfield H. S.
LeRoy Carlson	I	365	Assaria R. H. S.
Kenneth Ahlstrom	I	363	Seaman R. H. S. (Topeka)
Ronald Kolterman	II	615	Wamego H. S.
Benny Reid	II	584	Kingman H. S.
Orville Lloyd	II	580	Clay Co. Com. H. S.
Cortlan Williams	II	574	Coldwater H. S.
Wayne Jacobs	II	573	Harper H. S.
Alva Van Vleet	III	590	Decatur Co. Com. H. S.
Lester Chilson	III	570	Decatur Co. Com. H. S.
Harley Chilson	III	543	Decatur Co. Com. H. S.
Lester Auld	III	515	Wakefield R. H. S.
Royce Murphy	III	508	Norton Com. H. S.
Tom Furse	IV	286	Manhattan H. S.
Loren Walden	IV	282	Haddam R. H. S.
Boyd Waite	IV	281	Winfield H. S.
Irvin Hansen	IV	279	Carbondale R. H. S.
Raymond Washburn	IV	276	Colby Com. H. S.

STUDENTS' DAIRY JUDGING CONTEST

With the advance of the second semester at K. S. A. C. come the approach of spring weather, the urge of moon-light nights, the base-ball itch, and the usual grind of study necessary to face conscientiously the challenge of midsemester and final examinations. However, the interest of the agricultural student is still more widely distributed. This is the period of annual student judging contests, in which general interest quickens rapidly.

By vote of the Dairy Club, the responsibility of managing the spring dairy judging contest was placed in the able hands of Fredrick H. Schultis. The date of the contest was set as April 29. Fred lost no time, but soon lined up a splendid assortment of prizes, with a 15-inch trophy as first in the senior division and a prize of similar value for first in the junior division. In both divisions less valuable prizes were awarded to contestants with lower placings, and an additional prize was awarded this year to the high man in giving oral reasons.

Good placeable classes were provided, consisting of an aged-cow and a heifer class within each of the four leading dairy breeds. The official judges selected were, for the Jersey—J. B. Fitch, Guernsey—T. R. Warren, Ayrshire—J. C. Nisbet, and Holsteins—F. W. Atkeson of Idaho. Sixty-six students entered the contest and worked enthusiastically to the end. They were grouped into junior and senior divisions, their classification being based on the dairy-judging work which they had taken; those who had credit in advanced dairy judging or who were taking it were placed in the senior division.

The final scores of the high men in each division were as follows:

Senior Division	Junior Division
W. E. Wilson.....1,062	H. A. Goff.....982
J. L. Wilson.....1,042	George Gillespie.....956
H. R. Bradley.....1,028	L. A. Peck.....952
Harris Houston.....1,010	Dwight L. Heath.....941
S. Roger Stewart.....1,001	J. A. Watson.....902
R. W. Stumbo.....1,000	George Brookover.....894
W. W. Babbit..... 990	S. E. Dale.....885
S. S. Bergsma..... 987	Ebur S. Schultz.....884
J. A. Terrell..... 986	Paul R. Chilen.....873
Walter P. Powers.. 981	David P. Meall.....872
	Phares Decker.....872

The five contestants making the highest scores in oral reasons were: John L. Wilson, 367; H. R. Bradley, 358; J. A. Terrell, 351;

S. S. Bergsma, 350; R. W. Stumbo, 350.

In considering breed placings all contestants were grouped together, that is, the senior and junior divisions were consolidated. The high men in each breed and their scores on the breed were as follows:

Holstein	Ayrshire
W. E. Wilson.....278	J. A. Watson.....295
W. Harris Houston.....265	H. A. Goff.....290
H. R. Bradley.....260	L. A. Peck.....289
W. M. Newman.....285	R. W. Stumbo.....280
E. L. Weir.....285	J. A. Terrell.....280
Guernsey	Jersey
J. A. Terrell.....296	George Gillespie.....278
L. S. Perkins.....295	Carl C. Conger.....273
Walter P. Powers...293	W. W. Babbit.....268
H. R. Bradley.....284	H. E. Frank.....268
John L. Wilson.....282	W. E. Wilson.....265
	S. E. Alsop.....265

—R. W. S., '31.

TRI-K JUDGING CONTEST

The annual students' grain grading and judging contest was held April 27 in the afternoon. A total of 65 students were entered in the senior, junior, and freshman divisions of the contest.

The contest was divided into three parts as follows: (1) Grading of commercial samples of grain. (2) Identification of grains, both in the head and threshed. (3) Comparative judging of several samples of grain, the samples used this year being wheat, alfalfa, and kafir.

The winners in the different divisions of the contest and their scores were:

Senior Division	
J. W. Roussin.....918	W. J. Braun.....754
J. H. Greene.....819	J. L. St. John.....744
F. G. Ackerman.....761	F. J. Raleigh.....724
Junior Division	
E. S. Schultz.....749	L. M. Sloan.....700
John L. Wilson.....716	E. B. Mangelsdorf...664
A. M. Schlehuber...712	Carl Williams.....650
Freshman Division	
W. M. Myers.....745	Keith B. Dusen-bury551
C. A. Sayre.....598	J. F. Foster.....530
L. H. Albin.....565	

It will be noticed that J. W. Roussin made a total score of 918 out of a possible 1,000 points. In grading commercial samples of grain he made 298 points out of a possible 300, and in comparative judging he made 295 out of a possible 300. These scores are exceptionally high and it is a loss to the grain judging team next year that Mr. Roussin will not be able to try out for it.

—H. P. B., '29.

ANNUAL BLOCK AND BRIDLE CONTEST

The twenty-seventh annual Block and Bridle contest was held Saturday afternoon, May 4, 1929. In the junior division 99 contestants entered and 28 competed in the senior division. The senior division was won by J. A. Terrell of Syracuse, and the junior division by E. L. Weir of Blue Mound.

The Block and Bridle Club is an organization composed of students who are majoring in the Department of Animal Husbandry. The purpose of the annual Block and Bridle judging contest is to provide an opportunity for undergraduate students to test their ability in selecting live stock. Students who have made the senior live stock judging team are not eligible. The junior division of the contest is open to all students who have not taken any class work in advanced judging. Those who have taken advanced judging must enter the senior division.

Eight classes of live stock were judged, consisting of two classes each of beef cattle, draft horses, sheep, and hogs. Reasons were given by all contestants on one class of each kind of live stock, the reasons being written in the junior division and given orally in the senior division. The total score of each contestant was the sum of his points for both placings and reasons on beef cattle, draft horses, sheep, and hogs.

Gold, silver, and bronze medals were awarded to the students placing first, second, and third, respectively, in each division. Other prizes were awarded to the men ranking from fourth to tenth in the junior division. Each student placing first in judging a kind of live stock was presented with a fountain pen. Books and subscriptions to live stock magazines were given to other high-ranking contestants.

The winners in each division and their scores were:

Senior Division

J. A. Terrell.....	545	H. A. Paulsen.....	512
J. L. Wilson.....	529	A. P. Grimes.....	503
F. L. Schultis.....	524	R. W. O'Hara.....	502
Paul R. Chilen.....	520	R. L. Rawlins.....	488

Junior Division

E. L. Weir.....	507	N. M. Lindbloom.....	487
H. N. Stapleton.....	495	A. G. Grimpson.....	482
G. R. Shier.....	494	Max Wickham.....	481
George D. Oberle.....	493	J. R. Latta.....	480
Clark Milligan.....	492	Henry C. Chiles.....	476
R. L. Remsberg.....	492	G. L. Ellithorpe.....	476

The high men in each division on each kind of live stock were:

Senior Division

Cattle—J. L. Wilson.....	143
C. P. McKinnie.....	143
Horses—J. A. Terrell.....	137
Sheep—J. L. Wilson.....	132
Hogs—R. W. O'Hara.....	147

Junior Division

Cattle—C. W. Crawley.....	143
Horses—J. R. Latta.....	127
Sheep—W. G. Nicholson.....	146
Hogs—R. B. Dale.....	146

—F. W. Bell

Professor of Animal Husbandry.

KANSAS WHEAT VARIETIES

(Continued from page 100)

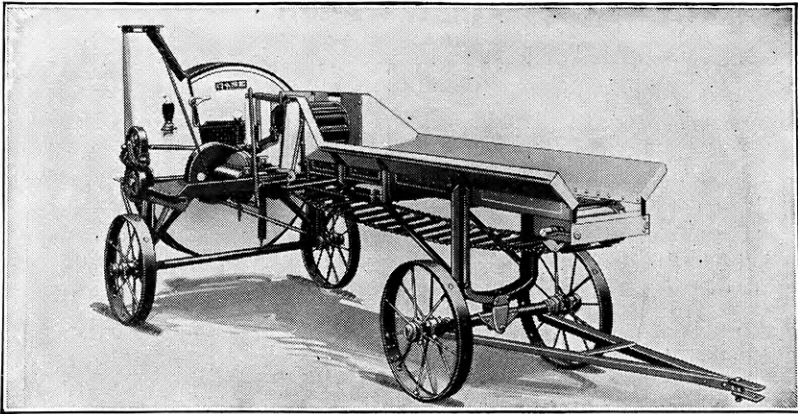
wheat came from Russia and that Kanred and Blackhull are selections from Turkey. Furthermore, since Turkey was brought to Kansas a great many, in fact several hundred, other importations have been introduced, practically all of which were inferior and have been discarded. The chances are much against getting anything better than Turkey. Every new variety of wheat should be carefully tested in comparison with standard varieties for several years before it is planted on a commercial scale.

BEEF CATTLE IN THE WHEAT BELT

(Continued from page 101)

in a four-year period consisting of three crops. In comparison with this, the continuous wheat cropping system would return only \$76 per acre in a four-year period consisting of four crops, or only \$19 per acre per year as compared with \$30 per acre per year for the sorghums, and \$26 per acre per year for each of the wheat crops following the fallow.

In the section where rainfall permits barley to be substituted for the year of fallow, the money return per acre will be increased and the possibility of handling more live stock made greater. In addition to the advantages the live stock system has of providing a profitable home market for the feed crop and thus making a crop rotation system possible, it may be said that in normal years the cattle would increase in market value over the wintering period and return a substantial profit in themselves. Furthermore,



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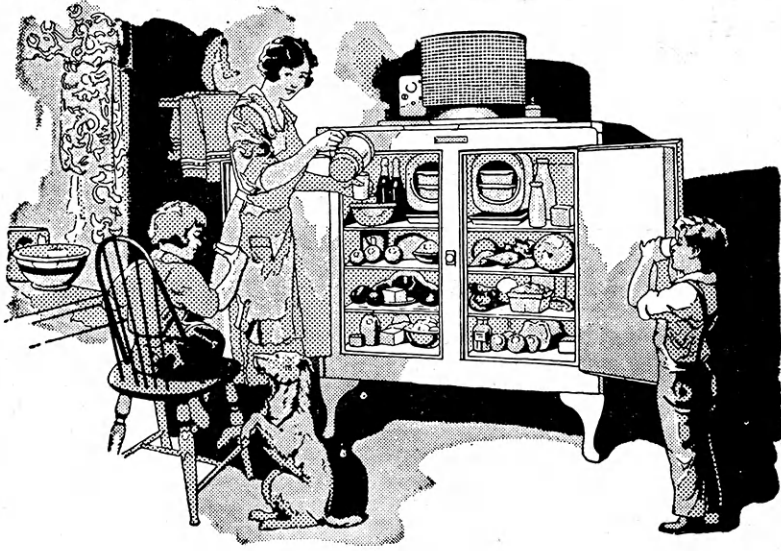
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the introduction of feed crops and live stock into the wheat belt would provide work for the farmer the entire twelve months of the year, instead of only two to three months as the present continuous wheat cropping system does.

After the feed crop is produced the question of the best method of feeding it arises. The most practical way to measure the comparative value of roughages is on the basis of grain produced per acre. Twelve years of experiments at Hays in regard to the relative feeding value of roughages fed dry and in the form of silage show that one acre of cane or kafir fed to stock cattle in the form of silage will produce two to two and one-half times as much gain as the same acre of cane or kafir fed cured and dry, when each is supplemented with one pound of cottonseed meal per head per day. The tests conducted during the winter of 1927-'28, the results of which are representative of the other eleven years, are the basis for the above statement. That year 745-pound yearlings wintered for 145 days produced 750 pounds gain from one acre of kafir fed in the form of silage; whereas the return from an acre fed as kafir fodder (heads on) produced only 350 pounds gain. Kafir stover silage (heads off) produced 118 pounds more gain than whole kafir stover (heads off) in the return from one acre. Kafir stover silage produced 103 pounds more gain per acre than ground kafir stover. Thus ensiling kafir fodder increased returns per acre over grinding more than grinding increased returns over whole kafir, the increase from grinding being \$10 per acre, from ensiling, \$29.50 per acre. Likewise, ensiling kafir stover increased returns per acre over grinding more than grinding increased returns over whole stover, the increase in this case being 65 cents per acre from grinding, and \$14.50 per acre for ensiling.

Silage has many advantages over dry roughages. The most outstanding are: (1) Silage furnishes a high-quality succulent feed for any desired season of the year at a low cost. (2) Less nutrients are lost in the silage than when the crop is cured as hay or fodder. (3) Silage is eaten practically without waste. (4) Crops may be ensiled when the weather does not permit curing them into dry fodder.



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(5) Weedy crops which make poor hay may be ensiled and used to a good advantage. (6) The produce from a large acreage can be stored in a small space and held, if necessary, for a year or more with little waste.

In putting the feed crop in the silo it should be kept in mind that the requirements of good silage are: That the crop be mature, yet leafy; that the fodder be cut fine; and that plenty of water be added.

Silage properly supplemented with a protein-rich feed as cottonseed meal or alfalfa hay serves as an excellent ration for wintering beef cattle. One pound of cottonseed meal or four pounds of alfalfa hay will properly supplement the 35 to 40 pounds of silage that the yearling stocker steer will consume per day. Such a ration will produce 125 to 200 pounds of gain during the wintering period and do it economically. This ration can be cheapened somewhat by the addition of wheat straw when it is available. It must not be forgotten that silage is a carbonaceous feed and therefore must be supplemented with a protein-rich feed. Only a small amount of the supplement is necessary, but it is essential for the most economical gains.

The writer does not advocate that this policy should be practiced under all conditions, but the forward-looking progressive wheat-belt farmer will do well to consider these possibilities and adapt such of them as he can to his needs.

FUTURE FARMERS OF KANSAS

(Continued from page 110)

have definite plans for becoming a farmer. He must have held office in his state organization or have represented his state in a national contest. Besides, he must have personally earned and productively invested at least \$500. At present there are eight Future Farmers in the United States who have attained the rank of American Farmer.

The insignia for the Future Farmer organization is a pin or coat lapel button representing the cross-section of an ear of corn upon which is engraved a plow, an owl, and the rising sun. Corn was chosen because it is a typical American crop and is more generally grown than any other. The owl is usually associated with knowledge and wis-

dom. The plow symbolizes labor and the rising sun hope for the future.

The Future Farmer movement originated in Virginia and has spread throughout the United States. The Future Farmers of America were officially organized at the American Vocational Congress held at the American Royal Live Stock Show, Kansas City, Mo., November, 1928.

The creed of the Future Farmers is as follows:

"I believe in the future of farming, with a faith born not of words but of deeds—achievements won by the present and past generations of farmers; in the promise of better days through better ways, even as the better things we now enjoy have come up to us from the struggles of former years.

"I believe that to live and work on a good farm is pleasant as well as challenging; for I know the joys and discomforts of farm life and hold an inborn fondness for those associations which, even in hours of discouragement, I cannot deny.

"I believe in leadership from ourselves and respect from others. I believe in my own ability to work efficiently and think clearly, with such knowledge and skill as I can secure, and in the ability of organized farmers to serve our own and the public interest in marketing the product of our toil. I believe we can safeguard those rights against practices and policies that are unfair.

"I believe in less dependence on begging and more power in bargaining; in life abundant and enough honest wealth to help make it so—for others as well as myself; in less need for charity and more of it when needed; in being happy myself and playing square with those whose happiness depends upon me.

"I believe that rural America can and will hold true to the best traditions in our national life and that I can exert an influence in my home and community which will stand solid for my part in that inspiring task."

There are two special contests open to a Future Farmer. The Kansas City Star offers a thousand dollars in cash to the outstanding student in Vocational Agriculture in America and in addition three \$100 cash prizes to outstanding Future Farmers in certain groups of states in the territory served by the Star.

(Continued on page 124)

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Pork for Human Consumption

W. H. Lee, '29

While actual numbers of meat animals produced in the United States may be decreasing from the peak of 1900, yet increasing meat and milk consumption is possible because of increasing yields per animal in dairy cattle and earlier maturity in meat animals.

The population of the United States was about five million in 1800 and grew to about 96 million in 1910. It has been variously estimated that the total population that can be provided with home-grown food in the United States will be from 200 to 331 million and that this saturation point will be reached in from 75 to 150 years. This is based on maintaining a much larger population on primary food products such as grains, because of the unavoidable losses in all animal feeding and the fact that no return is obtained from that portion of the animal's food that goes for maintenance which amounts to approximately one-half. The meat animal produces much energy in a form not suitable for human consumption. However, soil productivity must be maintained for which livestock production is indispensable. Thus meat production serves a double purpose in human welfare.

From 1830 to 1922 meat consumption in the United States decreased from 182 to 138 pounds per capita. Does this mean the passing of animal food from our dietary? Probably not. Nevertheless, it does mean a rapid passing of inefficient animals of which there are many at the present time.

Meats are palatable and nutritious and will be utilized as long as they can be secured and paid for. An increasing population means an increased demand for food of all kinds, hence, no time should be lost in raising the efficiency of food production to the highest possible level. In such a program there surely will be found a place for all of the really efficient meat-producing animals that can be produced.

For home consumption on the farm no cheaper food than pork can be raised and every farm should produce the pork and pork products which are consumed thereon. Hogs may be raised and the meat cured at

home for much less than the cost of purchased meat.

Animals that are intended to be killed for meat should be so fitted that the fat and lean will be well marbled in the carcass. This deposition of the meat fat adds to the tenderness, juiciness, flavor, and digestibility of the meat, besides increasing its nutritive value as a food. There is also an increase in the soluble protein and the other extractives of the muscles, resulting in a further betterment of the quality of the meat, an additional advantage from fattening.

The demand for pork is wide and insistent. Excepting dairy products, no animal food is so necessary in the diet or so universally used. In this country more pork is consumed than any other meat. Statistics collected by the United States Food Administration show that the total per capita consumption was higher for pork than for beef, veal, and mutton.

The demand for fat in this country and Europe is supplied chiefly by pork. The responsibility for meeting the world shortage of fat developed by the war rested most heavily, therefore, on the American pork producer. On an average, the yield of lard constitutes about 11 per cent of the hog's live weight.

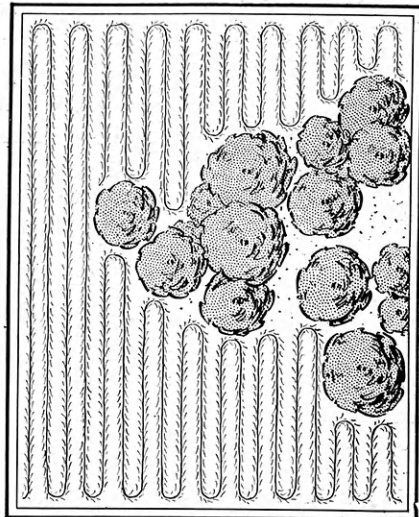
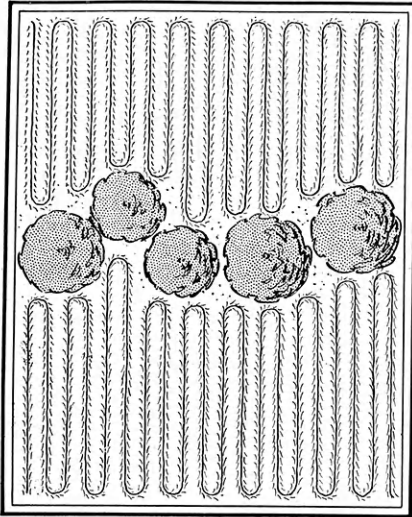
No meat is preserved so successfully or transported so cheaply as pork. Pork products may be held in storage for long periods without sacrificing palatability or food value. For this reason pork will always be the mainstay in the diet for human food consumption.

FUTURE FARMERS OF KANSAS

(Continued from page 122)

The Farm Journal offers a cash prize of \$500 to the local chapter of Future Farmers of America that ranks first in its program and achievements, a cash prize of \$300 is offered to the local chapter ranking second, and a cash prize of \$200 to the local chapter ranking third in its program and achievements.

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A FARMER in Michigan had two fields that were hard to cultivate. As shown above, in one field, because of a row of trees that cut it in half, he had to make four turns instead of two turns to the furrow. The trees occupied a rod of ground. In the other field a point of wood-lot extended into the field and made plowing very difficult. This wooded point accounted for about three and one-half acres. Land lost, labor and time wasted. How would you change these two fields?

Obviously the only way to straighten out these fields was to get rid of the row of trees and the wooded point. And obviously blasting was the cheapest, quickest, easiest way. But just how would you go about it? How would you plan the shots; how would you load them; fire them and clear away?

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The Possibilities of the Future Broiler Industry

Raymond Samuelson, M. S., '29

What would suit you better than to sit down to dinner tonight and see before you a two-pound broiler cooked nice and brown and steaming hot from the fire? Not many years ago chicken was considered a Sunday dish and too expensive for the ordinary class. Today in almost all our dining rooms and restaurants one can find poultry on the menu any day of the week, and at such a price that the ordinary working person can afford it.

The poultry industry has been growing by leaps and bounds. It was only a few years ago that the question was often asked by the producer, "What will we do with all our poultry products at the rate they are increasing? We will not be able to give them away." Today, even though there has been a tremendous increase in poultry products, the prices have remained practically stationary, due largely to advertising and the working out of marketing channels so as to get the poultry products to the consumer more economically.

Although there has been a great expansion in the poultry industry in the last few years there are, it seems, large possibilities for a still greater increase to come in the near future.

Production of broilers on an intensive scale is one of the most recent phases of the industry to gain the attention of the poultryman. Prof. W. H. Lapp, director of the Poultry Research Society of America, has received many inquiries on the question—Can broilers be raised in battery brooders, and is it feasible? In order to study this problem the society has placed a fellowship at the Kansas State Agricultural College. If this practice proves successful it may revolutionize this part of the poultry industry. Producers will be able to grow a larger number of broilers in a smaller space due to placing them in apartments one above the other. A number of different commercial poultrymen in various parts of the country are already attempting to produce broilers by this "hot house" method.

In the experiment as planned to study this problem at the K. S. A. C. poultry farm, the baby chicks are started in an electric heated brooder. This brooder is constructed of steel and is made in six decks. Each deck will accommodate one hundred baby chicks for the first three weeks. However, at this capacity the chicks seemed to be crowded, especially during the last week of the three-week period the chicks were kept in the brooder.

It was found advisable to reduce the number of chicks to fifty for each compartment. At three weeks of age, they are transferred to a common fattening battery. These batteries are adjusted to chick size by placing extra wire netting around them so the meshes overlap, thereby reducing the size of the openings from two inches to one inch. This wire is fastened so it can be changed in order to make a larger feeding opening for the chicks as they grow. It was also found advisable to place hardware cloth over the floor wire to make a more comfortable footing for the three-week old chicks. Special feeders and waterers were made for these batteries so the birds have access to feed and water on all sides of the battery.

The birds are kept in these special batteries for six weeks. At the end of this period, at which time the birds are nine weeks old, they are taken to the packing plant where they are put on a finishing ration for about two weeks before being killed and dressed.

Three lots of broilers have been raised in the brooders under this system. In all the lots various difficulties such as high mortality, cannibalism, and leg weakness have been experienced. The causes of these troubles have not been definitely ascertained but further experiments it is believed will make the system practicable and profitable. Due to the commercial importance of this phase of the industry the problems merit further study.

Claude E. Lovett, '16, is owner and manager of the Homer Creek Stock Farm near Neal, Kans.



Sisal in Haiti

L. R. Stadtmiller, Director
Forest and Fisheries Service Technique

Some four years ago the Service Technique of the Department of Agriculture of Haiti conceived the idea of introducing the commercial production of sisal fiber into the Republic. Accordingly small experimental plantations were started in various parts of the country. It was not long developing, however, that a favorable site not far from Service Technique headquarters at Port-au-Prince (Haiti) could be chosen for a suitable demonstration plantation. This plantation accordingly was started at Hatte Lathan and today covers some 220 acres in sisal, has its own decorticating factory, and is shipping its fiber as a regular feature to the markets of the United States.

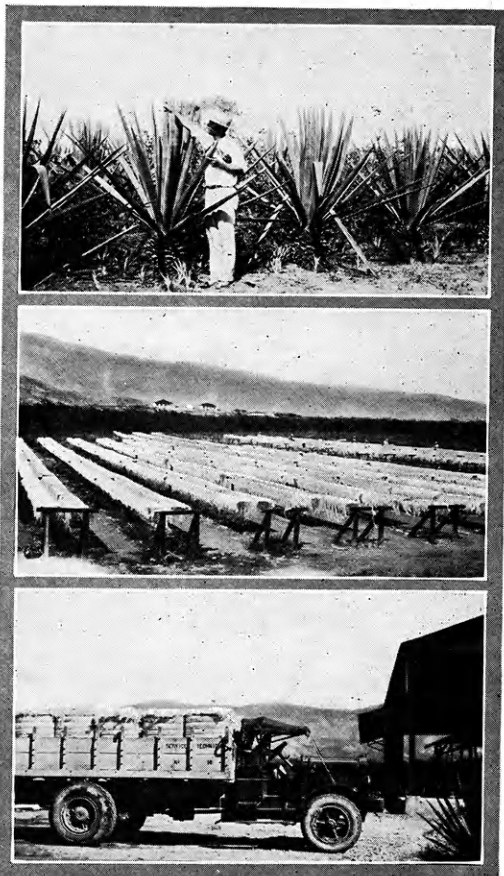
Other smaller plantations situated in various parts of the Republic and under different conditions of climate and soil have served as an admirable check on the growing requirements of the sisal plant. It has been demonstrated that sisal will grow well in all but the most arid regions of the country. The plant likes a porous soil which has not too much humus, is free of acidity, and is not exposed to inundation. Hot sunshine and only a moderate rainfall suit the plant admirably as it stands up very well under dry weather conditions which would seriously injure or destroy most other crops. Its cultivation is well adapted to regions not suited to many other crops, hence one of the valuable features of its introduction into the Republic.

Sisal is growing in many of the tropical countries of the world, Mexico being an especially large producer followed by Java, East Africa, and several other small producers. In Mexico the fiber is got from the plant known as *Agave fourcroydes* (Henequen) while in Java and East Africa the plant grown is *Agave sisalana*. It is this latter type which is being introduced into Haiti. (See illustration.)

Sisal reproduces itself by means of sucker plants which spring up around the base of the mother plant or by means of bulbils which develop on the branches of a flowering pole which strikes from the heart of the

mother plant when it has reached maturity. The sucker plant may be set directly into the field of new planting operations but the bulbils must first be put into nursery beds and allowed to grow for about 12 months.

In setting out plants the spacing used varies with opinions on this subject, but probably the one most favored is 8' x 8' or 650



SCENES ON THE HAITIAN EXPERIMENTAL SISAL PLANTATION

Top: Sisal plants four years of age. These plants will be ready for cutting in about another month. The results of former cuttings may be seen at the bases of the plants. Middle: The drying yard showing fiber as it is spread to dry after leaving the washer. Bottom: Two and one-half tons of baled fiber leaving the factory for the wharf on its way to the United States.

plants to the acre. This allows plenty of room for leaf development and room for harvesting the crop.

Once planted the plants demand about two years before the first leaves are long enough to be harvested and only the hanging leaves may be cut. The overcutting of plants causes serious injury and is one of the technical points in their growth which must be constantly watched.

When ready for cropping the leaves are cut at their base by machete or otherwise, tied into bundles, and transported to the factory. Here they are placed on a sorting table and fed into the decorticator from which they issue in the form of a small bundle of wet fiber. This fiber is at once fed into the automatic washer running from the factory out into the drying yard. Arrived here the fiber is caught up by hand and distributed over drying frames. Tropical sunshine quickly dries out the fiber which is then taken back into the factory and, after being sorted, is run through an automatic brushing machine which combs and brushes out the fiber into glossy white threads. From here it is put into the press and made up into bales weighing approximately 400 pounds. After being tagged it is then ready for shipment.

Probably the greater part of the sisal fiber which will be produced in Haiti will find its way into the markets of the United States and as it is classed in the "hard" fiber group it will be used in the manufacture of rope and binder twine. The world's use of this material is well over the 350,000-ton mark and although Mexico is capable of supplying just about the world's demand it is not doing so because of an inferior fiber.

So far the results obtained have been very gratifying. Growth of the plants has been beyond that hoped for and better than in some other regions which are large producers of sisal fiber. With experience our fiber has risen in grade until today it is selling on a par with No. 1 East Africa and we are now striving to reach the world's best—Java fiber. Our demonstration plantation has been an outstanding success as witnessed by the fact that at present a number of large commercial companies have entered the field, several of them having reached the stage where they will soon be exporting fiber. These com-

panies are planting steadily, several are now erecting their decorticating plants, and others will soon do so. All in all the Republic is well on the road toward entering the list of sisal fiber producers.

Haiti, then, enters the field of sisal fiber production favored in many ways. Rate of growth of the plants is very satisfactory, large areas of sisal culture land are available, labor is cheap and available, political conditions are stable, and nearness of the largest consuming market is very favorable to competitive conditions.

Harold H. Cohn, f. s., is poultry specialist for the International Sugar Feed Company. His company has mills at Minneapolis, Minn., and Memphis, Tenn. Mr. Cohn's headquarters is at Memphis. He was a student in K. S. A. C. during the college year, 1922-23, taking special work in poultry husbandry.

A. R. Paden, '23, is principal of Argonia Rural High School. This is his third year at Argonia as principal and he has on his staff Floyd F. Herr, '26, as his teacher of vocational agriculture. When asked what they were doing the reply was, "Making aggies of all of them."

Fred C. Sears, M. S., '92, is head of the Department of Pomology of Massachusetts Agricultural College, Amherst. Mr. Sears is a recognized authority in his line of work. He has recently published another book, which is a practical manual on "Growing Fruit Trees."

Mr. George R. McMahan, f. s., commercial poultry and turkey raiser at Attica, Kan., is a real missionary in his community. The neighbors within a radius of 15 miles of Attica are constantly seeking his advice on culling, disease, management, brooding, and feeding. Mr. McMahan cooperated with the county farm bureau and the K. S. A. C. poultry extension specialists in advertising and promoting an extension school which was recently held in Attica. More than 350 people were present which was by far the largest attendance at any of the 50 such schools held in the state this winter.

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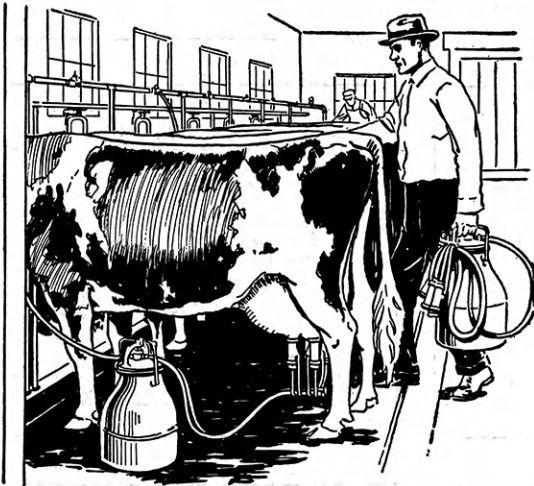
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