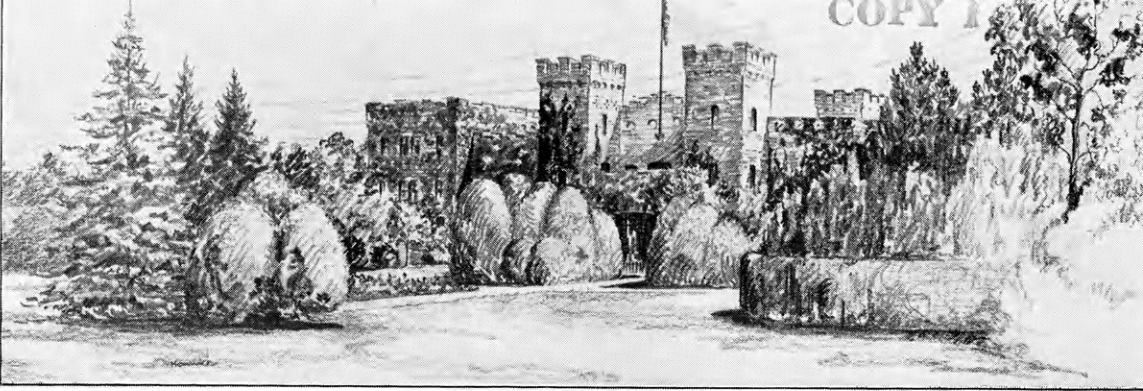


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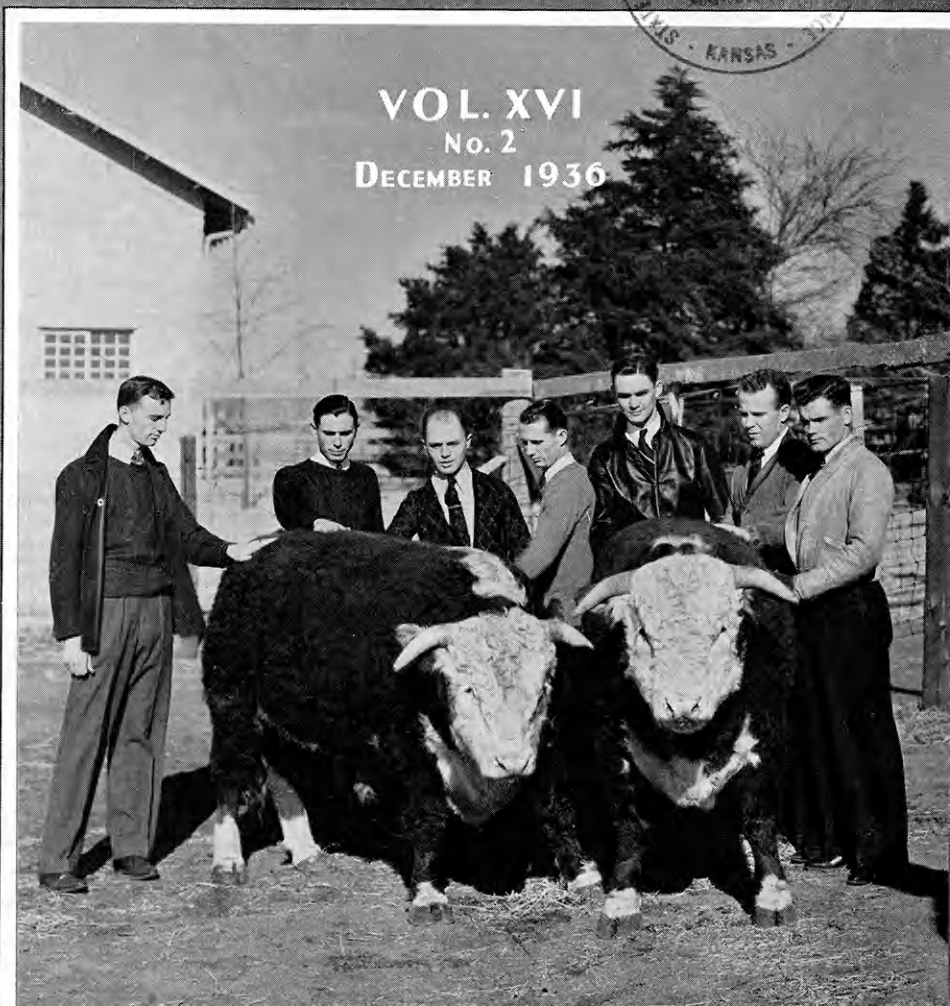


THE KANSAS AGRICULTURAL STUDENT

MANHATTAN, KANSAS

COLLEGE OF AGRICULTURE
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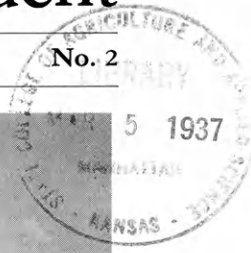
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The Kansas Agricultural Student

VOL. XVI

Manhattan, Kansas, December, 1936

No. 2



THE AGRICULTURAL BUILDINGS IN JANUARY

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The Premier Coach of Livestock Judging Teams

Prof. Floyd Wayne Bell came to Kansas State College as professor of animal husbandry and coach of livestock judging teams in the fall of 1918. For his work since that time he holds a record unexcelled. Professor Bell was born October 23, 1887, and was reared on a farm near Rome, N. Y. He was instructor in animal husbandry in the Agricultural and Mechanical College of Texas from 1912 to 1914 and associate professor in the same institution from 1914 to 1918. He has been secretary of the Texas Horse Breeders' Association, the Kansas Horse Breeders' Association, and the Kansas State Livestock Registry Board. He is a member of Farm House Fraternity and of the honor societies of Alpha Zeta and Phi Kappa Phi. He received the degree, bachelor of science in agriculture, from Cornell University in 1911. He did part-time graduate work in Ohio State University in 1911-'12. He was a member of the varsity football team and of the dairy cattle intercollegiate judging team at Cornell University.*

The ranks of K. S. C. livestock judging teams in the International Exposition contests from 1919 to 1936 are as follows:

Year	Num. of Teams	K. S. C. Rank
1919	18	3
1920	21	4
1921	21	5
1922	20	3
1923	19	1
1924	24	5
1925	22	4
1926	23	2

*Cornell University was represented by a livestock judging team in the contest at the International Livestock Exposition for the first time in 1936. It is interesting to note that this team was coached by Dr. John I. Miller, '33, who was a member of Professor Bell's International judging team in 1932. A member of Dr. Miller's team was high individual in the contest. Thus Professor Bell not only coached the winning team in 1936, but was honored further by the fact that one of his former team members now coaching livestock judging teams in Professor Bell's alma mater, coached the student who was high man in the 1936 contest.

1927	21	3
1928	23	2
1929	21	6
1930	23	2
1931	20	3
1932	20	2
1933	20	7
1934	22	10
1935	24	5
1936	27	1

The comparative standing of Kansas State College teams may be seen more definitely by a comparison of the total placings of the leading teams in the International contests from 1919 to 1935. These total placings are as follows:

Rank	Team	Total Placings
1	Kansas	67
2	Iowa	81
3	Oklahoma	76 (Did not compete in '27)
4	Nebraska	97
4	Ohio	97
6	Purdue	92 (Did not compete in '32)

The average placings for the same period and for the same six leading teams are as follows:

Rank	Team	Av. Placing
1	Kansas	3.94
2	Iowa	4.76
3	Oklahoma	4.75 (Did not compete in '27)
4	Nebraska	5.71
4	Ohio	5.71
6	Purdue	5.75 (Did not compete in '32)

It is obvious from the above data that prior to winning first in the International in 1936, Professor Bell's Kansas teams have had a better record than any of his competitors. Now that his 1936 team won the largest contest ever held in Chicago, placing first among 27 teams, it can truly be said that Professor Bell is the world's premier coach of livestock judging teams.

The History and Value of Judging Contests Among K. S. C. Students

A Symposium by the Coaches

LIVESTOCK JUDGING

The value of livestock in Kansas is approximately \$200,000,000. If no care

there was a more general application of fundamental principles in selection the total value of Kansas livestock would be greatly increased.

Profits in livestock production are determined largely by selection. That is why Kansas State College sends livestock judging teams to compete with students from other colleges in national and international contests at the American Royal Livestock Show, Kansas City, Mo., and the International Livestock Exposition, Chicago, Ill. These teams are composed of senior students who have done the best work in the courses in which livestock selection is taught.

A great many students who come to Kansas State College wonder if they can make the livestock judging team. Some are sure they will because they were "stars" on club or high school teams; others think they cannot because they were never on a judging team before entering college. Both may be wrong.

Students who represent the college in these contests are not "stars" but are good students who have studied selection diligently, and understand the relation of selection to profitable livestock production. They know what



PROF. F. W. BELL

was exercised in selection of livestock for improvement, this value would be greatly reduced. On the other hand, if

kind of animals make most economical gains, what kind yield the most desirable carcasses, and which are most

valuable in the breeding herd.

These students can make a reasonable estimate of the market value of a single animal, or they can look over a number and sort them out in order of their merit. They have learned to do this quickly and surely. They have the ability to sort out important differences from minor ones. And this information each student must report to his instructor in a clear-cut, concise statement, justifying the decision he has made. Guess work is eliminated, correctness of decision is matured, proof is rendered.

These qualities are essential to a successful livestock producer. Every student studying in this field has an equal chance to acquire them. Membership on the team comes as a reward for greater effort and accomplishment in acquiring them.

How well are students at Kansas State College fitting themselves for successful livestock producers as compared to the students of other states? The best answer to this is their record in intercollegiate competition at the International contest held as a part of the International Livestock Exposition, Chicago, Ill. This year 27 states competed at the International, and Kansas students won first place in judging all classes of livestock which included horses, beef cattle, sheep, and swine. But best of all is the record Kansas students have made in this contest during the past fifteen years. During this time Kansas State College has the highest rank of all teams from the United States and Canada.—F. W. Bell, coach of livestock judging teams.

DAIRY PRODUCTS JUDGING

The Students' National Contest in Judging Dairy Products is an annual event sponsored jointly by the Dairy and Ice Cream Machinery and Supplies Association and the American Dairy Science Association. The contestants are required to score, criticize, and place seven samples each of vanilla ice

cream, creamery butter, American cheese, and market milk.

Competition among students of K. S. C. for a place on this team has always been keen. There are reasons why this is true. In the first place, the six research fellowships, each valued at \$600, which are awarded by the Dairy and Ice Cream Machinery and Supplies Association to the six high teams in the contest, give the boys a great incentive to be on a winning team. Secondly, the contest is held as one of the major activities of the Dairy Industries Exposition. This feature makes it possible for the team members to have an interesting and instructive trip and to see one of the largest and most important trade shows held in the United States at a very small cost.

The history of these contests among Kansas State College students makes it obvious that students who in the past have ranked high are today holding some of the best positions in the dairy manufacturing field.—W. H. Martin, coach of dairy products judging teams.

CROPS JUDGING

Crops judging and grading at Kansas State College have developed to the point where they constitute an important part of the work of students in agronomy. Profitable crop production depends largely upon the selection of good seed, and feeding value and market price of the grain and forage crops depend to a great extent upon quality. The ability to recognize quality in seed and feed is of utmost importance to both the producer and the buyer of these products. The growing realization of these facts has shown the need and value of more training in crops judging. Kansas State College has taken a leading part in fostering this judging work and has been instrumental in the organization of the principal crops judging contests in the United States.

The state high school contest sponsored by K. S. C. for those in vocational

agriculture in high schools offers the first opportunity for state-wide competition in crops judging. After the student is enrolled in the college he has an opportunity every year to engage in crops judging contests. A student contest in judging and grading crops is held in the spring of each year. This contest is so arranged that there is a separate division for freshmen, another for sophomores, and a third for juniors and seniors.

The crowning events of all the judging work are the two intercollegiate contests held in November of each year at Kansas City and Chicago open to all states of the United States and provinces of Canada.

The Kansas City contest is sponsored by the Kansas City Board of Trade and the Kansas City Chamber of Commerce. The Federal Grain Supervision and Federal Hay Laboratory assist with the contest. Prizes awarded consist of a silver trophy, \$100 in cash scholarships, gold, silver, and bronze medals to individuals of the high three teams, and a gold medal to the individual making the highest score. This contest was organized in 1929 and is now well established.

The Chicago contest is sponsored by the Chicago Board of Trade, the International Grain and Hay Show, and the International Crop Improvement Association. The grain supervision office and the Federal Hay, Feed and Seed Division of the Bureau of Agricultural Economics assist with the contest. The prizes awarded consist of a sterling trophy, \$400 in cash scholarships, and gold, silver, and bronze medals to the individuals of the high three teams, and a diamond-studded gold medal to the individual making the highest score. This contest was organized 14 years ago and is an event which is looked forward to by the leading colleges of the United States.

Kansas State College has competed in all of the 21 intercollegiate contests held both at Kansas City and Chicago,

against 5 to 11 states in each contest. The Kansas team has placed first in five of these contests, second in 1, third in 6, fourth in 4, fifth in 2, sixth in 2, and seventh in 1. Winning in the contest is not the primary purpose of the crops judging work. Far more important is the training the student receives which will aid him in obtaining greater satisfaction in more intelligent and profitable crop production.—J. W. Zahnley, coach of crops judging teams.

APPLE JUDGING

Apple judging is one of the oldest intercollegiate judging competitions in which students at Kansas State College have participated. As far back as 1909 an apple judging team represented this college in a contest held in Council Bluffs, Iowa. Several teams representing this institution entered apple judging contests between 1909 and 1915. Between 1915 and 1920 no intercollegiate contests were held, but since 1920, contests have been held with fair regularity and teams representing this school have entered all contests held in the Mississippi valley.

There is no permanent association or exhibition to sponsor intercollegiate apple judging contests. The Horticultural Societies of Iowa, Missouri, and Kansas either jointly or individually have taken the lead in staging judging contests during the past 15 years. Occasionally the American Pomological Society holds its annual meetings in the Great Plains area, and when this occurs, judging contests are held in connection with the meetings.

The ability to judge and identify apple varieties is of much value to a horticulturist. This value is somewhat different from the experience gained by a judge of livestock. In the latter case the student can use some of the information gained in judging in selection and breeding problems. With the horticulturist, an intimate knowledge of fruit varieties is gained and one of the basic problems that every fruit grower must decide upon is the selection of

good varieties. Perhaps the greatest value of judging contests of all kinds is that of learning to make decisions.

One of the results of the training of judging teams in recent years is that of the marked improvement in the quality of the exhibits of the apple shows at the state fairs at Topeka and Hutchinson. Over three fourths of the exhibits at those fairs in recent years have been set up by former members of apple judging teams. Other exhibitors have learned much about the technique of showing apples from these former students. The results have been that the management of the fair associations and the patrons of the fairs have all agreed that the apple shows are far better than they were many years ago. This has come about in spite of adverse fruit growing seasons during the past four or five years.—W. F. Pickett, coach of apple judging teams.

MEAT JUDGING

Meat judging teams are one of the more recent additions to the list of intercollegiate judging activities in which a student may participate. The idea of such contests was first suggested by Prof. W. J. Loeffel of the University of Nebraska, about 1925. The first meat judging contest was sponsored by the National Livestock and Meat Board in connection with the 1926 International Livestock Exposition in Chicago and 10 institutions were represented by teams. The following year a similar contest was sponsored by the same organization in connection with the American Royal Livestock Show of Kansas City, Mo. The Board also sponsored an additional contest designed for students in home economics.

Kansas State College has been represented in each of these contests since 1927. Judging carcasses and wholesale cuts of meat in a contest, however, is merely an extra curricular activity for the few top-ranking students regularly enrolled in the advanced meat classes. Nevertheless, such contests do have a

definite place in an educational program. They offer a special incentive for the student to do his level best, and as a result it is usually the individual who tries hardest that achieves success, not only in a contest but in the application of the principles taught to later life.

Among the many precepts that are taught in the advanced meat work there are two that stand out among the others. The first of these is that standardization of any commodity fosters better understanding between producer, consumer, and all other marketing agencies. Within recent years a standard classification has been worked out for meat which is now known as standard classes and grades of beef, pork, and lamb. The classification is a practical one and becomes more widely used each year. The students learn to evaluate beef carcasses, for instance, in terms of prime, choice, good, etc., or by specific grade rather than as so much beef.

The second principle that is emphasized in meat judging is that the final value of any meat-producing animal is determined on the rail, by the type and grade of the carcass. The grade of carcass is closely related to the grade of the animal on foot, so that meat studies aid the student in appreciating what actually is under the hide. From the wholesale cuts and the carcass he actually learns the relationship that exists between form and function in our livestock.

If meat judging contests are a means of encouraging some students to undertake a type of instruction that they otherwise might pass up, and as a result of this instruction develop a better appreciation of the form and function of our farm animals, then these contests would seem to be justified within our educational plan. It is felt generally that they do serve this function along with others.—D. L. Mackintosh, coach of meat judging teams.

DAIRY CATTLE JUDGING

Fine herds of dairy cattle do not "just happen." Back of every such herd is someone who really knows desirable dairy type and who probably gained this knowledge through years of training and experience.

To stand beside the judging ring at a state fair or other large show and watch a competent judge select and line up animals from the blue ribbon winner on down, is fascinating to almost anyone who loves fine cattle. We sometimes fail to realize that back of this judge's ability are probably long years of practice in judging. While individuals may vary in their ability to observe details and draw accurate conclusions, no one is a finished judge until he has seen and placed large numbers of animals. Although the average student can hardly hope to become a finished judge during his college course, many develop a remarkable judging ability during this training. The college curriculum offers a beginning course in judging dairy cattle and also an advanced course but these give the student only the principles of judging and some practice in this work. Only the one who is willing to make judging an extra curricular activity and spend a considerable time in practice outside the regular class work can hope to become very proficient in judging.

Most boys like to engage in contests with others to test their athletic or scholastic ability, so to make judging work more interesting and to give the student more practice along this line the dairy cattle judging contest has become very popular. Each spring a student contest is held at Kansas State College where all students in agriculture are allowed to compete. Even in the 4-H Club and the high school vocational agriculture work, contests are held which may bring hundreds of students together in competition. Incidentally this in many cases gives a valuable training and experience to the

boy who later takes up this work in college.

Each year a student dairy cattle judging team is selected at Kansas State College to represent the college at two major intercollegiate contests. One contest is held at the Dairy Cattle Congress, Waterloo, Iowa, and the other at the National Dairy Show. The latter was staged last year at St. Louis, Mo., and this year at Dallas, Tex. Here teams from 15 to 25 different colleges of agriculture in the United States and Canada meet in competition. Teams representing Kansas State College have in past contests won their share of the honors, in 1935 winning first place and in 1936 winning second place. Many students who have been on teams making the trips to these contests have felt that the knowledge gained and the contacts made were an invaluable part of their college experience.

It is the worthy ambition of many students who enter college to make a judging team before they graduate. Usually the boy whose aspirations are high enough and who is willing to work hard enough will see this ambition realized.—H. W. Cave, coach of dairy cattle judging teams.

Alpha Mu

Alpha Mu is a newly organized honorary flour milling fraternity. It was organized and a constitution drawn up in the spring of 1936. The charter members consisted of Leonard A. Zerull, C. F. Valez, Robert J. Anderson, Harold W. Lindahl, George W. Armstrong, Charles E. Baker, Fred S. Zutavern, Henry McDaniel, Karl F. Finney, Lyle C. Mertz, Cecil O. Spencer, Paul A. Neuschwanger, Max E. McCluggage, Warren F. Keller, and Profs. C. O. Swanson, R. J. Clark, R. O. Pence, E. B. Working, and J. E. Anderson.

The purpose of Alpha Mu is: To coordinate the efforts of students interested in flour milling and its related

(Continued on page 57)

Effective Erosion Control

D. R. Cornelius, '35

The country is becoming conscious of the destructive effects of soil erosion. Gullies, loss of soil fertility, abandoned farms, and dust storms are making people wonder what can be done to stop this devastation brought about by many of the old methods of agriculture. Water which should go into the soil and be used by the crops is running off rapidly after rains, carrying away with it much of the productive surface soil concentrating into gully-cutting streams, and disappearing into creeks and rivers. Crops suffer from lack of moisture, the ground becomes bare, and dust storms may result.

As soon as soil investigators began to realize the seriousness of soil erosion they began to seek methods of control. Farmers soon began to appreciate the seriousness of the situation and to encourage control measures. Terracing received considerable attention and was considered to be one of the most important means of controlling surface runoff and consequently soil erosion. Terraces are ridges of soil constructed nearly on the contour but with just enough slope to carry the water, thus retarding its progress, increasing its penetration, and reducing the amount of soil that the water can carry.

Often new procedures receive too much publicity before sufficient information is available to make possible their most efficient use. Some terraces were constructed by farmers who thought their problem of soil conservation was thereby accomplished. Planting row crops up and down slopes over the terraces and failure to provide proper outlets made terracing a disappointment to a few of the early participants in this method of erosion control. Properly-constructed terraces do have a place in controlling erosion on sloping crop land. There are other practices, however, which should be employed along with terracing for the most effective erosion control.

Investigators have recognized for several years the importance of vegetation in reducing soil erosion. It has been demonstrated that close-growing crops, especially grass sod, increase the ability of the soil to absorb water and prevent raindrops from striking the ground with such great impact by first striking leaves of the plants, thereby holding most of the water in the land. Roots hold the soil and top growth retards the movement of the water.

One of the big problems for the Soil Conservation Service to solve at the present time is how to use vegetation most effectively in erosion control. Engineers have accomplished much in terrace construction. Outlets are designed to carry the water satisfactorily and dams can be employed to control the gullies and ditches already in existence. Now systems of contour farming, crop rotation, strip cropping, pasture management, and the revegetation of eroded steep-sloping land are receiving more emphasis.

Many farmers fear contour farming will involve too much turning and too many point rows. This can practically be overcome by planting a strip of grass or drilled grain at intervals where the point rows would occur. The matter of more turns is usually not so serious as anticipated. An actual count was made of the number of turns required by a farmer drilling wheat near Liberal, Kan., as ordinarily practiced. This was compared with a count of turns required in drilling a similar field on the contour. Fewer turns were encountered in the second case. Some of the turns were shorter and slightly irregular, but the average length of the strips was longer.

Crop rotation and strip cropping can go hand in hand if a close-growing crop such as grass or legumes for hay or a drilled cereal is grown. The close-

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THE COVER PAGE

The cover page of this issue depicts a scene that illustrates the kind of training received by students who try out for livestock judging teams. In this picture, the members of the senior team, World's Champions by reason of the fact that they won first honors in competition with 26 other teams from agricultural colleges in the United States and Canada, are making a critical study of two purebred Hereford bulls, bred and developed by the Department of Animal Husbandry.

The bulls are College Tone 22d and College Tone 25th, both of which were sired by Hazford Tone 58th, an outstanding herd bull loaned to the Department of Animal Husbandry by the late Robert H. Hazlett of Eldorado.

KANSAS CHAPTER OF ALPHA ZETA

Alpha Zeta, established in 1897 at Ohio State University, has just passed another milestone in its life history. During the last week in December this honorary agricultural fraternity held

its seventeenth National Conclave. Delegates from the 42 chapters of the fraternity met together in Chicago for the four-day session which resulted in instilling additional life into an already very live organization.

Kansas Chapter was founded in 1909. Since that time it has had 399 members. The present active chapter is composed of 41 men (see frontispiece) and over 60 Alpha Zeta faculty members are now found on our college campus.

Last November the local chapter held its annual fall stag banquet at which the men elected during the first semester were introduced to the alumni members. Three seniors and nine juniors comprise this group of new initiates. The seniors are Oran F. Burns, Lyman C. Calahan, and Rolla B. Holland. The juniors are J. Donald Andrews, Dewey Axtell, F. Louis Brooks, Merton V. Emmert, Wayne H. Freeman, Rodney K. McCammon, Hugh G. Myers, Waldo W. Poovey, and Carl S. Warner.

In looking forward to the spring semester, Alpha Zeta considers especially such events as the annual spring smoker, the dinner-dance, the awarding of the freshman scholarship medal, the publication of the newsletter, and the second semester election. This election is extremely important in that the boys who are second-semester sophomores are eligible for Alpha Zeta membership for the first time in their college career.

The Kansas Chapter has determined, as a new-year resolution, to put forth every effort to "promote the profession of agriculture"—the object of Alpha Zeta.—H. M. L., '37.

THE JUDGING CONTESTS

This issue might be called a judging contest number. Besides regular reports on all intercollegiate judging contests of the fall season, a symposium by the coaches is of exceptional interest. We believe a majority of our readers will find this discussion of real value.

It just happened that because of the situation this year we trained no poultry judging team. Poultry judging, however, is one of our important annual judging activities. Our teams in the past have had a splendid record and we expect that record to be continued next year.

Where's Our Type?

In tracing back through the livestock history of the world the student will find that the United States makes one major contribution to families of domesticated animals. The lard-type hog is strictly American in its origin and development. It is true that the first domesticated swine came from European countries, just as did cattle, sheep, and horses, but in swine and swine alone this country has developed a type entirely different from the types existing in European countries.

Despite the fact that lard hogs were developed in the United States, swine breeders have been unable to standardize the type. In cattle and sheep a gradual and constant trend to the accepted and desirable "short-bodied, low-set, meaty type" is noticeable. Draft horse type is rather definitely set, both in this country and in Europe; but in the case of swine there is a constant shifting from one standard to another.

This shifting of standards in the breeding of swine has produced several undesirable results. It has prevented long intensified breeding programs; and it has resulted in a confused idea of what is desirable in swine type, so that little advance from the position occupied several generations ago tells the story of progress.

By 1850 a large coarse, growthy type of hog that couldn't be fattened below 350 pounds was in common use. This was all right for that period, as heavy salt pork was in great demand. However, the demand for the heavier pork cuts rapidly decreased until in the Seventies and Eighties the little "fatback" was developed. He was mature and fattened at 185 pounds.

This fine-boned, chubby, unprolific, slow-gaining type, however, was not economical. To alleviate the situation the breeders veered sharply in the other direction, and by 1905 a type was prominent that was decidedly stringy in conformation. The stringy pigs wouldn't fatten at desirable weights, and were often lacking in vigor; so the tendency was to rush back to the other extreme.

This erratic shifting from one extreme to another has been the general characteristic of the American swine-breeding program. In the past few years some of our major breeds have decreased in value because the breeders lost sight of carcass qualities in their quest for size and stretch. At present it would appear that this craze for

(Continued on page 60)

Seven K. S. C. Judging Teams Present a Commendable Record for 1936

A Symposium by Members of the Teams

LIVESTOCK JUDGING TEAM WINS THE INTERNATIONAL

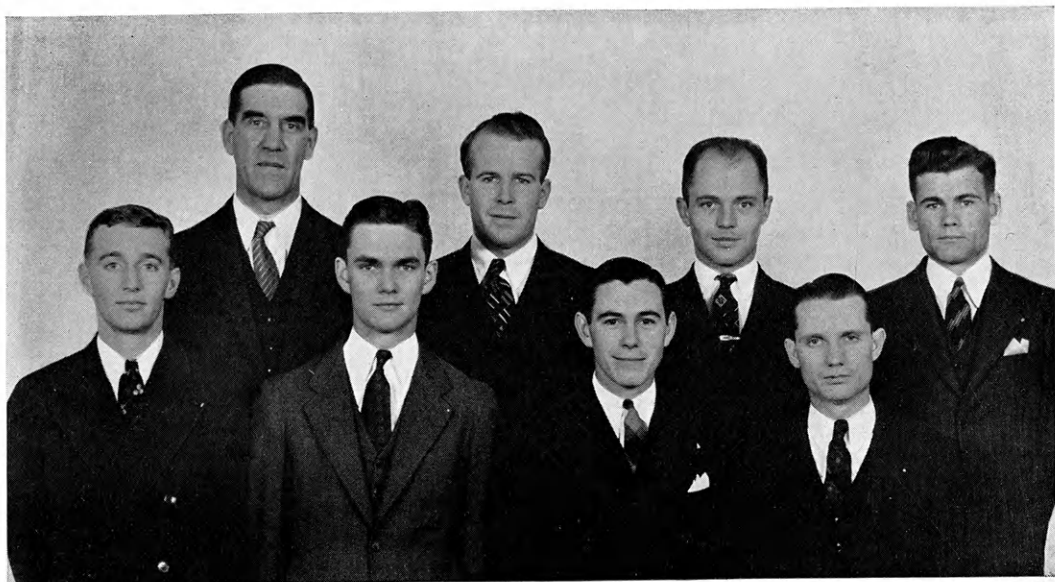
In the intercollegiate livestock judging contest at the American Royal

Livestock Show, October 17, 1936, with 15 teams competing, the Kansas State team placed seventh on all classes of livestock, and first on judging beef cat-



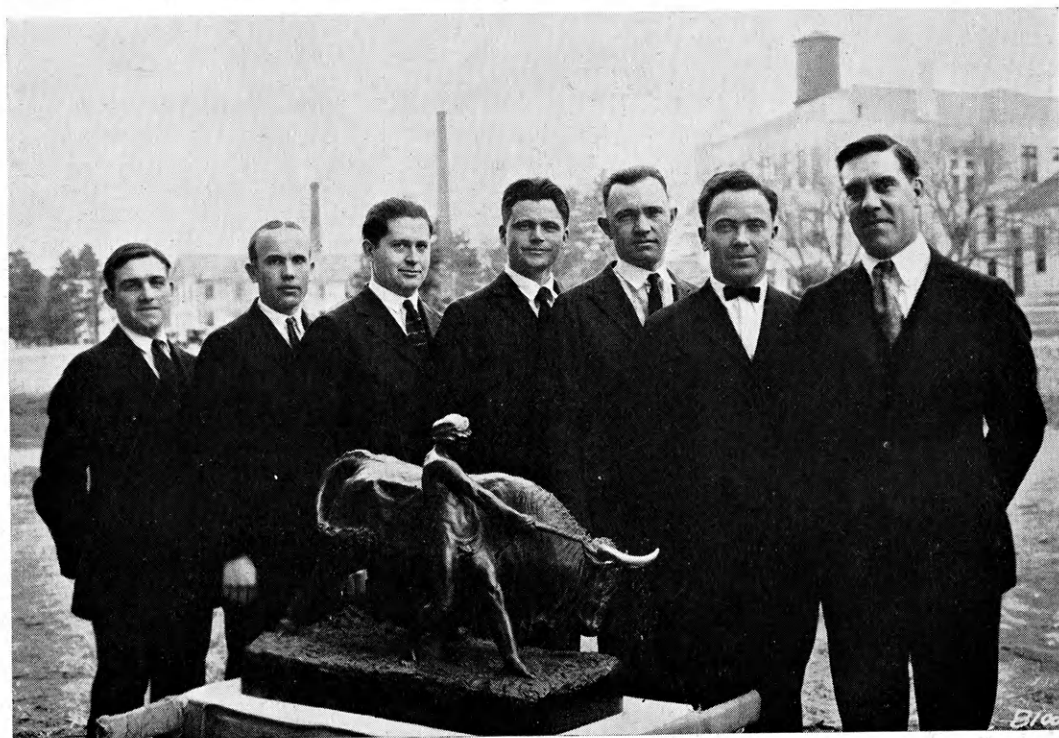
THE COVETED BRONZE BULL TROPHY

This trophy is offered by the Union Stockyards Company of Chicago. It becomes the property of the first college whose teams win it for the third time. The 1936 boys made the first leg when they returned to Manhattan with the trophy. It is an outstanding honor to win. It is a most exceptionally coveted honor to win possession of the prize.



CHAMPION LIVESTOCK JUDGING TEAM OF 1936

From left to right, Thomas M. Potter, Prof. F. W. Bell, Clare R. Porter, Clarence L. Bell, J. Alfred McMurtry, Wilton B. Thomas, Roy H. Freeland, Carl M. Elling.



CHAMPION LIVESTOCK JUDGING TEAM OF 1923

This team won on a total of 4,319 out of a possible 5,000 points. The 1936 team made 4,563 points. From left to right: Aden C. Magee, Edwin Hedstrom (alt.), George R. Warthen, Marvel L. Baker, Harry F. Moxley, James L. Farrand, Prof. F. W. Bell.

tle. The competition was strong. The scores out of 5,000 possible points for the seven high teams were:

Iowa State College.....	4,811
Oklahoma A. and M. College.....	4,795
University of Missouri.....	4,782
A. and M. College of Texas.....	4,781
University of Nebraska.....	4,728
University of Minnesota.....	4,718
Kansas State College.....	4,714

The Kansas State team was coached by Prof. F. W. Bell of the Department of Animal Husbandry and was composed of the following men:

Clare R. Porter.....	Stafford
Roy H. Freeland.....	Effingham
Clarence L. Bell.....	McDonald
J. Alfred McMurtry.....	Clarendon, Tex.
Wilton B. Thomas.....	Clay Center
Carl M. Elling (alt.).....	Manhattan

In individual scoring, Thomas was fifth in judging swine; Porter, fifth in judging sheep; and Freeland, sixth in cattle judging. Porter was high man on the Kansas team.

Winning first in judging beef cattle gives the team the unusual distinction of being undefeated in cattle judging, having been first on cattle at the National Western Livestock Show at Denver, and at the Southwestern Livestock Exposition at Fort Worth last spring.

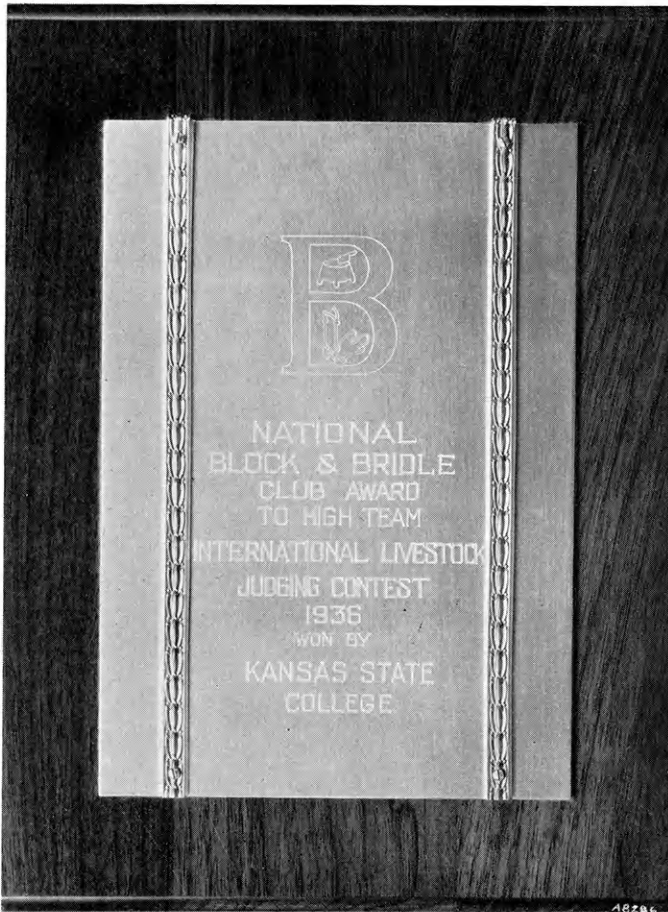
During the week of the American Royal, the team did a lot of work on stock at the Royal show that was of much value to the members.—C. M. E., '37.

At the International contest the team made a sweep. The contest was the greatest ever held. The Kansas team placed first among 27 teams representing leading colleges and universities of the United States and Canada. J. Alfred McMurtry was the alternate.

The team placed first in swine judging, fourth in sheep, fifth in horses, and sixth in cattle. Bell placed fourth; Porter, tenth; and Freeland and Potter tied for sixteenth in individual placings. Freeland placed first in horses, Porter placed second on hogs and Thomas fourth, and Bell placed sixth in sheep.

The scores of the teams in the entire contest were as follows:

1. K. S. C.	4,563
2. Iowa State College....	4,553
3. Purdue University.....	4,516
4. Texas Tech. Col.	4,478
5. A. & M. Col. of Tex....	4,462
6. University of Nebr.....	4,440
7. Cornell University.....	4,422
8. University of Mo.	4,400
9. Okla. A. & M. Col.	4,377
10. Ohio State Univ.	4,367
11. University of Ill.	4,352
12. Colo. State College....	4,350
13. Ontario Agr. Col.	4,347
14. Pa. State College.....	4,342



THE PLAQUE PRESENTED TO THE WINNING TEAM

15. University of Wisconsin.....	4,332
16. Montana State College.....	4,273
17. University of Kentucky.....	4,254
18. University of Minnesota.....	4,253
19. Michigan State College.....	4,249
20. Virginia Polytechnic Institute.....	4,248
21. University of Wyoming.....	4,195
22. West Virginia University.....	4,134
23. North Dakota Agric. College....	4,070
24. Massachusetts State College....	4,012
25. Mississippi State College.....	3,990
26. Clemson Agricultural College....	3,879
27. University of New Hampshire....	3,771

Carl H. H. Beyer.....	Manhattan
Charles W. Beer.....	Larned
Elmer A. Dawdy.....	Washington
Roland B. Elling (alt.).....	Manhattan

This team, coached by Prof. H. W. Cave, received practice work while enroute to Waterloo, at the University of Nebraska, Lincoln, Stephens' Brown Swiss Farm, Fremont, Nebr., the Meredith Jersey Farm and Mountain Guernsey Farm, Des Moines, Iowa, and Iowa State College at Ames. At Waterloo the team placed fourth in competition with nine teams. The University of Illinois placed first with a 56 point lead over the Kansas team. Kansas was the high team in Ayrshires, Beyer being high man and Beer fifth high man on that breed. Kansas was second high in the Jersey breed. Of the entire contest, Rath of Illinois was high man with a total of 694. Charles W. Beer was the fifth high individual in the entire contest with a total of 677 points.

As a background for this victory the members of this team won distinction during their junior year. Last January Kansas placed second at the National Western Livestock Show at Denver. Roy H. Freeland and Clare R. Porter were members of the Denver team, Freeland being the high man at that show. Again at the Southwestern Exposition at Fort Worth, Tex., K. S. C. students stood at the top, the team winning over ten other colleges. Of the 55 contestants at the Southwestern show, Bell placed second; McMurtry, third; Thomas, fourth; and Potter, seventh.

On Thursday preceding the National contest, the Dairy Club and Department of Dairy Husbandry of K. S. C. sponsored a dairy work-out for teams going through to Dallas. Teams from seven states placed two classes of each of the Jersey, Holstein, Ayrshire, and Guernsey breeds. The Dairy Club entertained the teams at a banquet and short program that evening.

These junior teams ranked high in judging all kinds of livestock and were never defeated in judging beef cattle. They continued this record as seniors by leading 15 teams in judging cattle at the American Royal.

In recognition of the outstanding record made by these students in their final contest, the National Block and Bridle Club awarded a sterling silver plaque to the college. The famous "Bronze Bull" trophy presented by the Union Stockyards Company to the winning team will reside in Waters hall during the coming year.—J. A. M., '37.

Twenty teams competed in the cattle judging contest at Dallas, representing colleges from Canada and 18 states of the United States. Twelve representative classes of the major breeds were judged. Cow classes were selected from the Holstein, Jersey, Guernsey, Brown Swiss, and Ayrshire breeds. Bull classes were taken from the same breeds except Ayrshire. Three classes of six animals per class were included in this contest.

DAIRY CATTLE JUDGES MAKE A GOOD RECORD

The K. S. C. dairy cattle judging team competed in two major intercollegiate contests this fall. The first contest was held at the Dairy Cattle Congress, Waterloo, Iowa, September 28, 1936, and the second at the National Dairy Show, Dallas, Tex., October 12. The team was composed of:

Kansas State placed second in the entire contest with a grand total of 4,213.9 points. Minnesota was first with a 33 point lead and Wisconsin was third.

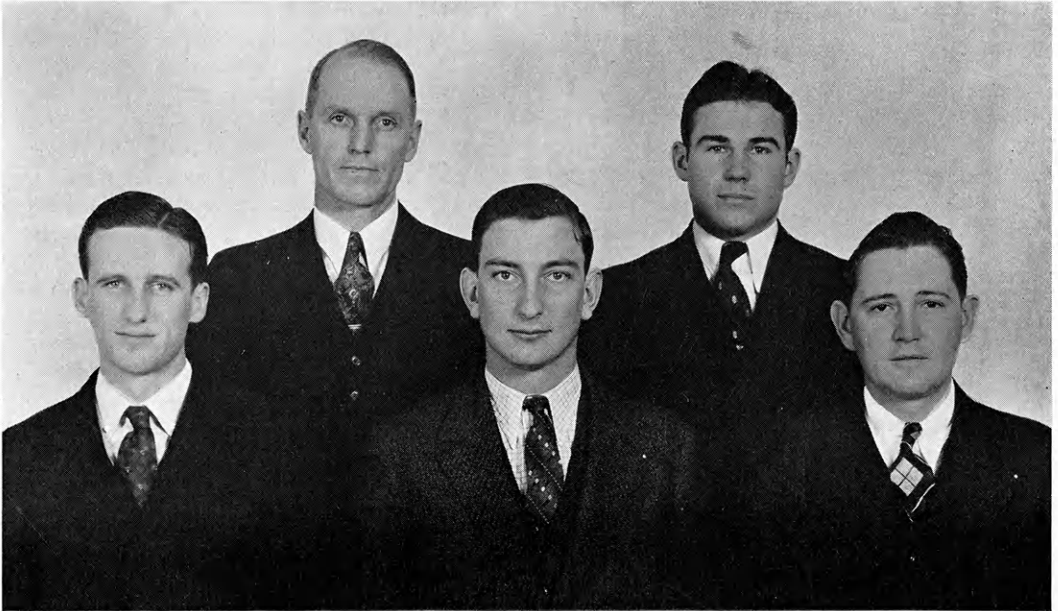
Charles W. Beer, high individual on the team, ranked fourth in both the

Ayrshire and Jersey breeds. Beyer placed tenth in the Ayrshire breed and Dawdy fourth and tenth, respectively, in Brown Swiss and Guernsey judging.

The educational value of the contests was greatly supplemented by the many contacts made. In Dallas the team members were able to spend some time viewing the Texas Centennial Exposi-

identifying the name of the crops, the scientific name and the regional adaptation were required.

The first contest, which was held in Kansas City, Mo., November 20, 1936, was sponsored by the Kansas City Board of Trade. In this contest the team placed third, ranking second in identification, third in commercial



DAIRY CATTLE JUDGING TEAM

From left to right: Elmer A. Dawdy, Prof. H. W. Cave, Carl H. H. Beyer, Roland B. Elling, Charles W. Beer.

tion. The team is appreciative and proud to represent Kansas State College.—R. B. E., '38.

CROPS JUDGING TEAM NEVER GIVES UP

The Kansas State crops judging team entered two contests this year—Kansas City and Chicago—where they placed third and seventh, respectively, with eight teams competing in the two contests.

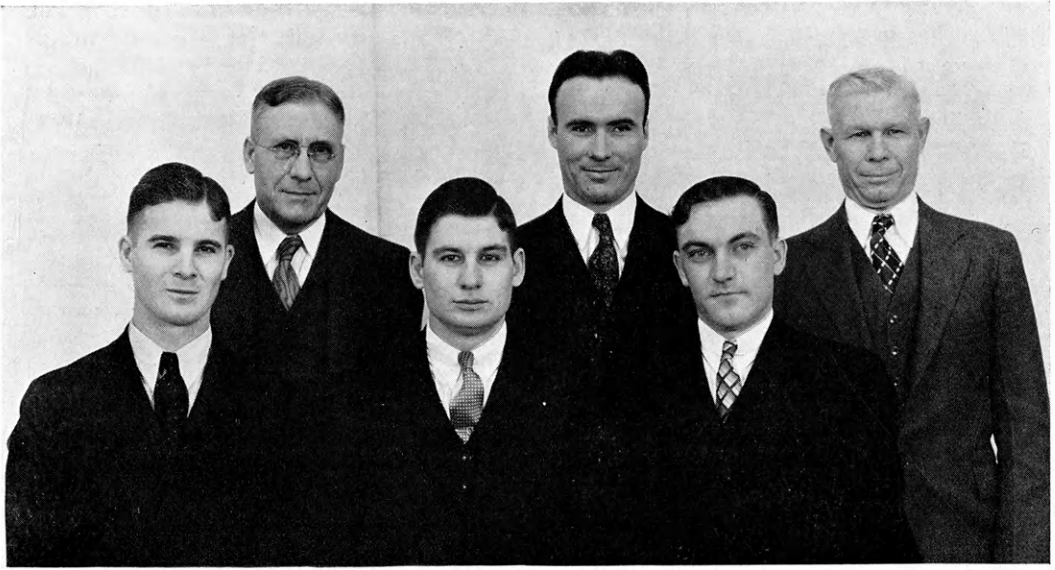
The contests consisted of three divisions: (1) Identification of 60 samples of field crops, weeds, and plant diseases; (2) judging of various crop seeds; and (3) the commercial grading of grain, hay, and the grading and stapling of American Upland cotton. In

grading, and sixth in seed judging. Robert T. Latta and Kenneth A. Fisher ranked in the ten high men in the contest and Darrell D. Morey tied for first in identification. The three high teams and their scores are as follows:

Iowa State College.....	5,136
University of Nebraska.....	5,081
Kansas State College.....	5,045

By ranking in the first three teams in the contest the team won a 50-dollar scholarship for the college and individual medals.

The second contest entered was the collegiate hay and grain judging contest held in Chicago, Friday and Saturday, November 27 and 28, 1936, in connection with the International Hay and



CROPS JUDGING TEAM

From left to right: Robert T. Latta, Prof. J. W. Zahnley, coach, Kenneth A. Fisher, J. Dean Lerew, Darrell D. Morey, Prof. C. D. Davis, assistant coach.



WINNING APPLE JUDGING TEAM

From left to right: Anton S. Horn, Prof. W. F. Pickett, Lyle M. Murphy, C. William Lobenstein, Orville O. Hodson.

Grain Show sponsored by the Chicago Board of Trade. Cash awards of \$100 each were given to the four highest teams. The four high teams ranked as follows: University of Nebraska, Oklahoma Agricultural and Mechanical College, Iowa State College, and North Carolina State College. Individual medals were given to the members of the three highest teams and the high individual of the contest, which was M. E. Mohan of Oklahoma A. & M.

The Kansas team was composed of:

Robert T. Latta.....Holton
 Kenneth A. Fisher.....Newton
 Darrell D. Morey.....Manhattan
 J. Dean Lerew (alt.).....Portis

The team was coached by Prof. J. W. Zahnley and assisted by Prof. C. D. Davis. Professor Zahnley accompanied the team on the trips.—J. D. L., '37.

APPLE JUDGING TEAM PLACES FIRST AT AMES

By amassing 6,310 points out of a possible total of 6,675, the Kansas apple judging team won first place in competition with teams from Iowa and Illinois at a contest held at Ames, Iowa, on November 14, 1936. The contest was sponsored by the Horticultural Club of Iowa State College in conjunction with the Little Mid-West Horticultural Exposition.

Members of the team were:

Lyle M. Murphy.....Manhattan
 Orville O. Hodson.....Argonia
 C. William Lobenstein.....Edwardsville
 Anton S. Horn (alt.).....Horton

Dr. W. F. Pickett of the Department of Horticulture coached the team and accompanied them to Ames.

By scoring a total of 2,155 points, Murphy won individual high honors for the contest. Lobenstein was second with 2,110 and Hodson was third with 2,045 points. The score of 1,985 points made by Horn was also higher than that of any individual on the other teams but the scores made by alternates on the teams are not included in the team totals.

To obtain a perfect score of 2,225 points, the contestant must identify and

place correctly 15 classes of apples, each class consisting of three plates of five apples each, and identify a group of 100 apples selected from a list of 20 of the more important commercial varieties.

A handsomely engraved silver plaque was presented by the Iowa State Horticultural Society to the winning team. This trophy will be added to the growing collection of apple judging awards in Dickens hall and will remain in the permanent possession of Kansas State.

Since the contest at Ames is the only one of its kind to be held in the Mid-West this year, the team will not have the opportunity to participate in any other contests this year.—C. W. L., '39.

IN TWO MEAT JUDGING CONTESTS MEN'S MEAT JUDGING TEAM YIELDS HIGH PLACINGS TO OPPONENTS

The Kansas State College men's meat judging team was composed of:

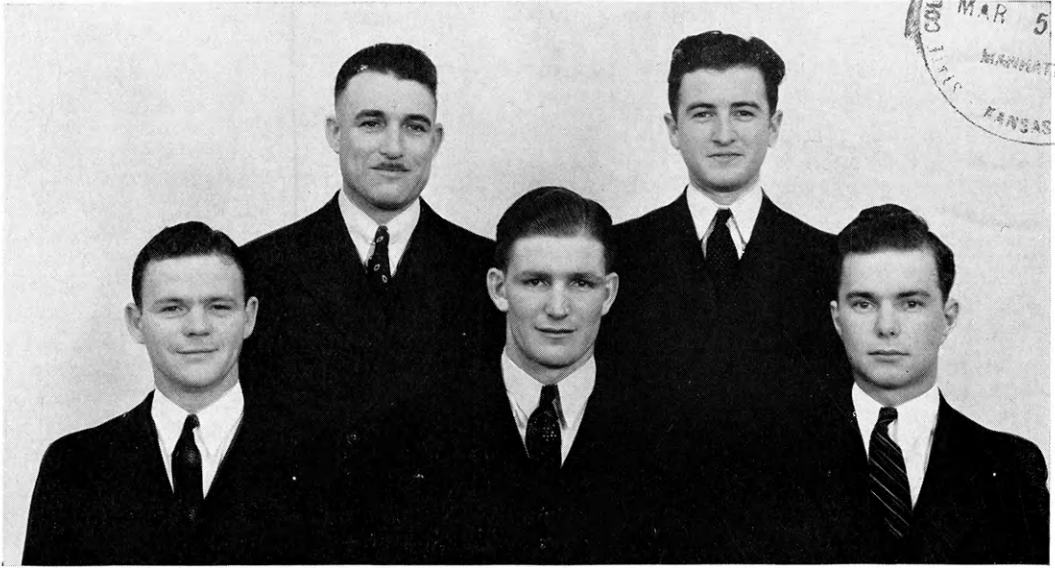
J. Clayton Buster.....Larned
 Vernal G. L. Roth.....Emporia
 D. Dean Dicken (alt. at K. C.).....Winfield
 Charles W. Pence (alt. at Chi.).....Topeka

This team entered two intercollegiate judging contests this year. In the first contest, held in Kansas City at the Cudahy Packing plant during the American Royal, the Kansas team placed fifth in a field of seven teams. The five high teams and their scores were as follows:

University of Nebraska.....	2,451
University of Missouri.....	2,439
University of Minnesota.....	2,435
Iowa State College.....	2,429
Kansas State College.....	2,383

The Kansas team was fifth in judging beef, fourth in pork, and fifth in lamb. Buster was ninth high individual in the entire contest, seventh in pork, and fourth in beef. Roth was third high individual in judging lamb.

In the second contest, held in Chicago at the Wilson Packing Company during the International Livestock Exposition, the Kansas team placed ninth in a field of twelve teams. The contest was won by the University of Missouri with a score of 2,445 out of a possible



MEN'S MEAT JUDGING TEAM

From left to right: Vernal G. L. Roth, Prof. D. L. Mackintosh, D. Dean Dicken, Charles W. Pence, J. Clayton Buster.



WINNERS IN MEAT JUDGING CONTESTS

From left to right: Frances Aicher, Norma Holshouser, Prof. D. L. Mackintosh, Ellen Brownlee, Hazel Hedstrom.

2,700; Ontario Agricultural College placed second with a score of 2,414.

The Kansas team was sixth in judging pork, seventh in lamb, and tenth in beef. Buster tied for second high individual in judging beef.

These contests are sponsored by the National Livestock and Meat Board. The Board also offers a trophy for both contests and the institution winning the trophy three years is to have permanent possession of it. There are four teams (University of Nebraska, University of Missouri, Iowa State College, and Kansas State College) who have two legs on the American Royal trophy. However, this is the first year of circulation for the International trophy, the old trophy having been won by the University of Nebraska last year.

Prof. D. L. Mackintosh coached the team and accompanied them on the trips to Kansas City and Chicago.—C. W. P., '38.

WOMEN'S MEAT JUDGING TEAM WINS

The Kansas State home economics meat judging and identification team competed in two contests this fall, placing first in both contests. The first contest was held at the American Royal Livestock Show in Kansas City, October 19, with only Oklahoma A. & M. College and Kansas State teams competing. Kansas scored 1,624 points to Oklahoma's 1,544, and thus gained permanent possession of the trophy presented by the National Livestock and Meat Board.

In the second contest, the Mid-West Meat Identification and Judging contest held at Wichita, November 12, 1936, Kansas State competed with teams from the University of Nebraska and Oklahoma A. & M. College. Scores of the three competing teams were: Kansas, 3,295; Oklahoma, 3,119; and Nebraska, 3,076. This is the fourth consecutive year the Kansas team has returned with the trophy presented by the Wichita Union Stockyards.

Members of the team were:

Ellen Brownlee.....	Sylvia
Norma Holshouser.....	Dwight
Frances Aicher.....	Hays
Hazel Hedstrom (alt.).....	Burdick

In the American Royal contest Frances Aicher was high in the contest and established a new record of placing all classes correctly in the judging. Ellen Brownlee and Norma Holshouser tied for third-place honors. Miss Holshouser placed first in the identification of retail cuts.

At the Wichita contest Ellen Brownlee was high individual, placing first in both judging and identification, scoring 1,120 out of a possible 1,200 points. In the identification of retail cuts Miss Brownlee set a new record by scoring 580 out of 600 points. Frances Aicher was second at Wichita and Norma Holshouser, third in the entire contest.

The Kansas State girls' meat teams have not been defeated in a contest since 1931.

DAIRY PRODUCTS JUDGING TEAM MEETS SEVENTEEN TEAMS IN A NATIONAL CONTEST

The annual Student National Contest in judging dairy products was held in the Municipal auditorium in Atlantic City, N. J., October 12, 1936. Prof. W. H. Martin selected and coached the following students to represent Kansas State College in the contest:

Frederick G. Warren.....	Beverly
F. Monroe Coleman.....	Sylvia
Charles M. Loyd.....	Valley Center
Pete H. Leendertse (alt.).....	Wichita

These annual contests are sponsored jointly by the Dairy and Ice Cream Machinery and Supplies Association, Inc., and the American Dairy Science Association. In the contest seven samples each of creamery butter, vanilla ice cream, market milk, and American cheddar cheese were scored, criticized, and placed.

This year there were 18 teams entered in this contest. The K. S. C. team ranked eleventh in the judging of all

the products, seventeenth in butter, eleventh in cheese, eighth in market milk, and sixth in ice cream. The individual rankings of the K. S. C. students on all products were: Warren, ninth; Loyd, twenty-first; and Coleman, fifty-second.

The Dairy and Ice Cream Machinery and Supplies Association, Inc., awards six 600-dollar fellowships to the six

The dairy products judging contest is one of the features held in connection with the Annual Dairy Industries Exposition. Each year the exposition is creating more interest among dairymen, dairy supplies manufacturers, and the public. This year approximately 15,000 visitors viewed the five acres of displays which were occupied by 285 exhibitors.



DAIRY PRODUCTS JUDGING TEAM

From left to right: Pete H. Leendertse, Prof. W. H. Martin, F. Monroe Coleman, Frederick G. Warren, Charles M. Loyd.

high teams in the judging of all products in this contest. This year the fellowships were awarded to Ohio State University, Connecticut State College, Cornell University, University of Nebraska, University of Minnesota, and University of Tennessee. These fellowships were first made available in 1930, and since then 42 have been awarded. The institution will award the fellowship to the most qualified man, a member of the team. This will enable the student to carry on one year of research work in dairy products. Four of these have been won by K. S. C. students during the past six years.

Besides the contest the team spent two days viewing the displays and other points of interest in the East, which made the trip very much worth while. The team visited some of the larger eastern dairies and cheese factories. These visits were possible because the trip was made by automobile. Before returning, the team spent one day in New York City and one day in Washington, D. C.—P. H. L., '37.

Phares Decker, '34, is working toward his doctor's degree in plant pathology and horticulture in the University of Minnesota.

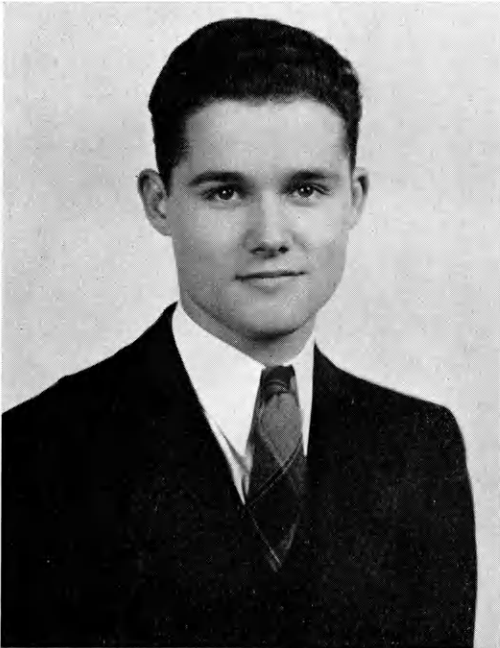
A Rhodes Scholar from K. S. C.

Dr. S. A. Nock

Vice-President of K. S. C.

Cecil John Rhodes was an Englishman who went as a young man to South Africa to improve his health. He became the leading diamond producer of the world, a figure of great political influence in South Africa, and one of the important sons of the University of Oxford, for which he always felt great affection.

When Cecil Rhodes died in 1902, he



HORTON M. LAUDE

left a will containing provisions which, though unusual, were not astonishing to those who had known him in South Africa. During his many years in South Africa, his constant endeavor was to bring about understanding, tolerance, and sympathy between the English and the Boers, and between both of these and the native tribes. A great deal of the unity of the South African colonies is due to the work of Rhodes; never-

theless, Rhodes did not feel that his work of this sort in South Africa was all that he could do. He, therefore, directed in his will that approximately £2,000,000 be set aside for scholarships at the University of Oxford for male students from the British colonies and the United States. Originally, he listed sixty scholarships apportioned among South Africa, Australasia, Canada, and other parts of the British Empire. He appropriated two scholarships to each of the states and territories of the United States. These scholarships carried the yearly value of £300, and were to be tenable at any college in the University of Oxford for three consecutive academic years. He added, in a codicil to his will, fifteen scholarships for German students.

These Rhodes scholarships are largely based upon the academic record of the candidate, but by no means entirely. As the years have passed since the first Rhodes scholarships were granted in 1904, the scholarships have been altered from time to time to suit changing conditions. Always, however, the principal aim of the founder of the scholarships has been maintained; namely, to promote friendship and understanding between England and the British colonies and the United States.

At present, a Rhodes scholarship is tenable for two years, and the stipend is £400 a year. If a Rhodes scholar has a definite plan of study satisfactory to his college, he may be awarded a third year at Oxford.

It is especially interesting to observe the basis of selection which Cecil Rhodes defined in his will. He mentioned four groups of qualities of which he considered the first two, as here listed, most important:

1. Literary and scholastic ability and attainments.
2. Qualities of manhood, truth, cour-

age, devotion to duty, sympathy, kindness, unselfishness, and fellowship.

3. Exhibition of moral force of character and of instincts to lead and to take an interest in his schoolmates.

4. Physical vigour, as shown by interest in outdoor sports or in other ways.

The number of states in this country has increased since the establishment of the Rhodes scholarships. Thirty-two scholarships are now assigned to the United States to be apportioned among forty-eight states. The states of the Union are grouped into eight districts of six states each. Each district may send four men as Rhodes scholars to Oxford. These four are chosen from twelve candidates in the district, two of whom are chosen by each state.

It is true that every state may not be represented every year. Nevertheless, there is a competition every year in every state; and if one district does not find satisfactory candidates to the full number of its quota, satisfactory candidates from other districts may perhaps profit by that fact.

Kansas is in the fifth district, together with Minnesota, South Dakota, Nebraska, Iowa, and Missouri. Of the candidates who appeared in 1936 for the 1937 appointments, one of the two chosen from Kansas was Horton M. Laude, a senior in the Division of Agriculture in Kansas State College. The twelve candidates from the six states appeared for the final examination. Laude passed with such distinction that he was appointed as one of the four Rhodes scholars from the district, the second one ever to be appointed from Kansas State College. Like other Rhodes scholars, Laude goes in September, 1937, to Oxford not only as a student in one of the world's oldest and most respected universities, but also as a representative of American scholarship and American young manhood. Kansas State College is proud to send Horton Laude to Oxford, and congratu-

lates not only the successful candidate, but also itself in being so satisfactorily represented.

ALPHA MU

(Continued from page 42)

fields; to promote the interests of all flour milling students; to bring the students of milling and their instructors into closer relationship with one another; and to keep in contact and promote general good will with past students and outstanding men of the milling profession. New members are chosen on the basis of scholarship, interest in the milling industry, exceptional ability in the milling industry, personality, and qualities of leadership.

Eight new members are to be initiated in January, 1937, and others will possibly be taken in before the spring semester closes. The officers for the year 1936-'37 are: Harold W. Lindahl, president; Fred S. Zutavern, vice president; and Robert J. Anderson, secretary-treasurer. Prof. R. J. Clark is the faculty adviser.

EFFECTIVE EROSION CONTROL

(Continued from page 43)

growing crop can be planted in the strips around the contour of the slope at intervals. Row crops can be planted between these strips in the spaces left. This system is effective in controlling wind erosion while at the same time it brings about a reduction in water runoff.

Grass reduces erosion almost to a minimum but it is obvious plants permitted to make more top growth, and consequently greater root development, will control runoff more efficiently than plants of smaller size. Good pasture management, involving moderate grazing and contour furrowing in short grass, helps to keep grass land in pastures in the most productive condition and at the same time does much to control erosion.

The Woodlands of Kansas

Herman J. Reitz, '39

Kansas is essentially a prairie state. It has very few natural tracts of timbered lands. It is one of the few states that has no national forest or national

and this fact supports the idea of the original treelessness of the state. However, the value of trees was recognized by the early settlers and one of the first things they did was to plow a fire guard and plant trees. In late years there has been practically no planting. The increase in forest trees in the last 15 to 20 years has been from natural reproduction.

The 1934 farm census reports that there are 1,233,000 acres of forest trees in the state. This amounts to 2.6 percent of the farm area of the state. This acreage is more concentrated in the eastern third of the state with a progressive decrease in acreage toward the western line. Much of this acreage is concentrated in a few counties. Chautauqua county has 61,000 acres or 14.62 percent of its acreage in trees. Leavenworth county has 52,000 acres or 18.43 percent of its area in trees. Other counties which lead in tree area are as follows: Linn, 56,000 acres or 14.28 percent; Jefferson, 46,000 acres, or 13.21 percent; Bourbon, 35,000, or 8.33 percent; and Douglas, 34,000, or 11.33 percent. This census also shows that 34 counties have more than 3 percent of their area in trees, while 71 counties have less than 3 percent. The six counties listed above have 23 percent of the woodlands of Kansas and the 34 counties having more than 3 percent of their area in trees have 67 percent of the timbered area. This area includes both natural and planted woodlands.

Early settlers used much of the natural timber for lumber and fuel. Such timber as exists is in farm woodlots or shelterbelts and windbreaks which the settlers planted, or trees along rivers. Most rivers now have a belt of trees of varying width on either bank due to natural reproduction.

On the basis of this information we may divide Kansas into three zones of tree growth and use: Eastern Kansas



KANSAS TREES

Above—Chinese elm and cottonwood growing on the Herman G. Witt farm near St. John in Stafford county. These trees were planted in April, 1935, and photographed in September, 1936. More than 90 percent of the trees in this planting survived the drought in the spring of 1935 and the drought and grasshoppers in 1936 because of the excellent cultivation given by the owner.

Below—Shellbark hickory in natural woodlot in Wilson county on the Verdigris river. This species produces edible nuts and valuable wood for the manufacture of wooden tools.

park inside its boundaries. Most of the trees in the state are relatively young

with 67 percent of the trees in the state in 34 counties, including more than 800,000 acres; central Kansas, including 38 counties, extending as far west as Kinsley and Hays; and west of this area, a region of few trees and a limited possibility for increasing the number except in favored sites.

As the scarcity of trees increases, the need for them increases. Western Kansas homes and farms need the shelter which trees would provide and, therefore, planting in this region for the shelter alone should be encouraged even though it is recognized that survival will be uncertain and growth limited. It should also be recognized that some areas will not support trees. The value of trees in this region will be entirely dependent upon the shelter provided and little or no value can be expected from wood products. The value of the living trees will be much greater than the value of the lumber obtained by cutting the trees down. Only dead trees will be utilized for lumber and fuel.

There will be only a limited possibility of obtaining wood products from the central zone. Some land in this area produces fence posts and cottonwood lumber. Osage orange, a very well-adapted tree, will produce a great number of fence posts in this region. Posts from this species are very strong and are very resistant to decay. Some of this zone will produce fuel wood but fuel cannot be expected from all of it. The principal uses of trees here will be the protection of animals, wild life, and farmsteads, and the prevention of wind and water erosion. The present area of trees in this zone is 1.4 percent of all land in farms.

In the eastern part of the state the forestry problem is to maintain the acreage now devoted to trees, and to improve the existing woodlands by replacing the inferior species with more valuable species. A large proportion of the wood produced in Kansas comes from this section. Although the rank

of Kansas in value of forestry products is low, there are cases in which Kansas trees are valuable. The black walnut is the most valuable commercial tree in Kansas and it attains a great degree of perfection here. It grows best on deep fertile soils in southeastern Kansas. A single tree of this variety sometimes has great value. One tree in Wilson county on the Verdigris river sold for \$207, while 30 trees in the same area were sold for \$1,500. Even the stumps of such trees are utilized as they frequently have highly desirable curly grain. Cottonwood is used for rough lumber for farm buildings and extensively for boxing and crating. Osage orange and catalpa produce good crops of posts. Pecan and black walnut have some value for the nuts produced. The pecan grows in practically all southeastern Kansas but produces nuts only in the southern part. Other species that are valued for posts, poles, and lumber are the oaks, red cedar, Austrian pine, sugar maple, and Chinese arbor vitae.

Although the commercial value of tree products can be increased and probably will be increased, the main uses of Kansas trees will continue to be protection and conservation. In the first place, forest trees are essential to wild life protection. They are essential on range lands to protect livestock. A natural ungrazed forest floor is as effective as ungrazed grass in controlling runoff water and soil erosion. Finally, living conditions can be improved and made more agreeable by the presence of trees.

It is generally recognized that Kansas trees have been severely damaged by the recent drought years. The extent of the damage has not been so widely known. Though the estimates vary widely, it is probably safe to put the proportion of dead trees of many species at 10 to 15 percent. Undoubtedly many of the surviving trees have been seriously injured.

The woodlots now in existence have

been adversely affected by the management they have received. One undesirable practice has been to cut out the best trees from year to year and allow the trees of less value to increase in proportion. This practice leads to a scarcity of desirable trees. Its effects are shown by the fact that buyers of walnut logs formerly bought only logs that measured at least 16 inches in diameter, while now they take logs down to 10 inches because of the small supply available. No effort has been made to replace the walnut trees and as a result species of low value such as elm and box-elder have taken their places. Good management of woodlots would include the replacement of these inferior trees with more useful kinds.

The 1934 census shows that 70 percent of the woodlots are pastured and an extension service study of land use recently completed shows that one trend of land use during the last 25 years has been the diverting of woodlots to pasture. This practice becomes progressively a greater factor as the difficulty of keeping trees alive increases. Unrestricted pasture of woodlots is commonly associated with the beginning of their decline. Aside from the detrimental effect on the woodlot, the feed obtained from it is very inferior. This type of abuse is of greater importance than the danger of fire.

Kansas is essentially a prairie state. However, there is a place in Kansas agriculture for trees.

WHERE'S OUR TYPE?

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size is subsiding; but will the pendulum cease to swing?

Pork demands in this country are rather well set. The American public now demands small and medium-sized cuts, and the demand for lard is considerably lower than was previously the case, so that the desirable type would be one that would reach a reasonable finish at 225 pounds and yet would be

growthy enough to make cheap and economical gains.

It is a well established fact that the stretchier, growthier pigs make faster and more economical gains than the smaller shorter-bodied pigs. Stretchy sows have a tendency for greater prolificacy. But, these ideas should not be carried at the expense of vigor, and carcass qualities. Care must be exercised to keep the pigs thick and meaty enough that they will carry at least a reasonable amount of finish at 225 pounds. In other words, the attempt should be made to stabilize the type of lard hogs at a happy medium between the coarse, stringy type and the fat-backs.

This question is of such importance that the directors of our agricultural experiment stations and some of the outstanding geneticists are working on it. Attempts are being made to plan a sensible breeding program for American swine husbandmen, one in which lard type will mean something more definite than it has in the past.—C. L. Bell, '37.

International Baby Chick Association

The 1936 all-industry conference and exhibition of the International Baby Chick Association held in the new six-million-dollar air-conditioned municipal auditorium in Kansas City, July 20 to 23, inclusive, was said to be the greatest meeting in the association's history. A registration of 5,366, of whom 973 were from Kansas, shattered all previous records, and it was estimated that fully one third of those in attendance did not register.

This exposition, which is the largest and most active of any of the poultry organizations, features good fellowship through elaborate social activities, an educational program lasting through several half-day sessions, and educa-

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Tenmarq Rates High in Kansas¹

William R. Allen, '38

Tenmarq was selected at the Kansas Agricultural Experiment Station from a cross made in 1917. In this cross one parent was Marquis, a hard red spring wheat, the other was P-1066, a pedigree selection of Crimean hard red winter wheat similar to Kanred. These parents were chosen because they possessed certain characteristics which it was desired to combine, if possible, in a new variety. Resistance to stem rust was one of the valuable characters of P-1066. The new selection was studied and tested thoroughly for 15 years. A large number of trials were made at Manhattan, at the branch Agricultural Experiment Stations and regional experiment fields, in cooperative tests on farms throughout Kansas, and at agricultural experiment stations in other states and in Canada. During this time all of its important characteristics were brought to light, with the good points outweighing the poor points by a considerable margin.

One of the most valuable characteristics of Tenmarq is its ability to produce high yields. In field plot tests at Manhattan over a period of nine years, Tenmarq outyielded all other varieties, averaging 37.9 bushels per acre as compared to 36.1 for Blackhull, 34.6 for Kanred, and 34.6 for Turkey. In the cooperative variety tests on farms in Kansas, Tenmarq compared very favorably with other varieties. During the eight-year period, 1929 to 1936, compared with standard varieties, such as Turkey, Blackhull, and Kanred, Tenmarq was high in all sections of the state except the western sections where Blackhull averaged 0.3 of a bushel more. On the regional experiment fields, Tenmarq was outyielded only by Kawvale, which averaged 1 bushel

more in the northeastern and the southeastern Kansas fields; and on the south central field located in Kingman county, by Blackhull, which outyielded Tenmarq over a four-year period by 0.9 bushel.

Another outstanding feature of Tenmarq is earliness of maturity. Tenmarq heads and ripens three to five days earlier than Turkey and Kanred and one to three days earlier than Blackhull. This is a distinct advantage under Kansas conditions, since in some seasons it allows the wheat to mature before it is injured by dry, hot weather.

Tenmarq has proved to be one of the stiffest-strawed varieties of hard red winter wheat yet developed. Average lodging percentages in field plots at Manhattan, for seven years, are as follows: Tenmarq, 10; Blackhull, 24; Turkey, 27; and Kanred, 32. This resistance of Tenmarq to lodging is due to its strong straw, as shown by the relative weight required to break straw of the different varieties. The average breaking strength per straw of Tenmarq was 0.8 of a pound; Blackhull, 0.79; Turkey, 0.73; and Kanred, 0.68.

Tenmarq is more resistant to leaf rust than Turkey, Kanred, and Blackhull. It is also resistant to some forms of stem rust, but is susceptible to other forms of this rust. It is susceptible to bunt or stinking smut, to scab, and to Hessian fly. Observations made at Manhattan in four years when fly attacked, show Tenmarq to be highly susceptible to Hessian fly, whereas Blackhull is semi-resistant or tolerant to fly. Kawvale is resistant to Hessian fly as found in the hard wheat areas of central Kansas.

As to test weight, Tenmarq usually weighs about the same per bushel as Turkey and Kanred and $1\frac{1}{2}$ to $2\frac{1}{2}$ pounds less than Blackhull. In tests on the agronomy farm since 1924, Tenmarq averaged 60.5 pounds per bushel;

1. Material for this article was obtained from various summaries of experimental data and from articles on Tenmarq furnished by Profs. H. H. Laude, A. L. Clapp, and John H. Parker, of the Department of Agronomy of Kansas State College.

Turkey, 59.5; Kanred, 58.4; and Blackhull, 62. In cooperative variety tests on farms for five years, 1928 to 1932, Tenmarq averaged 57.4 pounds per bushel; Kanred, 57.4; Turkey, 58.9; and Blackhull, 60.1. The lower test weight of Tenmarq compared with Blackhull is offset by the fact that Tenmarq wheat will produce more flour per bushel than Blackhull wheat of the same test weight, and that this flour has superior baking qualities. Tenmarq is subject to yellowberry, that is, the production of soft, starchy kernels, when conditions are favorable for such grain to develop, as in wet years or on soils low in nitrogen.

Probably the chief objection to Tenmarq is that it is less winterhardy than Turkey and Kanred. It is just as hardy as Blackhull, however. In extensive tests conducted in cooperation with the United States Department of Agriculture in Kansas, the northern states, and in Canada, Kanred has an average winter survival of 57 percent; Tenmarq 47 percent; and Blackhull, 44 percent. Because of its relatively low winterhardiness, Tenmarq is not recommended for north central and northwestern Kansas, or for states farther north and west.

In short, Tenmarq produces high yields and ripens early, thus reducing the chance of injury from dry hot weather just before harvest. It has strong straw and is resistant to lodging, making it a desirable combine wheat. Tenmarq wheat produces flour of excellent quality. Along with these desirable characteristics, Tenmarq has certain shortcomings that are recognized. They are: Susceptibility to Hessian fly and a lower degree of winterhardiness than Turkey and Kanred. Its combination of desirable features is so outstanding, however, that the undesirable ones seem of relatively minor importance, and in certain regions they can be almost overlooked.

Tenmarq has been grown on farms in Kansas since 1932, and in this time

has won the approval of many farmers. It has spread very rapidly and at the present time is recognized as one of the leading varieties for Kansas. Records kept by Kansas county agricultural agents show that more than 400,000 acres were planted to Tenmarq wheat in the fall of 1936. It is recommended to wheat growers of the south central portion of the state. Surely the development of such a variety might readily be termed "a forward step in Kansas agriculture."

BABY CHICK ASSOCIATION

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tional and commercial exhibits which occupy several acres of floor space. More than 1,500 persons were served at the banquet in the main auditorium which was addressed by the Hon. Henry A. Wallace, Secretary of Agriculture, Washington, D. C.

The educational sessions consisted of formal addresses by speakers from all parts of the United States, and flock selection, egg grading, and cooking demonstrations.

Educational and commercial exhibitors among breeders numbered 132. Pens of live birds with egg production records posted were shown by many of the leading breeders in the United States who feature utility characters in their flocks.

Exhibition poultry is not shown at these expositions. The educational exhibits were shown for the most part by state colleges of agriculture, state marketing bureaus, the United States Department of Agriculture, state poultry improvement associations, the Institute of American Poultry Industries, and railway companies. The Department of Poultry Husbandry of Kansas State College featured among other things a series of lights in which all rays of the spectrum were filtered out except the red and the blue. The effect of these lights on flocks of breeding turkeys was graphically illustrated.

The commercial exhibits ranged from a demonstration showing how to make wire microscopic in size, to an incubator with a capacity of 65,000 eggs at one setting. It is a liberal education to study these exhibits which include almost every item connected, both directly and indirectly, with the production, processing, transportation, and marketing of poultry products. The central motif in this great array of merchandise was to demonstrate in every conceivable way how to produce more and better baby chicks.

There are about 600 hatcheries in Kansas with a setting capacity of almost 14,000,000 eggs every three weeks. These hatcheries contribute their bit to meet the baby chick requirements in this and adjoining states. A vast amount of labor and expense is involved in setting approximately one billion eggs to produce the 650,000,000-crop of baby chicks each season.

The last meeting of the convention in Kansas City was in 1925. The next meeting will be held in Baltimore, Md., beginning July 19, 1937. The International Baby Chick Association was organized in Cleveland, Ohio, August 9, 1916. It has had a steady growth in membership and service rendered since its inception. The executive offices are located in Kansas City, Mo.—L. F. Payne, head of Department of Poultry Husbandry.

Honeybees in Kansas

Although Kansas is not known as a land of "milk and honey," it is greatly indebted to the valuable and interesting insect, the honeybee. Its value cannot be measured by only the honey and wax produced, but one must also consider its more important contribution which is the pollination of plants. The clover fields and orchards are to a large extent cross-pollinated by the honeybee. So important is this phenomenon, fruit growers often hire a beekeeper to

move his bees into the orchards to insure a good set of fruit.

In Kansas may be found beekeeping in all stages of development from a hollow bee tree in nature to large apiaries such as that of Arthur Allen of Highland. Mr. Allen, now the largest beekeeper in Kansas, owns and operates 900 or more colonies from which he produced about 40 tons of honey last summer. Although it was a drought year, his crop netted him approximately \$6,000. In 1927, an exceptional year, one colony of bees at the Kansas State College apiary produced 400 pounds of honey and several produced 200 to 300 pounds each.

The commercial apiaries are those which consume the entire time of and are often the only occupation of the owner and consist of colonies enumerated by the hundreds, very seldom consisting of less than 100 colonies. Besides the large commercial producers there are the backyard beekeepers operating one to several colonies as a source of sweets for his own family and for the pure interest that the honeybee offers a person who follows the hobby. Frank C. Pellet, a foremost authority in beekeeping, in his article, "Beekeeping in the Arkansas Valley" states, "Given good roads, a congenial party of beekeepers, and plenty of gasoline, one could wish for no better vacation." This is typical of the attitude existing in all the beekeeping associations of Kansas.

Dr. J. H. Merrill, formerly of Kansas State College, divides Kansas into four honey-plant regions. The western portion of the state is a region which for the most part produces alfalfa and sweet clover honey. The lack of moisture and early blooming flowers are somewhat of a drawback to this section. The line separating this area from the central region practically follows state highway No. 8 between Smith and Barber counties. The central region extends east to Marshall, Pottawatomie, Wabaunsee, Coffey, and Chautau-



qua counties. This region according to Dr. Merrill, the state apiarist in 1922, was the location of the largest percentage of the beekeepers of the state. Alfalfa, sweet clover, and sometimes heartsease are the major honey plants. The beekeeper of this section is aided by early blooming plants not found to any extent in the western region. Due to the acidity of the soil and the unadaptability of leguminous plants in the southeast section of the state, it is the poorest beekeeping region of the state. The northeast region takes in the most important fruit section of the state. Sweet clover and some white clover are the major sources of surplus honey. While a good portion of the state was suffering from a honey crop failure during the drought of 1936, those beekeepers of the northeast section were harvesting a crop averaging from 50 to 100 pounds per colony.

Even a beekeeper's life is not all a "bed of roses," as he has to combat diseases of his bees and enemies such as skunks, wax moths, and mice. He must gamble on the weather, as droughts cause crop failure in honey production as well as in corn production.

Specialization of the industry and the scientific training now available are helping the commercial producers to overcome their obstacles. The whole state is not adaptable to profitable commercial beekeeping. There are three localities to which large commercial beekeepers can look for desirable locations, according to Dr. R. L. Parker, the present state apiarist, and professor of bee culture at Kansas State College. These desirable localities are the northeastern fruit-producing counties, the apple section of the Arkansas valley, and the irrigated section of the state near Garden City.—Marion C. West, '37.

Students Inspect Mills

Twenty-five milling students accompanied by Prof. R. O. Pence and Mr. J.

E. Anderson, inspected mills and other establishments closely related to the milling industry in Kansas City, Lawrence, and Topeka, December 3 to 5, 1936.

The group first visited the Thomas Page mill in Topeka, with the assistance of David Page, Jr., a junior in milling industry. The Dio-electric moisture meter was of interest there, as it is possible to run moisture tests with this apparatus soon after tempering the wheat. The students then visited the Bowersock hydro-electric plant in Lawrence and followed that with a look at various types of mill machinery at the Davis Mill Machinery Company plant in Bonner Springs, Kan.

In Kansas City, Perie Rumold, chemist for the Southwestern Milling Division of the Standard Milling Company, demonstrated the use of the experimental mill in blending tests. In the visit to the General Mill Equipment Plant the workers corrugated a set of rolls while the boys looked on. Manor Baking Company, Midland Flour Mills, Kansas Flour Mills, Corn Products Refinery, and the Washburn-Crosby mill all were visited.

Thomas D. Dicken, '32, is farming near Greensburg.

Ward W. Taylor, '26, is farming near Cheyenne Wells, Colo.

Gaylord R. Munson, '33, is state representative from Geary county.

J. Harold Kirk, '28, is farming and running an elevator in Scott City.

V. E. McAdams, '28, is Barber county agricultural agent with headquarters at Medicine Lodge.

Robert T. Schafer, '29, is in the Soil Conservation Service. He is located at Mankato at the present time.