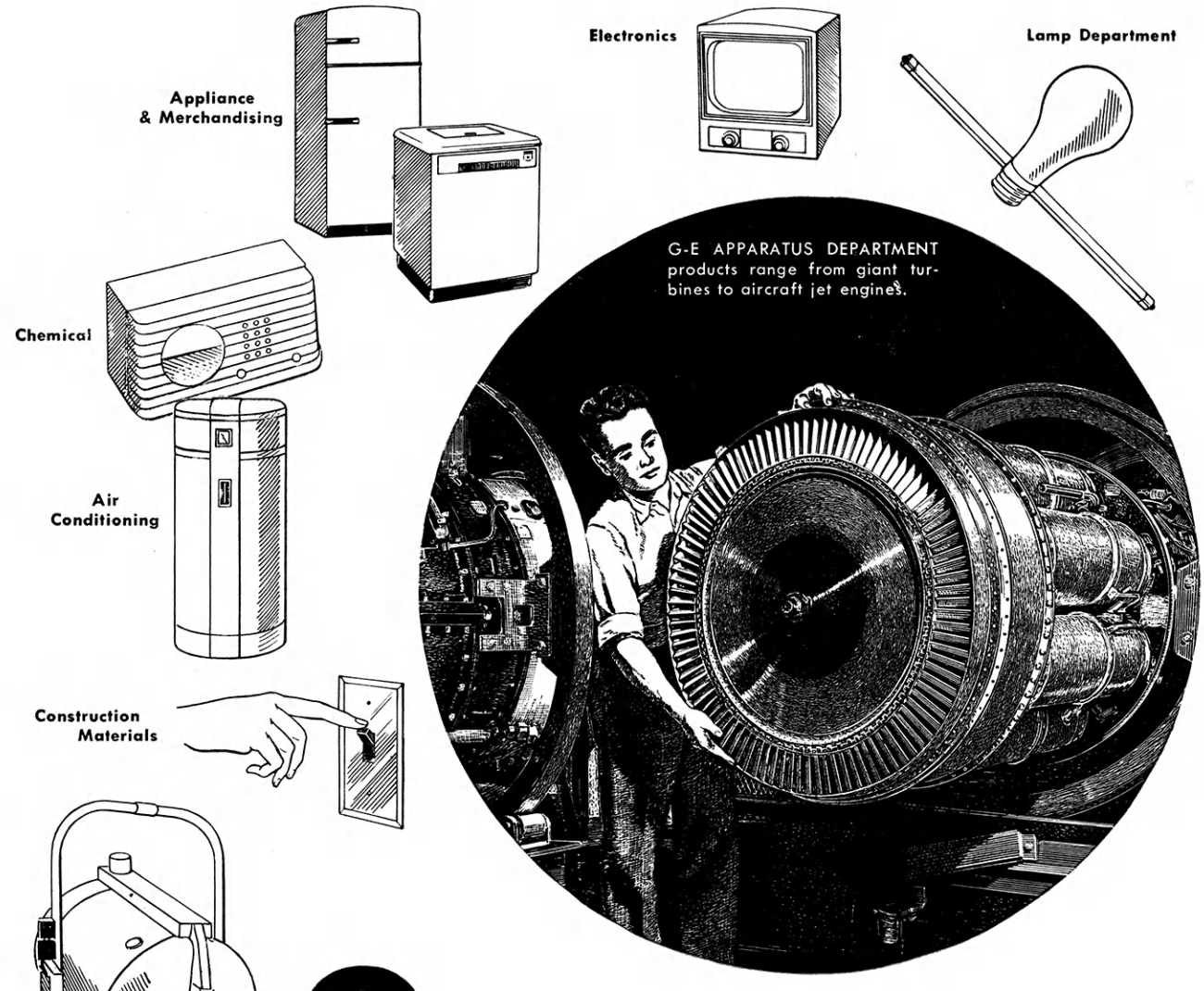
THE KANSAS Agricultural Student

DECEMBER, 1950



8 reasons why college graduates at G.E. find work that they like

"In seeking to place college graduates in jobs they will enjoy doing," M. M. Boring, manager of the Technical Personnel Divisions, said recently, "we at General Electric find our work made easy by the diversification of the company's business.

"We tell a newcomer to look around, to work in several different fields, to try to determine where he will be most satisfied. The company's eight Operating Departments, ranging from Chemical to Apparatus, from the making of lamps to the building of big turbines and electric locomotives, give him plenty of room for his search.

"Engineers, chemists, physicists, and mathematicians, as well as liberal arts graduates, all find work here that they can be interested in and can do with enthusiasm.

"Their ability to find satisfying jobs with us is, we feel, an important factor in keeping General Electric ahead in electrical research, engineering, and manufacturing."

You can put your confidence in—

GENERAL ELECTRIC

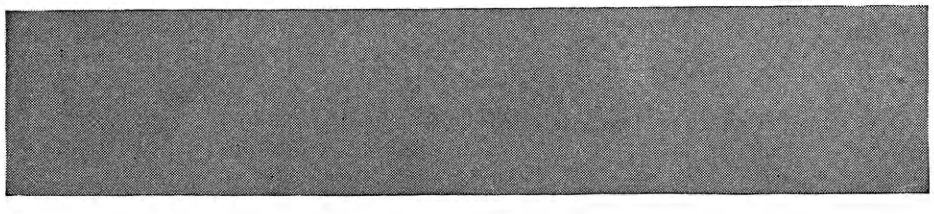
THE KANSAS
Agricultural Student
KANSAS STATE COLLEGE
OF AGRICULTURE AND APPLIED SCIENCE
MANHATTAN, KANSAS

VOL. XXVII DECEMBER, 1950 NO. 2

Contents

Published by the Agricultural Association of Kansas State College of Agriculture and Applied Science, Manhattan, Kansas, on or before the Twentieth Day of the months of October, December, March, and May. Subscription rates $1 per year; 2 years for $1.50; single copy 30c.

Entered as Second Class Matter, November 9, 1946, at the Post Office at Manhattan, Kansas, under the Act of Congress of March 3, 1879. Accepted for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized November 9, 1946.



On the Cover....

Top Cattle Judge Is Partial to Bows

We wanted a cover picture of Dr. A. D. (Dad) Weber's 15-year-old bow tie, the one that's helped him choose top show cattle in rings all the way from Argentina to Canada. The best way we could think of to display it was to have Dad Weber wear it.

So we invaded his home one day after he returned from picking the top steer at the top show in the nation, the Chicago International. He says the little black Angus models on the mantle are used for practice when his duties as associate dean keep him from the beef barns now.

That tie is one he's worn for picking the grand champion of shows for more years than he cares to remember. He has other bows for the preliminary work, but when the big finale arrives, it's always this little number that gives him the most confidence.

The president of the International, Jess C. Andrews, thinks Weber's superstition is "a little silly."

In Andrews view, there's not much a tie can do for a man. But that 36-year-old battered felt hat he's worn at every International since 1914—now there's a real sensible good luck piece.

And then there's the story of the red cap in the Union Depot in St. Paul who approached an old lady with St. Vitus and said: "The first door to your left, Madame."

The girl who swears she has never been kissed has a right to swear.

College: A fountain of knowledge where students gather to drink.

"At any rate," said the auctioneer, "mine is a business that a woman can't take up."

"Nonsense," put in the strong-minded lady. "A woman would make quite as good an auctioneer as any man."

"Would she?" retorted the other. "Well, you try and imagine an unmarried lady standing up before a crowd and saying, 'Now, Gentleman, all I want is an offer.'"

K-State Wins Top Poultrymen . . .

By STAN CREEK

Kansas State College came out ahead of every other college in the nation this year at Chicago with two first place judging teams and two fifths. That is a new sort of unofficial record so far as can be determined.

The livestock and poultry judging teams walloped all the others. When the number of schools competing in the contests is considered, the crops and meats judging teams did mighty well for KSC in fifth place.

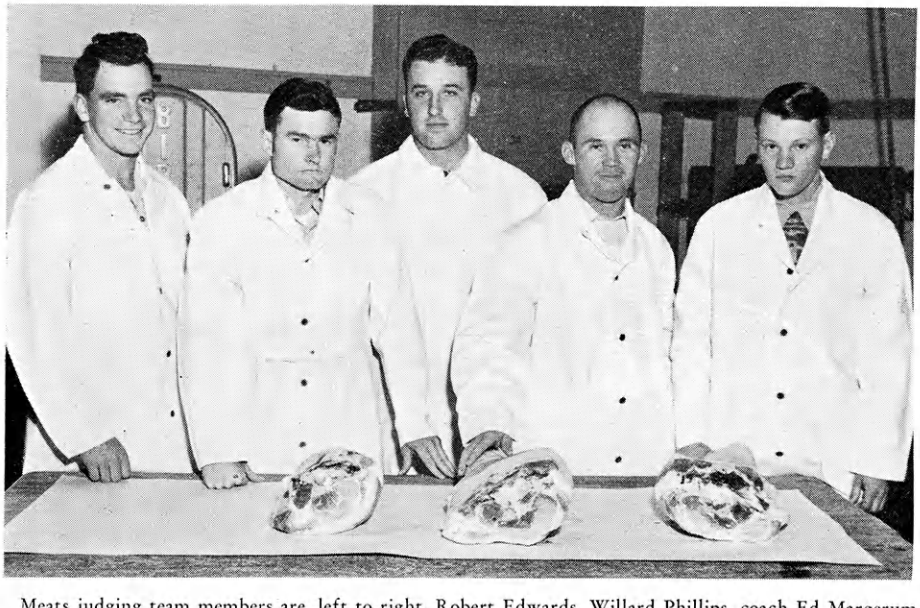
As for that record, the bookkeepers at the International have never tried ranking schools on the basis of annual wins. Some schools do not send teams to all four contests. The National Intercollegiate poultry judging contest is not a part of the International Livestock Exposition, even though it's always held at the same time. This year the International opened November 25 and closed December 1.

And even the merit and rank of various contests might be open to debate. Is it harder to win over 32 schools in the livestock contest, or over 20 schools in the meats contest? Who's to say? Certainly the International people have never wanted to.

But publicity director for the International, Rex Thomas, wired that the Kansas State record was "certainly one of the best" even though he could not say definitely whether any other school had ever equalled it. Last year Oklahoma A&M had two firsts—one in crops and one in meats—a third in poultry and a fourth in livestock.

Members of the poultry judging team are, left to right, Albert Adams, Wayne Hanke, Amos Kahrs, Armin Grosse, and coach Tom Avery. Not only did Kansas boys win the National Intercollegiate poultry judging contest, but winners of the national contests in 4-H and FFA poultry judging were from Kansas also. Coaches of all three teams were Kansas State trained men.

Butchers . . .



Meats judging team members are, left to right, Robert Edwards, Willard Phillips, coach Ed Margerum, Clint Davies and J. G. Morrison.

Leading the parade in the biggest contest involving 32 schools and 160 contestants, the livestock judging team under Coach Don Good established one easily confirmed record all by themselves. They ranked first in three classes of livestock besides making the top total score. The K-State team took first place in judging cattle, horses, and sheep, and eighth place in the hog contest. No school has ever done all that before.

Among high individuals, Dale Handlin tied for first on total score, John Schlender tied for third, and Mike Murphy tied for seventh.

Marvin Smith was high man on cattle, Handlin was third. Schlender was second on sheep and Murphy sixth. Mike was also second high on horses.

Bob Mushrush, the fifth member of the team, scored among the first

Honors at Chicago

20 on total score. There were only 26 points difference between high man and low man on the K-State team—and that out of a possible 5,000 points.

Miles McKee was the alternate this year at the 53rd Chicago judging contest.

In the poultry contest, 19 teams competed in the judging of exhibition stock, market poultry and eggs, and hen production. But it's not as simple as it sounds.

On production judging, the boys have to estimate a bird's output within 20 eggs for the past year from handling and appearance. Officials have trap nest records on all the birds. Live and dressed market poultry both

(Continued on page 29)

Gleaners . . .

Puzzling over a scorecard in the upper halls of the International building in Chicago are grain judging team members John Braum (left), Floyd Leonard, Cleo Kuhn, coach Ernest Mader, and Robert Rethorst.

Stockmen . . .

Members of the livestock judging team are, left to right, Coach Don Good, John Schlender, Dale Handlin, Marvin Smith, Bob Mushrush, Mike Murphy, and Miles McKee. Here they're standing around a table at the Saddle and Sirloin club in Chicago, on which most of their booty has been collected. Only trophy missing is the big silver English cup which hadn't arrived when this picture was taken in Chicago.

Good Citizens They Are!

Staters Serve in Legislature

Editor's note: Since this is the year the state legislature convenes for its biennium session, we believed a survey of the new body to be very much in order. Here are the results.

By HARDY D. BERRY

Eleven former Kansas State college students have been chosen by the people of Kansas to serve in the state Legislature for the 1951 session. All except two of them were either trained in agriculture here at the college or are now in agricultural occupations. The eleven men are all Republicans.

The ex-K-State legislators are: L. J. "Harry" Blythe, W. H. "Harry" White, K. U. Snyder, Ralph Snyder, Ralph Upham, F. A. Mundell, Sid Jagger, W. E. "Scrubby" Turner, Frank Garrett, William D. Denholm, and John MacNair.

John MacNair, Jetmore, was a student at Rutgers university before he transferred to Kansas State in 1917. He served in the army in 1918.

Mr. MacNair explained he now lives at Jetmore because a friend, Charles Thresher, invited him to help harvest on the Thresher farm near there. MacNair accepted, and fell in love with Thresher's sister while helping with the harvest. They married and soon began accumulating the land near Jetmore that is the MacNair homestead today.

Mr. MacNair has been a state representative for four years, elected first in 1946. The 1951 session will be his third term. He said he has worked primarily on the Ways and Means committee.

He served as township clerk for two years, and precinct committeeman for 16 years.

William D. Denholm, Tonganoxie, graduated in 1918. He became a successful farmer and managed a large Holstein-stocked dairy farm.

Mr. Denholm, elected to the Legislature in 1946, is beginning his third term. His public service record includes a 21-year term on his local school board; four years on the township board, 1925 to 1929; four years on the Farm Bureau board, 1939 to 1943; and an AAA field supervisorship during 1941 and 1943. He has been precinct committeeman for eight years.

Two of the Denholms' six children are now enrolled at K-State. Harold is a sophomore in ag administration, while Byron is a sophomore in prevet.

Equally impressive is the record of Frank Garrett, Overbrook, also elected to the Legislature in 1946. He is president of the Overbrook Rotary International, has been a member of the school board since 1931.

Mr. Garrett went to Europe on radio station KCMO's farm tour last February and March to study agricultural and economic conditions, Marshall Plan operation, and the CARE and CROP agencies.

The legislator operates 505 acres of rich farmland. He is a member of the Farm Bureau, and Farmers' Union.

The Kansas Legislature has a few journalists among its members. W. E. "Scrubby" Turner, Waterville, owns the Waterville Telegraph. He was graduated from K-State in 1921 with a degree in agriculture. He lives on and manages a 350-acre Marshall county farm, besides editing his paper.

Elected in 1946, he has never had opposition for the office. His record includes six years as a vocational ag teacher, five years as superintendent of schools, and duties in both World Wars. During World War II he served as an air force public relations officer with the rank of major.

In college, Turner was elected to Phi Kappa Phi, Gamma Sigma Delta, Alpha Delta, and Sigma Phi Epsilon social fraternity. He received a letter in track for the 440-yard dash.

One of the most recent graduates of Kansas State to be elected to the Legislature is Sid Jagger of Minneapolis. He was elected first in 1948 while still in school. He had to take a special exam for his degree in 1949 after the session kept him out of class so much.

While in college, Mr. Jagger was an active student leader in both the ag school and in the Young Republicans club.

He was also elected to Phi Kappa Phi, and Gamma Sigma Delta, and the Ag Council.

Another former K-Stater is a school teacher serving among the lawmakers. He is F. A. Mundell of Nickerson, who has 45 years of school service behind him. Mundell was reelected November 7 for a second term in the governing body. He has retired from school administration.

In addition to his service in the Legislature and as a school administrator, Mr. Mundell has served on the Nickerson city council, the school board, and the Reno County Community High School board of trustees.

Because of his school duties Mr. Mundell was able to attend K-State only during summer sessions.

He is a member of the honorary education fraternity, Phi Delta Kappa.

Four of Mundell's five children have graduated from K-State.

Another two-termer in the Legislature, Ralph Upham of Junction City, lists his occupations as farmer, dairyman, and hatcheryman.

While managing an 800-acre Grade A dairy farm with 45 cows, he supervises a 62,000-egg hatchery.

His son graduated in 1943 from K-State with a degree in veterinary medicine.

The achievements of an 1890 graduate are too numerous to list in full. Ralph Snyder of Oskaloosa is the oldest graduate of the college now serving in the state house, though he is the youngest in terms of service, having been elected last November.

Mr. Snyder has been president of the Kansas State Alumni association,

president of the Kansas Farm Bureau, president of the Bank of Co-operatives, president of the Farm Credit association and general consultant for the Kansas Co-operative council, among his more outstanding ventures.

Another legislator of the same surname, K. U. Snyder of Overland Park, was a student here in 1911. He is now a member of the Senate from the sixth district.

He farmed until World War I, served in the navy for 17 months, and prepared for a legal career after being discharged.

He is a member of the Johnson county bar association and has practiced in both Kansas and Missouri.

W. H. "Harry" White, Council Grove, has schooled at both K-State and Kansas University. He represents the same district his father did in 1893. In the upper house for two years now, he previously served six years in the lower body.

Mr. White was vice-president of the Drover's bank at Council Grove. For 12 years he served on the school board and has been a district governor of the Rotary International.

L. J. "Harry" Blythe is another large landowner grad, operating 5,000 acres in Morris county near White City.

He has been a farm organization leader for many years. Elected to the legislature first in 1931, he has been returned five times—in 1933, 1935, 1946, 1948, and 1950. This will be his 12th year as a representative.

Mr. Blythe has been a member of the local school board for 25 years. He is a Republican committeeman, chairman of the district Rural Electrification association, and a director of the White City National Bank. In 1935, he was chairman of the house agricultural committee.

The officer saw a drunk weaving down the sidewalk and followed him. Every time he came to a lamp post, the drunk staggered slowly around it into the street and then back to the sidewalk.

"You'd better come with me, bud," said the officer, tapping him on the shoulder. "You're not fit to navigate."

"I'm awright," said the drunk. "It's those poshts. They come whizzing by. But I jump out of the way, don't I?"

Alpha Zeta Initiates

Twenty-seven students were initiated into Alpha Zeta, honorary ag fraternity, in November. Here, 26 of them pose on a stairway just before the banquet which was given for them in a local hotel. Students are selected for the fraternity on the basis of scholarship, leadership, and character.

U. S. Has Best in World

Meat Packing..Great Industry

(Editor's Note—This is the essay that won the 1950 Swift essay contest.)

By KARL FAIDLEY

The modern packing industry is one of which the American people can be justly proud. It is typical of the industries of the present day and age in which mass production methods are used. Furthermore, everyone benefits from the packer's operation. Farmers and ranchers no longer have to hunt a butcher to buy their animals. The industry furnishes the livelihood for 300,000 packing house workers and a million retail meat men. It brings to the housewife the most palatable, nutritious, and digestible products which are possible to secure for the human diet. The importance of the industry in our national economy is evident, because meat packing ranks third among the industries of the United States in value of its products. Such an industry merits a consideration of its history.

Probably no exact date can be set which will represent the actual beginning of the packing industry. Meat packing in some form or other, though mostly very primitive, has existed for many years. The first meat packers in the United States were farmers who, in the lifetime of the Pilgrim Fathers, began packing away in salt not only pork and beef, but also venison and even bear meat.

Packing houses were built as soon as communities sprang up which did not produce their own meat animals. In most cases, a packing house of those days served only a small community. When farmlands failed to produce enough livestock to meet the demands of the community, animals were driven in from more distant points.

Before 1850, the meat packer was usually a warehouse man who hurriedly packed the farmer's hogs on commission, and tried to ship them for him before the rivers froze or before warm weather returned. The development of artificial refrigeration, however—which ended a Civil War era of natural ice refrigeration in which the ice house often dwarfed the plant—removed the weather obstacle, and meat packing became a year-round process.

The problem of transporting fresh meats from the packing centers to the thickly populated eastern cities still remained, but this was solved by the development of refrigerated railway cars by the industry around 1880.

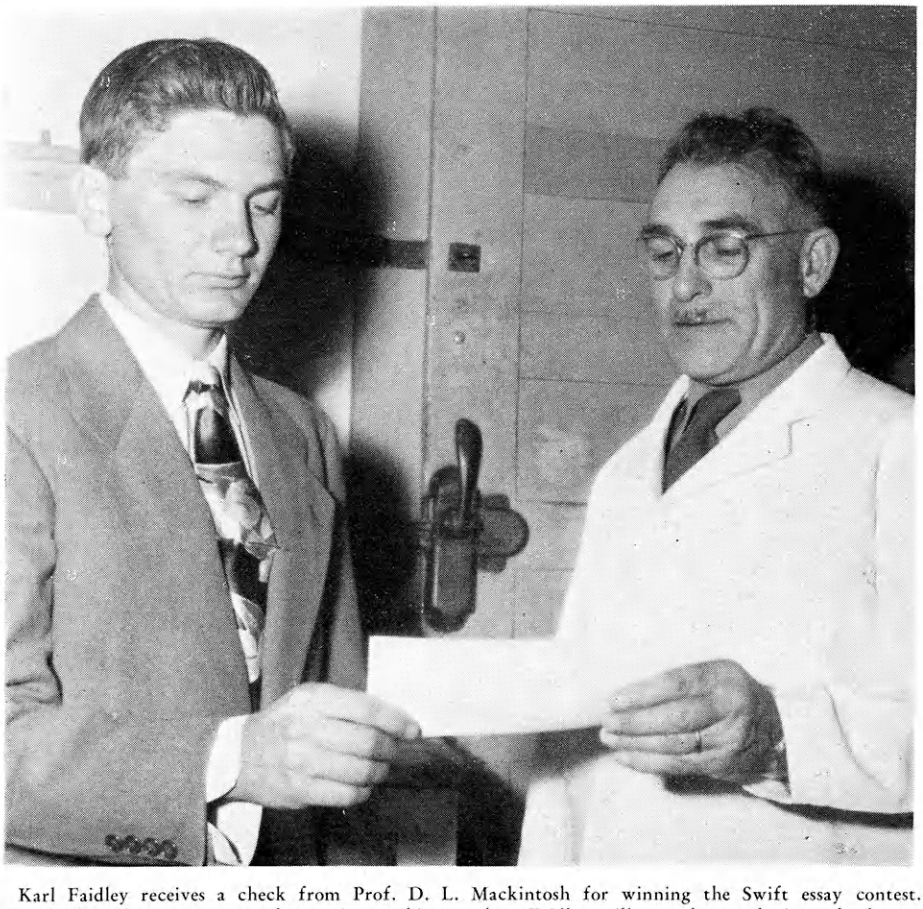
History shows that the packing industry has kept pace with the needs of the country's population. As a result, an enviable choice of delicious meat, dairy, and poultry products is available at any season—a luxury achieved in no other century in the world's whole history.

This very important industry benefits the general public by furnishing a competitive market for the products of the 6,000,000 farms and ranches of the United States. Cattle are raised on five out of six, hogs on nearly four out of six, and sheep on nearly 600,000 of the farms and ranches. Of course, nearly every farm has its flock of chickens and its dairy cow.

Today, meat animals are moved from the farms and ranches to 67 major livestock markets in the nation. Such shipments may involve the sending of hundreds of cattle from one ranch in railroad cattle cars, or it may involve the loading of a few pigs by one farmer into his own truck for delivery to the nearest livestock market.

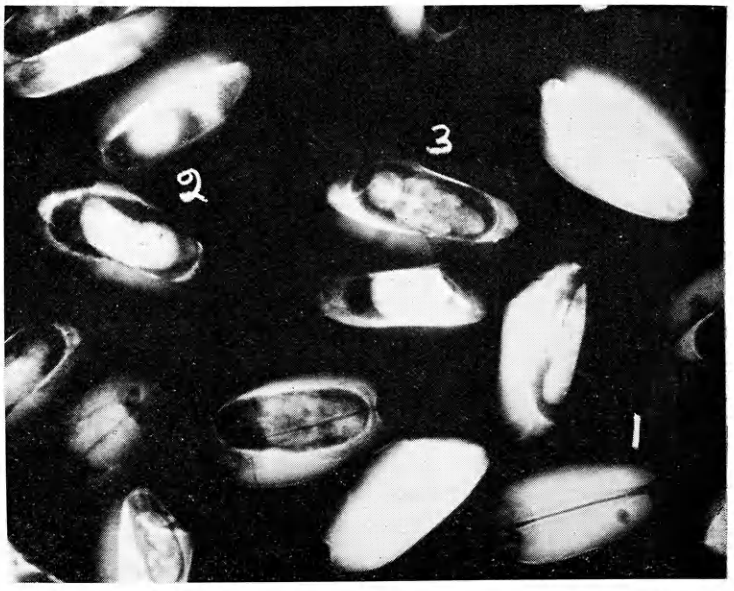
Competition is so keen at the market that figures submitted by various buyers are likely to be nearly identical. Terminal markets afford one of the very best examples of the working of the law of supply and demand. The packer's buyer is indirectly the agent of the consuming public be-

(Continued on page 29)



Karl Faidley receives a check from Prof. D. L. Mackintosh for winning the Swift essay contest. The check will cover expenses for a trip to Chicago where Faidley will attend a marketing school.

Here is an ordinary photograph of infested wheat. The holes in some kernels were made by weevils emerging. Until they chewed their way out, there was no quick, sure way of detecting their presence until the x-ray technique was developed.



This is an x-ray photograph of infested wheat. Figure 1 shows chambers hollowed out for deposition of eggs; number 2 shows the balloon-shaped pupa partially developed inside the wheat kernel; number 3 is an almost completely developed pupa.

Nobody Has Any Privacy

X-Ray Detects Wheat Weevil

By Richard L. Fleming

The use of x-ray has proven successful in detecting hidden insect infestation in wheat as the result of a joint research project carried on by the Department of Physics and Milling Industry at Kansas State College, according to Prof. Max Milner.

"The new technique makes it possible to produce an x-ray picture of wheat kernels by exposing film in contact with the kernels to x-ray," Milner said.

Wheat kernels used in the experiment were infested by adult weevils which deposited eggs inside the kernels, Milner continued. These infested kernels were mounted on a sheet of photographic black paper. The x-ray film was placed on the opposite side of the photographic paper for the experiment.

A cobalt target Machlett x-ray diffraction tube equipped with a beryllium window furnished the radiation necessary to produce the picture. The exit end of the tube was placed 75 centimeters from the mounted kernels so that the sample would receive uniform radiation.

X-ray pictures of the kernels

(Continued on page 28)

Graduate assistant Milford Lee adjusts the controls for x-raying wheat kernels in the small, rectangular frame. Film behind the kernels will record which ones are infested and to what degree. It's a brand new method of detecting internal insect infestation developed here at K-State in the past few months.

Ricker Keeps Mighty Busy

Ag Student Is Campus "Wheel"

By MAX DEETS

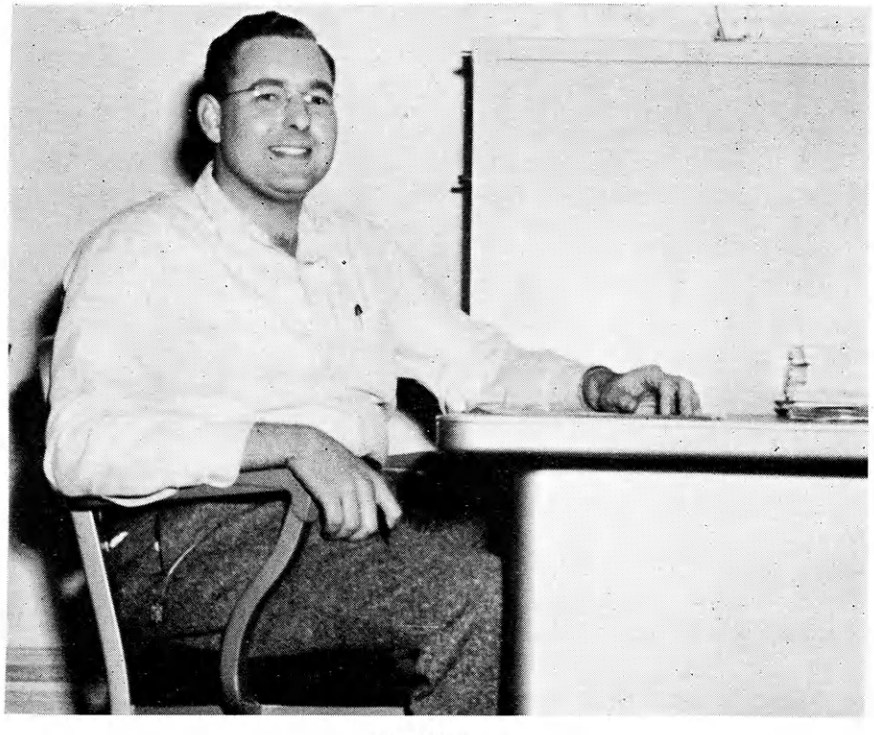
If the hot potato juggling job of Student Council president is not enough to keep ag school representative Floyd Ricker, busy, his many other activities will.

He's married—and most any ex-bachelor on the hill will tell you that's a job in itself—he belongs to an impressive number of clubs, including several honorary fraternities, he works for the agronomy department, and he studies with John Slaven, blind ag student, reading aloud and sometimes helping with the typing. Of course John has others working with him too, but he says Floyd is now the dean of all his studymates—has been helping longest.

"Well, hello there!" is Floyd's friendly greeting to his many friends on the campus. Floyd is perhaps the best known student on the hill now that he has been in the limelight as council president this year. It is interesting to watch the reaction of someone thrown into a blaze of publicity. His reaction has impressed everyone as being favorable.

Floyd hails from western Kansas, a small town called Ford near Dodge City. This mild-mannered, husky student received his primary and secondary education here. His extra-curricular activities during this time centered on 4-H work. He was a dependable member and leader in his club. His projects included dairy, wheat, milo, and swine. He exhibited them at the various local fairs and always brought home his share of the ribbons.

In 1943, Floyd's club was named winner in the national safety contest. He was elected official delegate to go to Chicago to the National Safety Council to receive the award. While in Chicago, Floyd was guest of Everett Mitchell on the radio program "Voice of the Dairy Farmer." Floyd says this is one of the highlights of his lifetime.



Floyd Ricker

Like many other students at K-State, he served his country during World War II. He was in the Marine corps from June 1944 to August 1946. In addition to duty in the States, Floyd also served at Maui in Hawaii.

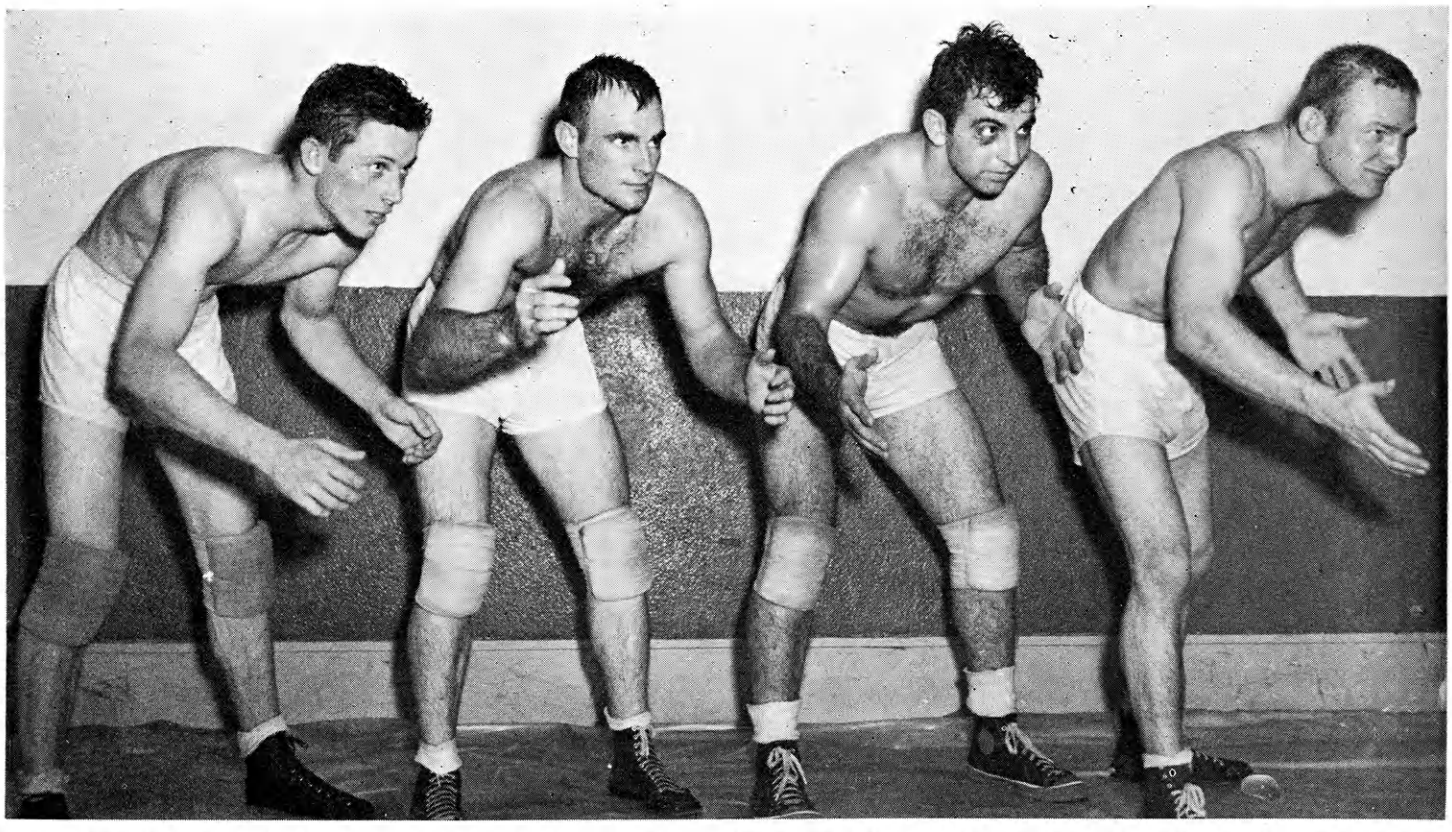
After his discharge, he became assistant 4-H club agent in Ford county. He did the same thing again during summer vacations in 1948 and 1949. Last summer, Floyd was assistant club leader in Barton county. He also served as 4-H supervisor for the Southwest 4-H camp in 1949 and 1950.

He married Fern Hahn of Dodge City in the fall of 1947. That same fall he enrolled as a freshman in agricultural administration at KSC.

Floyd has been a charter member, vice-president, and president of the Extension club. During his freshman year he was chairman of the radio committee for the Collegiate 4-H club and received freshman Phi Kappa Phi recognition. Other clubs of which he is a member include the Agricultural Economics club, Klod and Kernel and the honorary fraternities of Alpha Zeta and Blue Key. The latest additions to his list of honors are his election to Who's Who in American Colleges and Universities, appointment to Athletic Council, and to the student health committee.

Now you might think all these activities consume all his time. But it's not the case. Study has not been sacrificed and you will find Floyd's name among those on the Dean's honor roll.

After graduation in June, Floyd plans to go into extension work. His experience as assistant 4-H club leader and his ease in associating with people should qualify him well.



Four Ag students on the K-State wrestling squad take time out to have their picture taken. Coach Reynard says Ag students make good wrestlers as vigorous farm work builds up muscles. The matmen from left to right are Duane Rieke, Lyle Linnell, Frank Solomon, and Dean Sheets.

They've Got What It Takes....

Aggies Make Good "Muscle Men"

By DEAN SHEETS

Fresh on the heels of a battered, bloodied, and somewhat drooping football team, the grunt and groan grapplers prepare for the winter's sport spotlight. The mats will thud here January 6 with the opening match of the season against South Dakota State. Four home tumbles are scheduled this year.

With four varsity members and 13 freshman "muscle men" from the ag school, the north side is well represented on this year's squad.

Coach Leon (Red) Reynard is pleased with the turnout of the aggies. The coach said the farmers usually make the best wrestlers since vigorous work on the farm builds much-needed muscle best.

The four varsity squadmen from ag school are: Frank Solomon, Duane Rieke, Lyle Linnell, Dean Sheets.

Frank Solomon, a 20 year old senior in animal husbandry from Yates Center, captains this year's squad. He's shooting for a Big Seven championship now and is predicted to have a good chance of getting it. He lettered two years at Wichita North high school. In his senior year at Wichita he was state champ in the 175 pound class. He placed third in the same class in his junior year.

At K-State, Frank won a frosh numeral and lettered twice. Last season he placed second in his class at the Big Seven conference meet held here. He was beaten in the semi-finals at the National Collegiate wrestling tournament later.

Duane Rieke, 23 years old and a junior in soil conservation, calls Chester, Neb., his home town. Although Duane lives in Kansas, he went to school across the state line at Chester. He did not wrestle any in high school but he was good enough to win a frosh numeral in the 128 pound class here.

Lyle Linnell, an ex-navy man, is 23 and comes from St. Francis. He wrestled four years in high school, winning the state championship in the 133 pound class during his junior year. While a sophomore, he placed third among the 112 pounders. This year he'll grapple in with the 147 pound matmen.

"Lyle was hindered most of last season by an injured knee," Coach Reynard said. "But it's healed now."

Another veteran, Dean Sheets, is 23 and a junior in ag education. Burlington is his home. He did not wrestle in high school nor here at K-State during his freshman year. He's trying hard to overcome the handicap that lack of experience has placed on him.

School Nurse: "Jimmy, do you drink plenty of milk?"

Jimmy: "No, Ma'am."

School Nurse: "But why not? You live on a farm, don't you?"

Jimmy: "Yes ma'am, but there's only enough milk for the pigs."

Add Nitrogen If You Want To

Raise More Corn

By ROBERT GOULD

One of the many research activities carried out this year by the agronomy department at Kansas State College was a series of experimental fertilizer trials on corn. Several departments and commercial firms co-operated in conducting these tests. They were under the direction of Professor F. W. Smith of the Department of Agronomy.

The 1950 experimental fertilizer tests were especially significant in that a new method of fertilizer application was used. The Department of Agricultural Engineering and the International Harvester Co. both contributed to the development of a new fertilizer dispenser. The Department of Agronomy and the Spencer Chemical Co. co-operated on the field fertilizer trials, according to Professor Smith.

Professor G. E. Fairbanks of the agricultural engineering department directed the construction of a special fertilizer dispensing apparatus, so designed that the individual fertilizer nutrients: nitrogen, phosphorus, and potash, can be delivered individually or in any combination and in any required amount through the use of a belt type delivery system. Another new technique used was a new type of fertilizer placement shoe furnished through the courtesy of Mr. C. E. Guelle of the International Harvester Co. This shoe permitted application of fertilizer in a band about 1½ inches to the side of the seed and 1¼ inches below the seed. This shoe permits a safer application of fertilizer on corn than does the conventional split boot type.

Of the fifteen treatments used in the fertilizer trials two treatments had a plant population 50 percent greater than that normally used by farmers in the locality under investigation. The other 13 treatments had what was considered to be a normal plant population. In northeast and southeast Kansas the normal plant population was regarded as 8,000 plants per acre. In northcentral Kansas it was 6,000 plants per acre.

Eight of the experimental treatments represented the use of a complete factorial experimental design to ascertain the needs of the various soils studied for the three fertilizer nutrient elements. Each of these treatments involved the use of the particular nutrient element at the rate of 40 pounds per acre.

The fifteen treatments were replicated four times on each farm so as to eliminate as much as possible any experimental error due to variations in soil on a particular farm. Farms were selected to represent a wide variation of conditions in Kansas. Four were located in southeast Kansas on soils considered to be poor for corn production. The eight locations in northeast Kansas in general represented typical corn producing soils of that area. Each of the two locations in northcentral Kansas had a long record of cropping to corn.

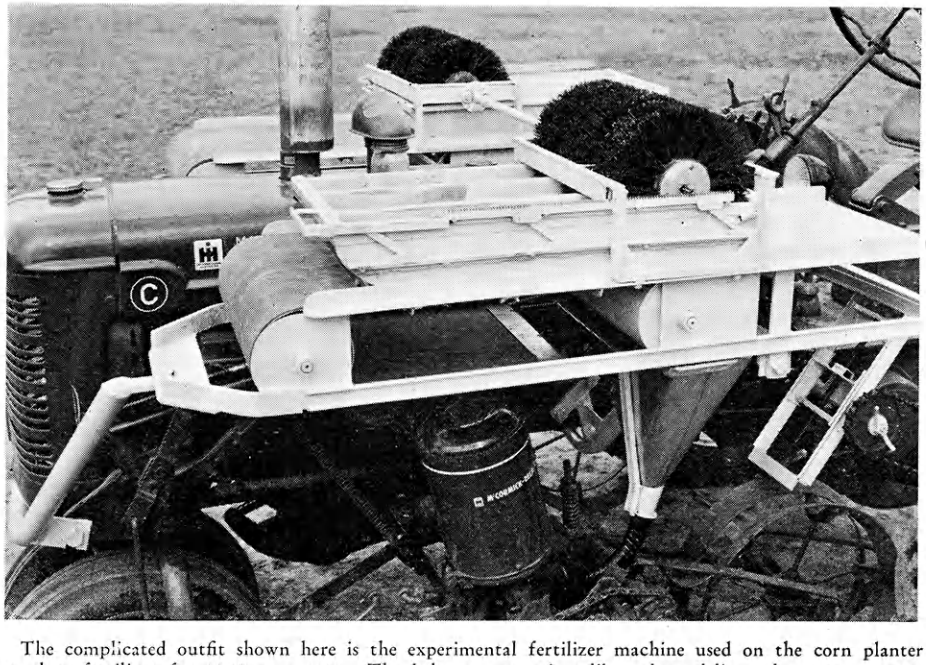
Weather conditions were favorable during the whole season for corn production. Comparatively mild rainfall at planting time brought about a good stand at all locations. An abundance of rainfall was received during the growing season and good yields were obtained, stated Dr. Smith.

The highest yields of corn were obtained in each instance as a result of treatment 10. This treatment involved the use of a complete fertilizer containing 80 pounds of nitrogen at planting time and the use of a high plant population. Prof. Smith stated that in general high yields resulted from the high rate of nitrogen plus the extra plants per acre because two other treatments involved use of 80 pounds of nitrogen but did not yield as well as treatment 10. Apparently this was due to the lack of sufficient plant population to make use of the large amount of plant nutrients available under such conditions. In most instances, use of a high plant population on unfertilized soil had little or no benefit in stimulating yield of corn due to lack of necessary nutrients.

It is to be noted that usually the use of nitrogen alone was the biggest factor in increasing yield of corn. There were three possible exceptions. Evidence of yield increase because of potash fertilizer was shown on a field that had received benefit of a green manure crop of sweet clover in the spring of 1950. Two other locations, both in northeast Kansas, also gave a yield response to potash fertilizer.

In general, the use of phosphorus resulted in little or no increase in yield if used alone or in combination with either nitrogen or potassium or with both of these elements. There

(Continued on page 30)



The complicated outfit shown here is the experimental fertilizer machine used on the corn planter to place fertilizer for 1950 corn tests. The belt apparatus is calibrated to deliver the exact amount of fertilizer needed for a given row length. The three compartments are designed so that individual applications of nitrogen, phosphorus and potassium can be made.

Deans' Secretaries Have Big Job

They Keep the Records

By Bob Sterling

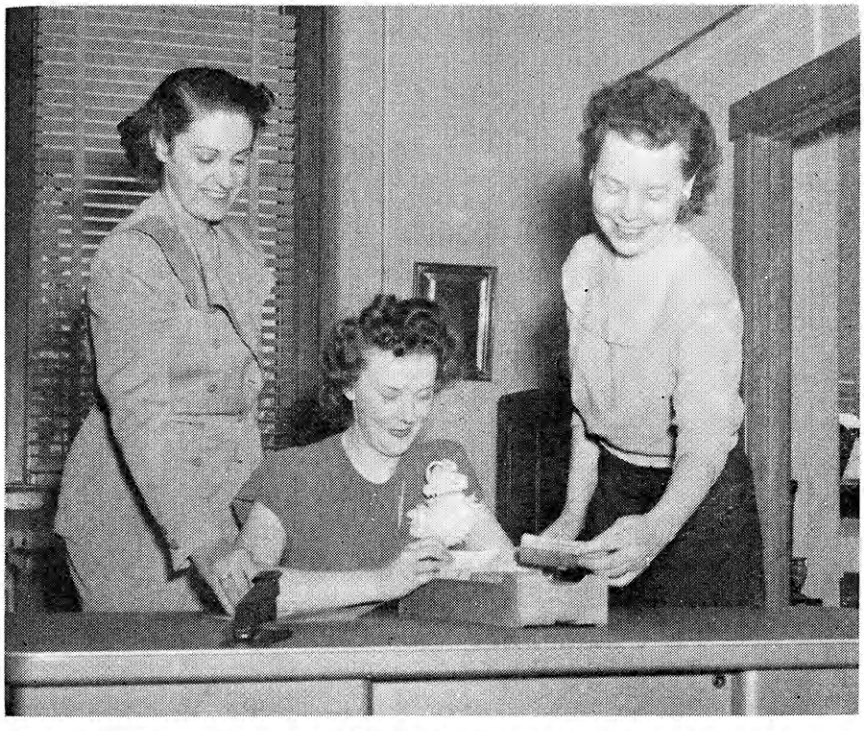
Who answers the telephone when you call Extension 281? Who takes care of all the student records, even down to details as minute as the number of times you skip class? Who straightens out the financial records of the ag school and the experiment station? Who says, with a pleasant smile, "I am sorry, but the dean is out of town now." Who is the traffic clerk who informs you everytime you violate the traffic rules around the campus? Here's the answer.

A very efficient corps of hard working secretaries keep things rolling smoothly in the dean's offices. An idea of the number of facts they have to keep straight can be obtained from their record room—stacks upon stacks of details filed from the floor to the ceiling.

Miss Beth Motter is in charge, and is personal secretary to Dean Throckmorton. She does the bookkeeping work and handles the financial records of the school and the station. She has served in this capacity under several different deans for almost 20 years.

On the left is Mrs. Marie Peters, stenographic secretary to Dean Throckmorton. She takes the Dean's dictation, files correspondence, and answers the telephone. Miss Beth Motter, on the right, is personal secretary to the Dean and has charge of the financial records of the school and the experiment station.

Her desk partner, Mrs. Marie Peters, is stenographic secretary to the dean. She takes all his voluminous dictation, files his correspondence, answers the telephone, and still has time for a friendly chat with anyone dropping in the office.



These secretaries seem to get a big kick out of looking over student traffic violation tickets. Traffic violation notices are sent out by Mrs. Norma Jean Bienhoff, center. She is flanked on the left by Mrs. Bess Decker, who helps keep student records, and on the right by Mrs. Shirley Billings who has charge of all student records and is secretary to Dean Mullen.

Mrs. Shirley Billings is secretary of assistant Dean Mullen and in charge of all student records. She has to keep the grades straight, the activity records up to date, and the pictures matched with names on almost 1,100 students this semester.

Mrs. Norma Jean Bienhoff, secretary to both Dean Emeritus Call and associate Dean Weber, usually works in the connective wing between the offices of the deans. Although she is not seen in the front office as much as some of the other girls, she makes her influence felt through the notifications of traffic violations she sends out, in addition to her other work.

Last, but far from least is Mrs. Bess Decker who also works on student records. She is the one who says "Dean Mullen will see you now."

When you think about it, a big question arises. "Just where would our deans be without their secretaries to buoy them up and keep them from floundering in a sea of paper details?"

To be sure, they are an important cog in the ag school.

Beemen, Seedmen Have Problem . . .

Who Should Pay Whom?

By RAY ZIMMERMAN

Who should pay whom, the beemen or the seedmen? This question has been asked by many farmers and beemen.

Agronomists and entomologists of the Kansas Agricultural Experiment Station were interested in this problem several years ago. But they realized that the question of who should pay whom could not be fully answered until they knew how much seed increase could be gotten from a certain number of bees and how much honey can be made from an acre of alfalfa.

Duplicate seed-setting experiments were set up in fields of Buffalo alfalfa at Manhattan and Hays, Kansas. In these experiments C. O. Grandfield, agronomist for the United States Department of Agriculture of Kansas State College, worked in co-operation with the Kansas Agricultural Experiment Station in trying to increase Kansas alfalfa seed production.

In these two experiments the honeybee population averaged one bee per square yard, or 4,840 bees per acre. A colony of 10,000 bees would be needed to keep this number in the field for a 10-hour day, assuming that each bee spends one-half of its time actually visiting flowers.

O. W. Park, Iowa State College entomologist, has found that the average time used by a honeybee in collecting a load of nectar is one hour, of which only five minutes are spent in the hive.

Dr. H. M. Tysdal, working at the Nebraska Agricultural Experiment Station, found that 69 percent of the alfalfa flowers tripped formed seed-pods and that 76,300 flowers would have to be tripped to produce one pound of seed.

From observations here in Kansas, honeybees visit an average of 15 flowers per minute and about two percent of the flowers visited are tripped. They also figured that 14,500 flowers must be tripped to produce one pound of seed, on the basis of 250,000 alfalfa seeds per pound.

According to these figures a colony of bees should trip enough flowers in a 10-hour day to make 6 pounds of seed. During a normal 20 day blooming period 120 pounds of seed per acre would be produced. The average yield for Kansas in 1949 was 84 pounds.

R. L. Parker, state apiarist in Kansas, found the amount of nectar carried in a single load by a honeybee averaged .07 gram or about 6,400 bee loads to a pound.

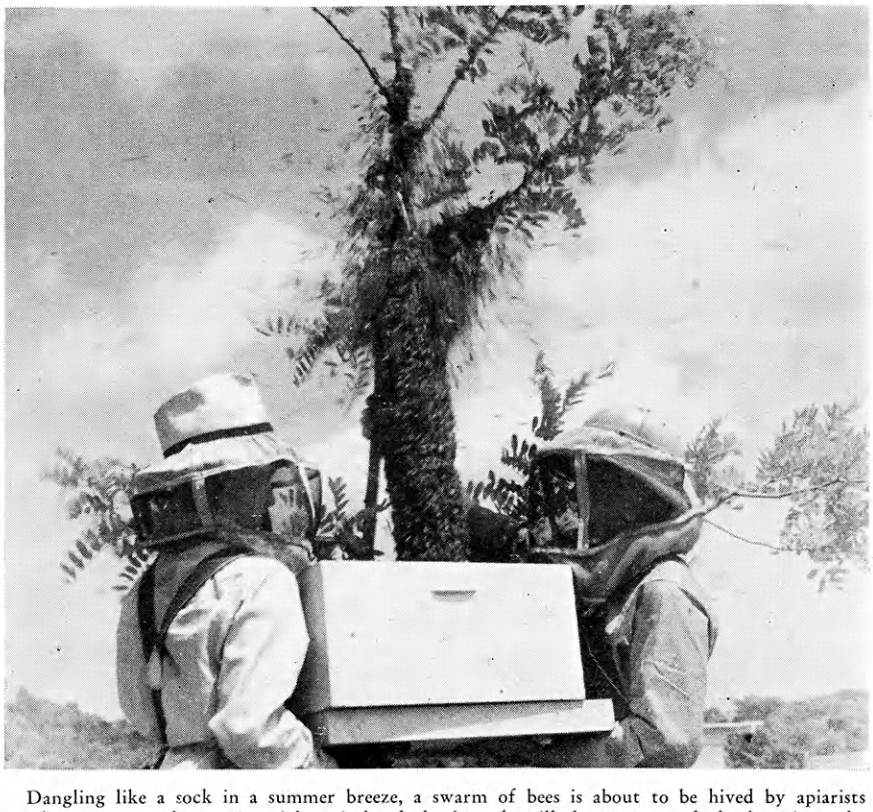
This indicates that a colony of bees would carry about 30 gallons of nectar in a normal blooming period.

Thirty gallons of nectar would make about 159 pounds of honey of which two-thirds would be used by the bees and the other 53 pounds extracted for table use.

From these results we can prepare a formula: One colony of honey bees plus one acre of alfalfa equal 120 pounds of seed plus 53 pounds of honey.

With these facts the beemen and the seedmen should be able to come to some kind of terms in the future.

Sweets Makers!



Dangling like a sock in a summer breeze, a swarm of bees is about to be hived by apiarists at the agronomy farm. A quick twitch of the branch will dump most of the bees into the hive. They'll form an angry, churning mass of indignant buzzers for a while but when they settle down they will begin to carry nectar to their new home. Most swarms occur in early summer time but modern apiarists have found ways of preventing so much wasted energy.

Once upon a time there was an Indian named Big Smoke, employed as a missionary to his fellow Smokes. A white man encountering Big Smoke, asked him what he did for a living.

"Umph!" said Big Smoke, "me preach."

"That so? What do you get for preaching?"

"Me get ten dollars a year."

"Well," said the white man, "that's damn poor pay."

"Umph," said Big Smoke, "me damn poor preacher."

Frick Says.....

It Pays To Call the Vet

By GLENN D. BENGTSON

"An ounce of prevention is worth a pound of cure, but a little knowledge, like wood, must be well seasoned to be useful," said Dr. E. J. Frick, professor of surgery and veterinary medicine at KSC. "Therefore we constantly warn students in the ag school of the dangers incurred when they try to doctor their own livestock."

As an example, Dr. Frick mentioned the risk of using live culture, strain 17, in treating Bang's disease. This is a very toxic serum, and it is quite easy for the user to pick up the disease himself. Occasionally even a professional veterinarian will contract the disease by accidentally pricking himself with the syringe. Such an infection can be fatal.

As well as the personal danger involved, there is the economic cost of blunders an untrained man will frequently make when he tries to doctor his own livestock. One feeder, even though the doctors of the vet school advised against it, dehorned 800 head of cattle. To save money, he did the work himself. Before his herd was fully recovered, screwworms had cost him 37 of the animals and more than $400 to a professional veterinarian.

Veterinary medicine instructors are happy to appear before classes and assemblies of ag students to give lectures and demonstrations on disease prevention, sanitation, artificial insemination, and simple surgery like castration, Dr. Frick explained. But they always emphasize to the ag student it is a knowledge of preventive medicine he needs. So much preventive medicine is simple and effective —cleanliness and close observation of the animals in order to spot early symptoms of a disease. Then he can call a professional vet before the disease becomes acute and widespread.

"Modern veterinary medical practice, with its quick-acting but costly drugs, is so effective and efficient that the farmer and stockman are far ahead in time and money to hire the

(Continued on page 32)

Dean Mullen Says . . .

These editors! Every time we see that Delmar Hatesohl, we are reminded that the deadline is December 1. And here it is, only a few days until, "Sorry. Can't use copy at this late date."

For 18 years, we met a deadline every two weeks. It seems just as much trouble to meet it four times a year.

And for 15 months we were supposed to be in the Federal Grain Supervisor's office at 9 a. m. It was as torturous to punch the clock at 9 a. m. as it now is to be at the desk by 8 o'clock.

The lad had too many low grades at mid-semester. The parents came by the dean's office to find out what the trouble was. Surprise! Excused October 10-12, "To get married." "What can you do in a case like that?" asked Mom.

At an eastern college the question was asked of students: "Which would you rather have, a new automobile, or a college education?"

A surprising number indicated a preference for the automobile!

One guess is, few in the School of Agriculture would express that choice.

It won't be surprising if 18-year-olds finally are included in the draft age. It is said that these lads attain maturity as they train, and that by the time they are ready for service they make good 19-year-old soldiers. Drafting of these lads could be the circumstance that might delay the calling of family men in the groups above 25. However, it is well known that the group becoming 18 now is relatively small because of the low birth rate during the depression years.

This January when Dean Throckmorton is interviewing mid-year graduates in agriculture, he will for the first time be able to place in the hands of each senior a personal data sheet.

This will be a form that the graduates may use in making application for a position. The form calls for pertinent information that nearly every prospective employer wants, and there is a spot for a photograph. It should be useful in helping graduates present their training and their capabilities in an organized manner. We are going to be interested to see how it works out.

P. S.—Guaranteed to make an impression on recruiting officers and draft boards.

Speaking of personnel blanks, Professor Montgomery has recently sent a questionnaire to graduates who had majored in agricultural economics. Following are quotes from one of the returns:

Occupation: "Retired."

Wish to know about job opportunities: "Heck no."

Type of employment preferred: "Relaxing in California sunshine."

Indicate ways in which staff in agr. econ. may be of service: "Do not disturb."

Comments: "Take it easy."

The reassignment, written by the student himself, that caught the attention of the office force read:

"Drop: Organic Chemistry."

"Reason: Too much work. No good student."

Jim Esslinger, '49, writes: "Farming is a great life. To prove it, my debts are already twice what they were when I left college."

Which is comparable, in a way, with the conversation between two jailbirds.

Said one: "When I was out, I had a million problems."

Said the other: "And in here we have only one problem—how to get out."

Collegiate 4-H Is Largest of Clubs

Student Organization Offers Wide Variety Of Activities to Members

By WM. C. PARKER

"Come early for the recreation" is the call of the Collegiate 4-H Club, the largest student organization on the hill. This call is directed to many students at Kansas State.

Let's look back a few years to 1927 when the club was first organized. The club consisted of 60 members, the size of many departmental clubs at present. It grew in size to the all-time high of 600 members during the '49-50 school year. This year the club boasts a membership of 475 students.

Most of the Collegiate 4-H club members are present and former 4-H Club members. They represent all parts of Kansas and some other states. Many freshmen join the 4-H Club at the membership booth during enrollment. They feel that this is one club they understand.

With such a large membership the Club should and does carry on many activities. The first social event in the fall consists of a mixer and dance for new students. At this time they are told something of the history of the club and become acquainted with the present members.

It isn't long after school starts till plans are made for the fall dinner-dance. This and the semi-formal held each spring are the two highlights in social events during the year. At the spring semi-formal the outstanding senior awards are presented. These awards are given to seniors selected for outstanding service to the Club.

When spring rolls around and picnic time arrives, the Collegiate 4-H-ers journey to Rock Springs State 4-H Camp for an afternoon and evening of eating and fun. Rock Springs is becoming well known and the Collegiate 4-H'ers are all proud to be able to enjoy it. They also had a part in making the camp a reality.

Young farm folks maybe don't remember the "good old fashioned" box suppers and square dances, but the Collegiate 4-H Club does have one of these "affairs." Proceeds from the box supper are donated to the International Farm Youth Exchange.

The Kansas State campus is not forgotten by the Club. An active campus improvement committee is functioning all the time. One of the latest developments financed by the Club is the new bulletin board located at the cross walks east of Danforth Chapel. They have also donated money towards the construction of the Danforth Chapel and the new Student Union.

Recreation is a vital part in the life of everyone. Having recognized this fact the Club sponsors a recreation class for training students interested in leading organized recreation.

Each spring after school is out, 4-H'ers from all over Kansas assemble at Kansas State for the annual 4-H Club Roundup. Many Collegiate 4-H Club members stay in Manhattan to help make this event a success. They help with entertainment, recreation, and many other jobs connected with the roundup.

The Who's Whoot is the yearbook of the organization. This year Irwin Collinge is the editor. A large staff of members work through the year

(Continued on page 33)

Part of this year's Who's Whoot staff talk over the 1951 yearbook with a printing company representative. Seated from left to right, they are: Jeanne Warren, advertising manager; Joyce Schrader, county page editor; Irwin Collinge, editor; L. D. Merillat, Capper Printing Co.; Lois Ottaway, assist. editor; J. Harold Johnson, state 4-H club leader. Standing are Stanley Meinen, sales manager; and Warren Prawl, assist. advertising manager.

It Could Happen Here!

Upon first glance one might think this was a picture of the first livestock show ever to be held in the new Fieldhouse. We wish it were. But it's really one of a 4-H club parade in the Fairgrounds Coliseum in Indiana. The Purdue Agriculturalist furnished us this picture upon request to give K-State Aggies a preview of what we soon hope to see here in our own Fieldhouse.

We Waited a Long Time

Fieldhouse Dream Comes True

By Dick Nichols

Kansas State is proud of its new fieldhouse—not because it is something "we got and KU ain't," but because it marks the climax of years of effort.

The huge limestone building was given the final "go" on March 10, 1949, when Governor Frank Carlson signed a deficiency appropriation bill for $725,000. This completed an intensive campaign for appropriations staged since 1945 when the initial appropriations proved inadequate.

Almost immediately the ground was broken in a ceremony by Governor Carlson, President Milton S. Eisenhower, Athletic Director Thurlo McCrady, and basketball coach Jack Gardner. Charles Bennett, head of Bennett Construction Company, gave them $1 checks for their effort and jokingly announced they were through as employees of his company.

Now a positive reality, the fieldhouse will first be used for basketball. However, this will not be all that the huge structure will be used for. The Little American Royal will definitely be held there, and a list of other uses for the huge sports palace only awaits final approval from the committee on the use of the fieldhouse. Indoor track, baseball practices, huge audience participation events, and many others are strong possibilities.

To realize how really immense the fieldhouse is, if people were stacked in the "huge barn" like bales of hay, assuming 5 feet 10 inches is the average height of man, and he is 12 inches through and 18 inches wide, the fieldhouse would hold 387,058 men! This means that, stacking like sardines, the entire populations of the cities of Wichita, Topeka, Kansas City, Kansas, and Manhattan could be stored neatly inside.

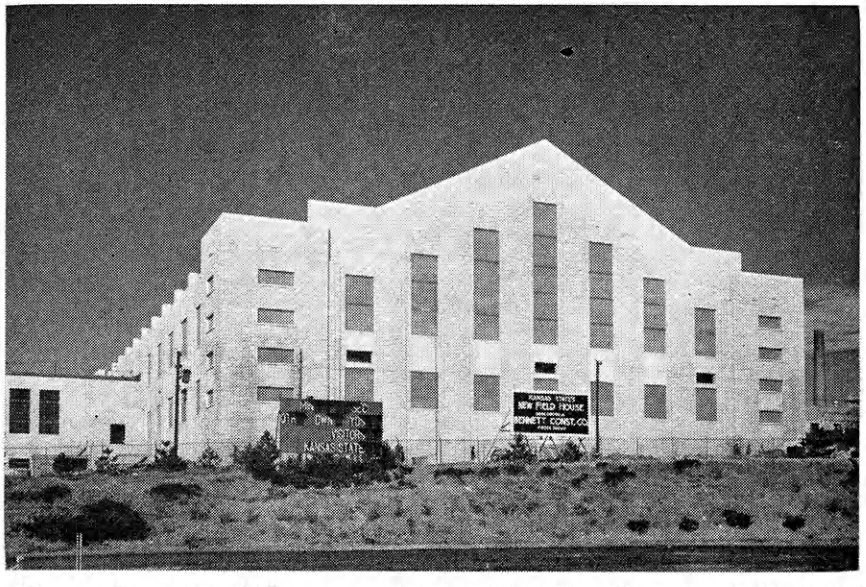
Statistics on the huge building are amazing. Measuring 85 feet high, it is 318 feet long and 179 feet wide. The total weight of the building is 100,000 tons, or 200,000,000 pounds. Since the fieldhouse is being built at a cost of 2 million dollars, the figures come out to a cent a pound.

The lighting system is enormous. Bright enough for either television or color photography, the building contains 60 huge 1,500-watt bulbs. There are 28 1,000-watters, and of the multitude of 150- to 300-watt bulbs, Bob Smith, construction boss, says, "too many to count."

The entrances are constructed of brown granite. There are 366 pieces of granite which were hauled from Cold Spring, Minnesota. The cost of the granite alone is $12,000.

For the groundwork of the fieldhouse, a total of 13,980 cubic yards

(Continued on page 28)



The new Kansas State fieldhouse is now being used for basketball games and will be used for many other events in the future. The huge structure, the fifth largest fieldhouse in the U. S., will seat approximately 13,000 people.

Slow in Getting Started

Alpha Mu Is Growing Group

By Dick Fleming

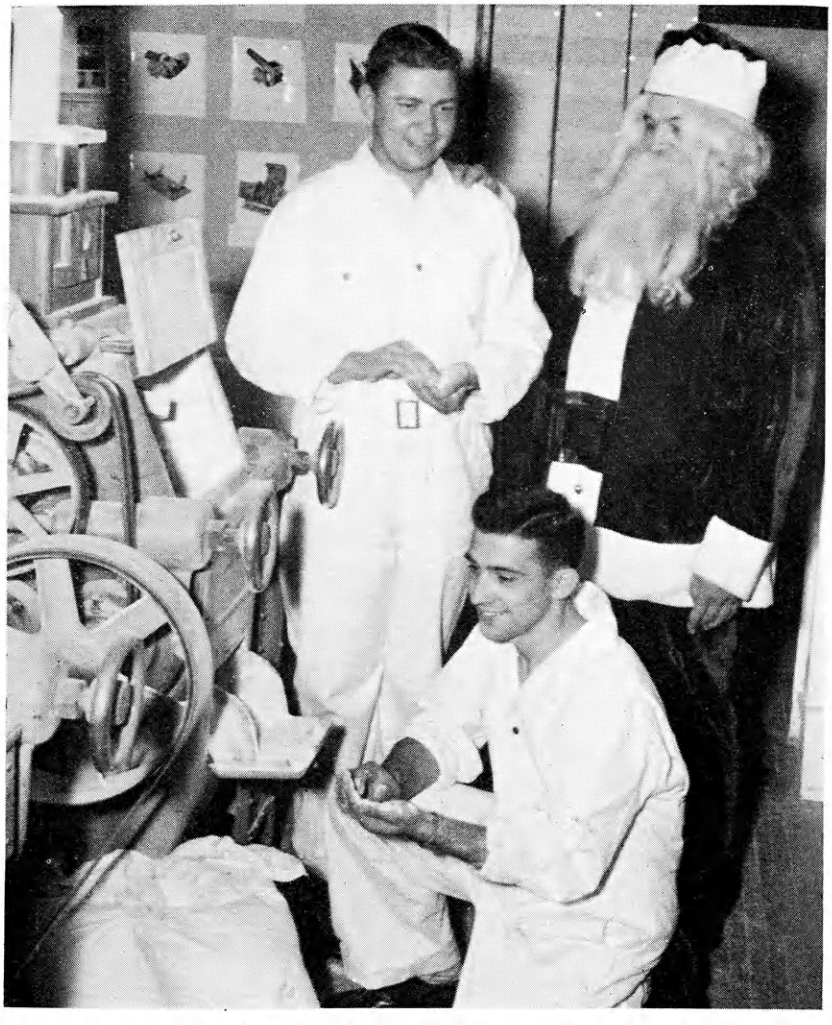
Interest in a milling organization at Kansas State began in 1934 when a group of milling students appealed to the faculty to hold part of the milling seminar off campus, as an informal meeting. The faculty decided that since all milling students were required to attend the milling seminar such an informal meeting could not be a part of the seminar.

In the fall of 1934 a group of milling students met at the Sigma Nu house to form an organization separate from the seminar. The officers elected at this first meeting of the organization were Armond Rousseau, chairman; Forest Wolf, vice-chairman; and Gene Farrell, scribe. At the meeting Dr. Swanson suggested the organization be called Alpha Mu, the initials of the Greek word for flour milling.

A short time later a committee was appointed to draw up a constitution, and by-laws. The constitution was written but never officially adopted. The new organization held meetings at the homes of various members each month during 1934. However, meetings were not held the following year. All the officers had graduated.

Early in 1936 Harold Lindahl reorganized the dangling fraternity. Several milling students were contacted who wanted it. A meeting was called, the old constitution revised, and adopted. Included in the new constitution were certain scholastic requirements for members, which made Alpha Mu an honorary fraternity. Officers were elected for the following year at the final spring meeting. The name of each office was also changed. Harold Lindahl was elected president; Fred Zutavern, vice-president; and Robert Anderson, secretary-treasurer.

After reorganization Alpha Mu grew, and soon gained prominence, not only at Kansas State college, but from the entire milling industry as members proved themselves capable. The fraternity adopted three annual events for the school year: the annual fall smoker, when the highest ranking freshman in the milling school is presented an award; the annual spring banquet for all Alpha Mu members; and the Christmas milling.



Dean Nunn, kneeling, and George Lawrence, standing, are being encouraged by Santa Claus (better known as Prof. R. O. Pence) to prepare Christmas flour for the annual Christmas give-away to needy families in Manhattan. The project is carried on by Alpha Mu, the milling fraternity at Kansas State.

The annual Christmas milling event was designed to share flour with needy people in Manhattan. When first inaugurated during the depression in the thirties, the free flour was very popular.

Flour is made from left-over samples in the milling department, and from donations by the Kansas Crop Improvement association. The flour is milled by the Alpha Mu members in the college plant.

After milling they package the flour in five and ten pound bags. About 500 pounds of packaged flour are made available for distribution annually. The Elks, Red Cross, and the Manhattan high school pack it in baskets of other foods they distribute.

Alpha Mu dwindled in 1943 due to World War II. During the next two years none of the annual events were conducted.

In December of 1945 Prof. R. O. Pence, Prof. J. A. Johnson, and Ronald Billings reactivated the fraternity. During the spring of 1946 several meetings were held, and new members initiated.

The annual fall smoker was held that autumn, and the name of each office was changed again. The new officers elected in 1946 were J. W. Fitzsimmons, manager; Harold Bellairs, head miller; and Marlo Dirks, auditor.

In the spring of 1949 a new chap-

(Continued on page 30)

Improve Kansas Hybrids

By JOHN KRELL

Bridging the gap between the plant breeder and seed producers is the job of the Kansas Hybrid association, according to Carl B. Overley, K-State graduate who is secretary-manager of the association now.

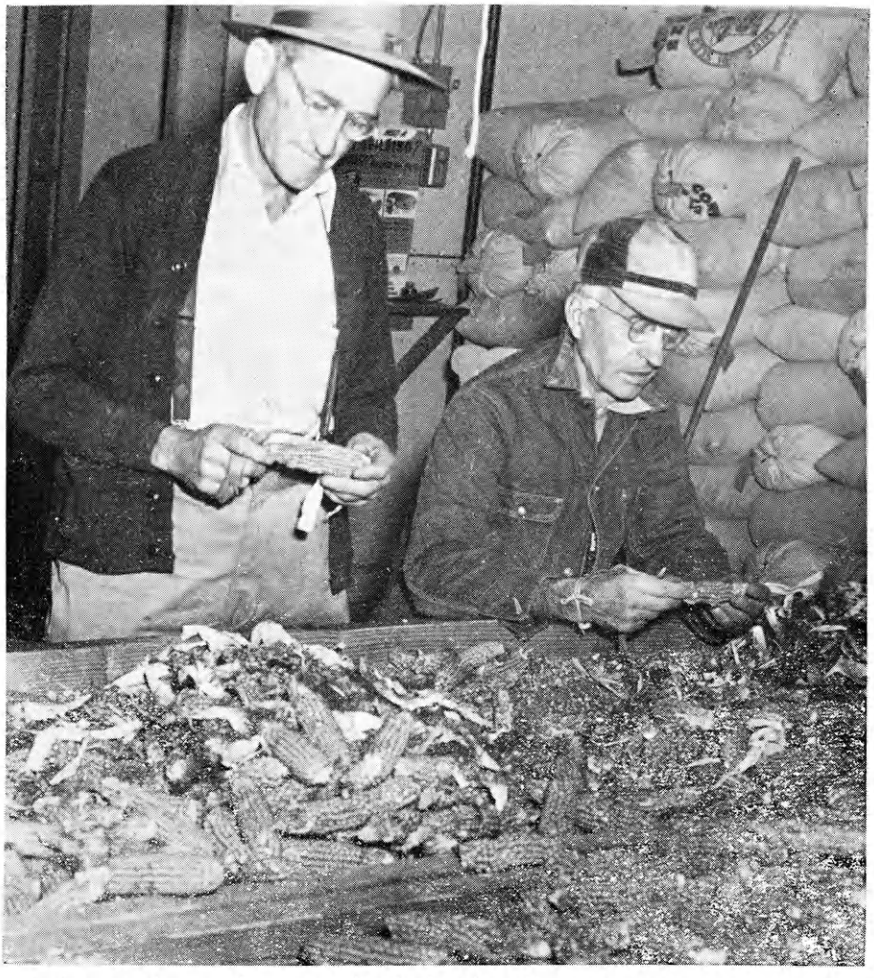
This organization of growers was founded in 1946. It was organized to supervise production, to process and distribute foundation seed stock of hybrid corn developed by and recommended for Kansas by the Kansas Agricultural Experiment Station.

Dr. Loyd A. Tatum, USDA agronomist, co-operating with the Experiment Station, is the plant breeder in charge of corn here. Dr. Tatum said "the objective of the corn breeding project is to find superior hybrids for Kansas corn growers. This is done by developing inbred lines which are then combined into experimental hybrids. These experimental hybrids are tested thoroughly in our plots to determine which ones are superior to those already being grown by farmers."

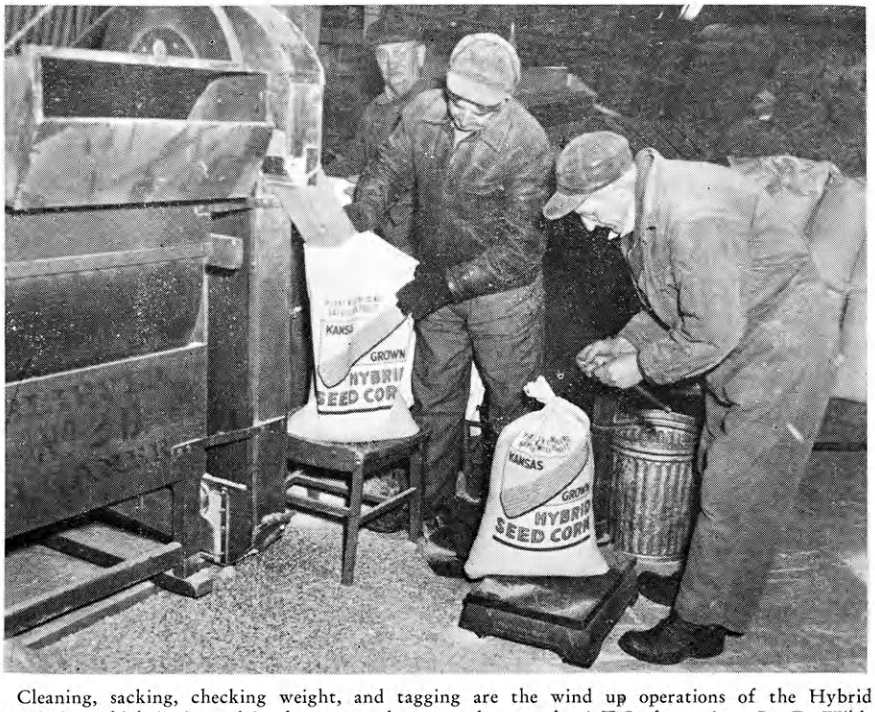
A small amount of desired inbred lines of seed is supplied to men in the association by the Experiment Station. This is increased in sibbing plots. Seed from these plots is used for field crossbreeding the following year.

One inbred line is selected for tassel (male) parent and a second inbred

(Continued on page 32)



Sorting over the ears of a scrubby line bred variety of corn gets to be a monotonous sort of job, but it is one of the most important phases of work done by the Kansas Hybrid association. Here Wm. McNeil, left, and Everett Baker pick out any diseased corn, malformed kernels, or unwanted portions of the ear.



Cleaning, sacking, checking weight, and tagging are the wind up operations of the Hybrid association which is situated in the quonset hut next door to the A.T.O. fraternity. Joe D. Wilde (left) keeps the cleaner supplied with shelled corn. Charles Elder (center) sacks the clean corn as it comes from the discharge spout. Lee Harrell makes sure a full quantity of corn is in each sack and wires an identifying tag to each, guaranteeing no mixups in varieties because of lack of identity.

One for Every Need...

Ag Clubs' Objectives, Officers

By JOHN KRELL

The following list of ag clubs, their purposes and their officers is included in this issue with the hope that it will be both interesting and helpful to the readers.

AGRICULTURAL EDUCATION CLUB

The purposes of this organization are to develop faith in the importance of Vocational Agriculture, develop leadership, provide recreational and fraternal relationship for agricultural education students and offer future teachers training and experience in the work of the FFA organization. To achieve these many purposes, the club has nationally known speakers, movies and many other demonstrations.

President .....Robert Rethorst
Vice-President ..... Max Deets
Secretary .....Gordon Cunningham
Treasurer .....Herbert Hoskins
Reporter .....Marvin Smith
Parliamentarian .....Nathan Massey
Sentinel .....Virgil Severns

POULTRY SCIENCE CLUB

The object of the Poultry Club is to create and further an interest in poultry husbandry and to promote closer friendship and co-operation among the students and faculty. Any college student or faculty member who is interested in poultry husbandry is eligible for membership.

President .....Albert Adams
Vice-President .....Amos Kahrs
Secretary ..... John Kingan
Treasurer .....Carl Kempin
Parliamentarian .....Don Grisham

BLOCK AND BRIDLE CLUB

The Block and Bridle Club was formed to promote and increase interest among students of animal husbandry and to bring about closer relationships among men pursuing some phase of animal husbandry as a profession. It sponsors the Little American Royal each year at K-State.

President .....John Schlender
Vice-President ....Donald Mackintosh
Secretary .....Bob Edwards
Treasurer .....Melvin Bunge
Corres. Secretary ..... James Drain
Marshal .....Wayne Zimmerman

EXTENSION CLUB

This club was formed by students interested in Extension work. They thought it was necessary to get acquainted with extension methods and personnel while they were attending college. Members also have the opportunity of learning to lead recreation.

President .....Dick Mason
Vice-President .....John Maxwell
Secretary ..... Beverly Kindler
Treasurer ..... Loren Goyen

ALPHA MU

Purposes of the club are to coordinate the efforts of students interested in milling and related fields, bring students of milling and their instructors into closer relationship and to keep in contact and promote general good will with past students and outstanding men of the milling profession.

President .....Dean Nunn
Vice-President .....Glen Fisher
Secretary-Treas. .....George Lawrence
Corres. Secretary .....Jim Mills

PLOW AND PEN CLUB

Plow and Pen is an organization of men interested in agricultural journalism. Students not majoring in the curriculum may also join. Principal purposes of the club are discussion of mutual agricultural journalism problems, publicizing the curriculum and improving the quality of writing in the agricultural journalism field. Plow and Pen brings in outstanding speakers at its monthly meetings.

President .....Stanley Creek
Vice-President .....Richard Fleming
Secretary-Treasurer .....Karl Kandt

AGRICULTURAL ECONOMICS CLUB

The object of the organization is to help in introducing its members to the field of agricultural economics and to foster a closer relationship among its members and the faculty.

One of the main goals this year is for the club to become a member of the student section of the American Farm Economic Association.

President .....Cleo H. Kuhn
Vice-President .....Donald Biggs
Rec. Secretary .....Paul Mayginnes
Corres. Secretary .....Alvin Banman
Treasurer .....Duane Arment

ALPHA ZETA

Alpha Zeta, a national honorary agricultural fraternity, is composed of 76 active members here at KSC. Only students in the School of Agriculture and Veterinary Medicine who have completed three semesters of college work and who rank in the upper two-fifths of their respective schools scholastically are considered for membership. Further points for consideration in election of members are leadership and character.

Chancellor ..... Max Deets
Censor .....Lewis Otto
Scribe ..... Bob Barnes
Treasurer .....Miles McKee
Chronicler .....Ross Mosier
Program Chairman ..... Bill Parker
Sergeant-at-arms .....Floyd Leonard

TRI-K CLUB

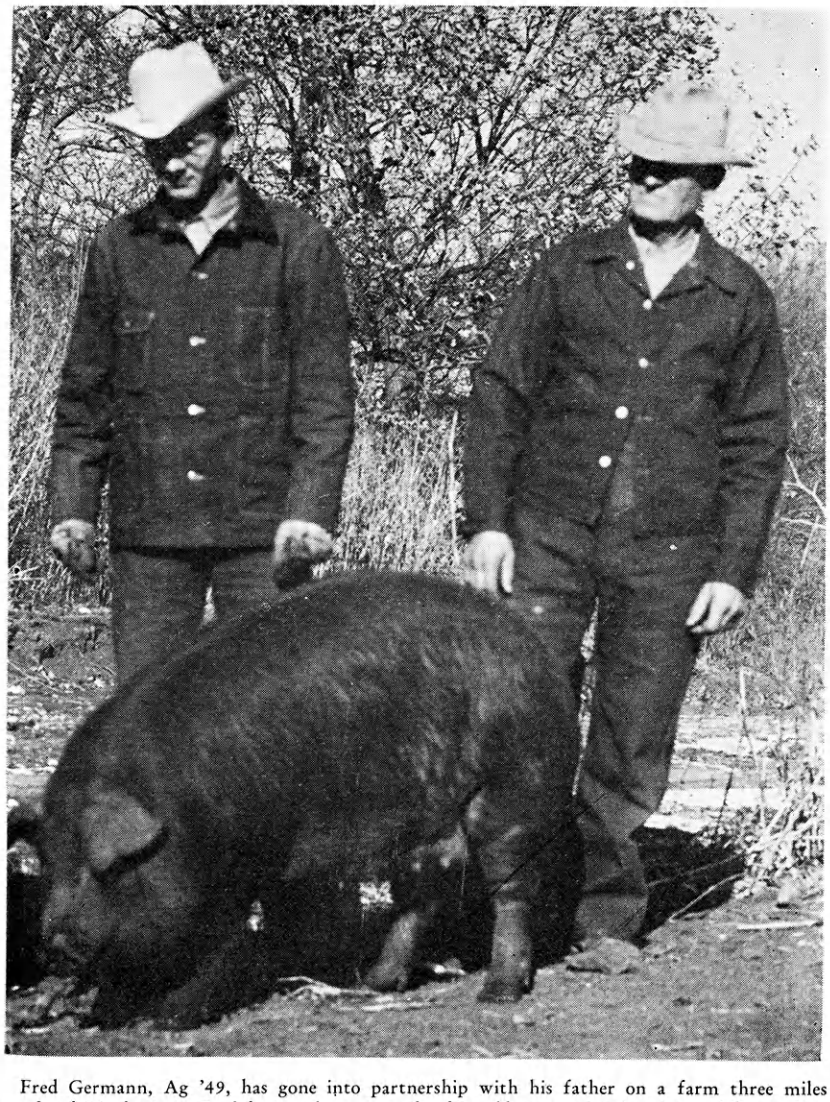
Klod and Kernel Klub is the agronomy departmental club. Its purpose is to promote an interest in

(Continued on page 33)

Fred Germann, '49

K-State Graduate Is Successful Duroc Breeder

By ALLEN WATTS



Fred Germann, Ag '49, has gone into partnership with his father on a farm three miles north of Manhattan. Fred has made a name for himself as a swine breeder and last spring was elected president of the Kansas Duroc association. In the above picture, he and his father are looking over one of their prize winning hogs.

"Should I take an attractive-sounding job or should I go back to farming?"

That's the perennial question that never grows old for graduating seniors. Here's the story of an ag man graduated last year who chose to stay on the farm.

Fred Germann, 29 years old, graduated in June 1949. He's stayed at home, formed a partnership with his dad, bought some land, and now has become a prominent farmer and successful swine breeder in his community.

Living only a few miles from Manhattan, Fred stayed at home and helped with farm work while going to Kansas State. He was active in the Collegiate 4-H club, the Block and Bridle, and the YMCA. He was a member of Alpha Zeta and in his senior year he joined the Farm House social fraternity.

He liked judging courses best of all his school work. In 1947 and 1948 he represented this school on the junior and senior judging teams. He majored in animal husbandry.

After graduation, Fred bought some land near his parents' farm and formed a partnership with his father. Their big source of income is their herd of purebred Duroc hogs. They have won many blue ribbons at state and local fairs. They have been successful in producing ton litters in 180 days several times. When the auctioneer chants his tune at the sales of purebred stock, they always sell near the top.

A variation of the "McLean county system" is used by the Germanns in their hog production. Sows are moved to temporary pasture on clean ground shortly before farrowing. After farrowing, pigs stay until weaning time on the clean pasture. Breeding stock is then cut out, the rest are fattened for market.

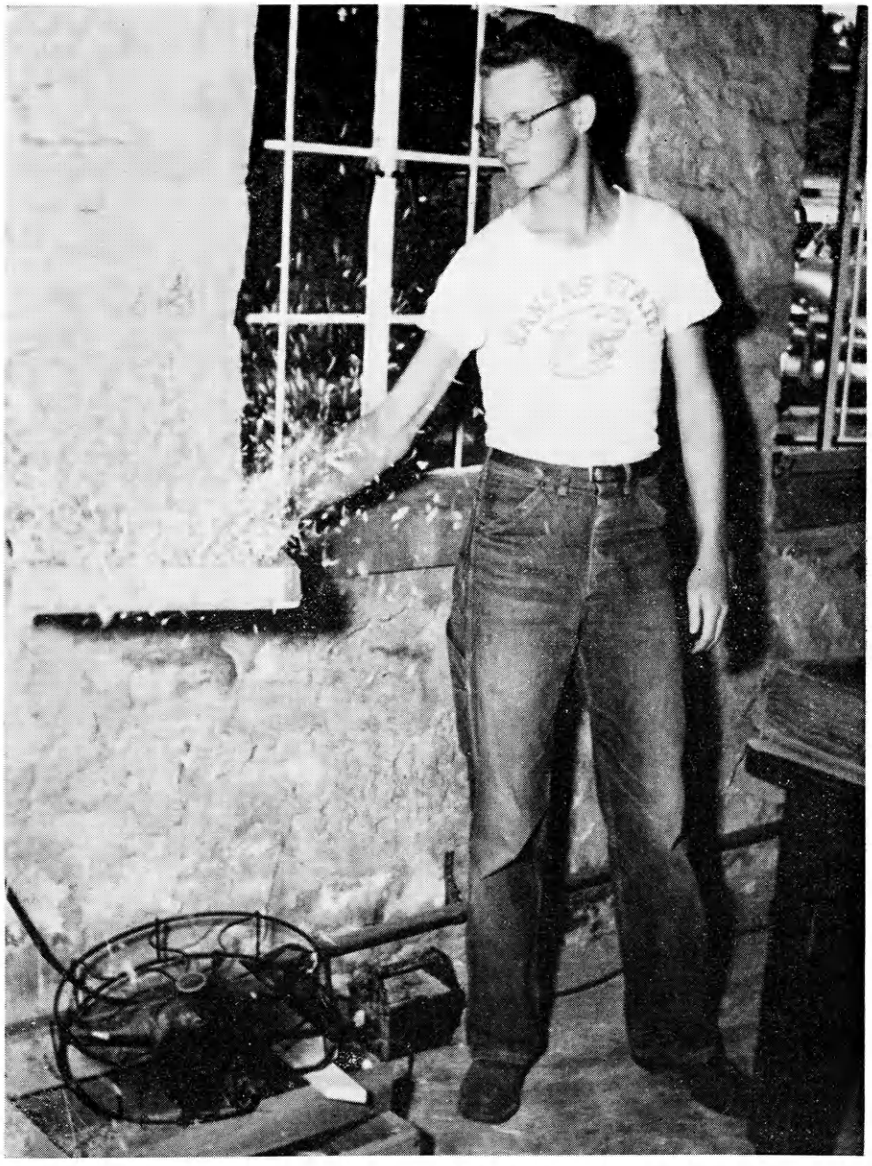
It's a lot of work building the many pens, moving sheds, and shifting feed and water equipment around for 16 sows but it pays good dividends. Pig loss is cut to a minimum on clean ground.

The Germanns graze a herd of grade cows. By using purebred Hereford bulls, they raise good feeder calves on bluestem pasture. The calves are fed out on the deferred feeding plan. With plenty of feed

(Continued on page 33)

Student Threshes Wheat from All Over Kansas

By Alvin Banman



Alvin Banman uses a large fan to blow straw and chaff from a wheat sample. This was a part of the pre-harvest wheat survey carried on last summer by the State Board of Agriculture in co-operation with the Bureau of Ag Economics and the agronomy and chemistry departments of Kansas State College.

I threshed all the wheat in Kansas in three weeks last summer. At least I threshed all the 2670 statewide samples which were the basis of the data used by the state statistician in reports on the 1950 wheat crop in Kansas. I did this threshing job as a part of the necessary work on the pre-harvest wheat survey in the basement of the Plant Research laboratory which is east of Willard hall at Kansas State College.

The pre-harvest wheat survey is one of the surveys carried on by the state statistician. Co-operating on the survey were the State Board of Agriculture and the USDA Bureau of Agricultural Economics and the agronomy and chemistry departments of Kansas State College. The agronomy and chemistry departments furnished the necessary laboratory facilities.

There were four field crews of two men each and two laboratory crews with three each which did the work on this survey. The field crews, traveling by car, started sampling in Sumner county June 15, and finished in the northwest counties July 6. The field men traveled a total distance of 10,093 miles in collecting the 2670 samples.

To insure representative covering of wheat acreage in each county, routes were carefully laid out in advance and followed a grid-like pattern. Each car was equipped with a crop-meter to measure total miles driven and frontage of wheat fields bordering the road, thus giving an indication of wheat acreage.

Samples were usually taken at one mile intervals along wheat frontage. A metal frame was placed over a portion of wheat out in the field by the crew. All the heads of wheat within this metal frame were clipped and put in an envelope. This sample represented 1/5,000 of an acre. Field data with such information as the location of the field, the extent of any lodging, hail, insect and disease damage were recorded on the envelope.

At the end of the day each crew bundled their samples together and mailed them to the agronomy department. When the samples were received in Manhattan, they were identified as to variety by C. D. Davis, professor emeritus of agronomy. The identification of about a dozen different varieties is a very exacting job at which Professor Davis has become very proficient in his many years of service in the field of agronomy.

After the samples received in the morning mail were identified, they were placed in a drier in a section of a greenhouse. They were allowed to dry from 6 to 36 hours.

Then my threshing job began. I carried the samples down to the basement of the Plant Research laboratory, where I operated my simple equipment. An electric motor supplied power for a small threshing cylinder. After poking the sample through this machine, I placed the sample in a wire sieve and held it over a large fan which blew out the straw and chaff. I then transferred the grain to a paper sack on which the variety, county, and sample number were written.

While this was going on, another member of our crew made out data

(Continued on page 32)

At Long Last....

Work Begins on New Ag Wing

By JOHN SCHLENDER

Work on the new ag building has begun. The huge shovel is excavating dirt for the much-needed wing which will connect East and West Waters Halls. The shovel operator is secretly envied by many of the students who stop to watch between classes.

Excavation for the new building to connect East Ag and West Ag will begin around December 1, Dean R. A. Seaton, building expediter of Kansas State College, said. The wing will be a four-story native limestone structure, and will face the quadrangle formed by the library, Willard hall, and Veterinary hall.

Projecting 12 feet in front of the old wings, the new addition will have the name Waters hall above the main door facing south. It will be primarily an office and research building.

Plans for the allocation of space in the building have been made but are subject to change. Much of the space is allotted to the horticulture department which is to be moved from its old location in Dickens hall.

On the ground floor will be rooms for dairy research, horticulture research, an elements of horticulture laboratory, a horticulture processing laboratory and a cold storage room. There will also be some animal husbandry offices and a mailing and bulletin room.

General offices of the dean of agriculture, assistant dean and associate dean will be on the first floor. In addition a large conference room and a reading room will be on the first floor.

Department offices of the agronomy, horticulture and dairy departments will occupy most of the south side of the second floor. On the north side will be laboratories for poultry physiology, agronomy, horticulture research and horticulture students.

Economics departmental offices will fill most of the south side of the third floor. The agronomy department will also have some space on this floor. Completing the floor plan will be rooms for horticulture work plans, drafting agronomy instruments and offices for horticulture and agronomy.

Soundproof ceilings and recessed fluorescent lighting will be used. The design for the addition was made by the School of Architecture. Plans for the heating, lighting, ventilating and plumbing were made by the physical plant.

Construction of the connecting wing of Waters hall will cost approximately $665,000. Huff Brothers construction company of Fort Scott has the general contract for approximately $500,000. Woodhull plumbing company of Manhattan has the $60,000 plumbing and heating contract, and Shrake electrical company of Topeka has the electrical contract. Completion is scheduled for around June 1, 1952.

Plans for the reallocation of the rooms vacated by the departments moving into the new addition have not been completed.

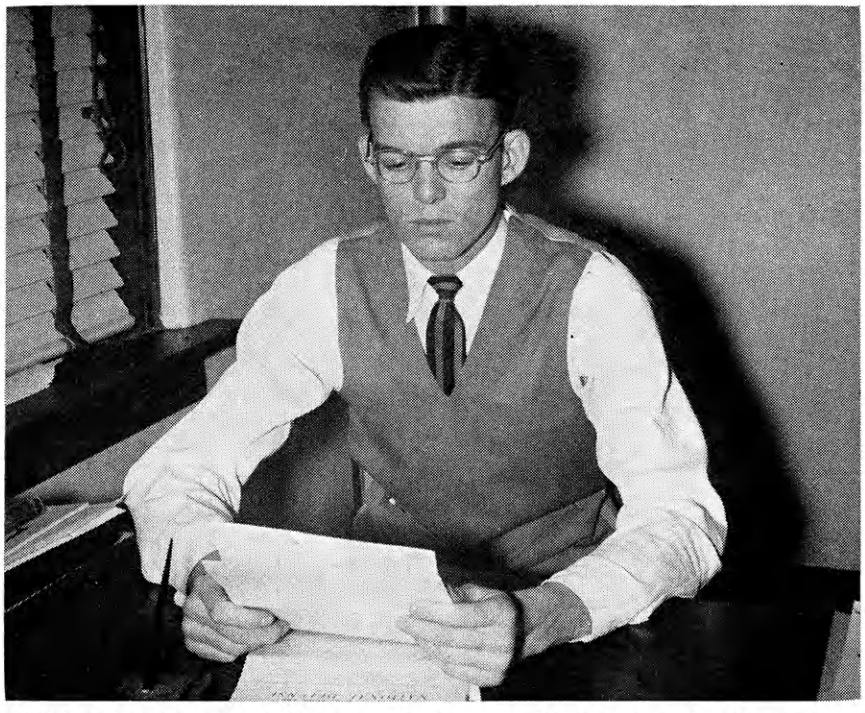
Millers Will Have Short Course in Feb.

By RICHARD L. FLEMING

A special operative millers' short course will be held at Kansas State college from February 3 to March 2, 1951, according to Professor J. A. Shellenberger, head of the milling department.

During the course the broad field of milling knowledge will be covered in a concise manner. Instruction will be given in reading, analysis, and construction of flow sheets, Shellenberger explained. The course will also include studies in agronomy, economics, entomology, mathematics, machine design, labor management, electrical engineering and physics.

The course will be limited to 40 applicants who have had experience in the milling industry. All applicants must be sponsored by their respective companies, Shellenberger explained. Fees for residents of Kansas will be $92, and $100 for nonresidents.



Ralph Alden, Agricultural Journalism '50, looks over his morning mail. He is assistant personnel director for the Kansas Farm Bureau and its insurance companies.

Even Comprehensives Are Worth While

Grad Finds That All Courses Are Helpful in Doing Work

By RALPH ALDEN

Editor's note: This is the second in a series of letters from graduates who are now out on the job.

Following graduation last spring I went to work for the Kansas Farm Bureau and its insurance companies.

I was graduated with a degree in Agricultural Journalism and a minor in Ag Economics. It was my desire to become affiliated with some organization where both of these fields of study might be put to work.

At the time of graduation I was surprised to find that jobs were somewhat plentiful and salaries were reasonable. However, many of the available jobs had certain peculiarities attached to them that were not too encouraging. Many of the jobs required traveling—others did not seem to offer too much of a future. Still others demanded service in parts of the country that were not particularly to my own liking. I believe that the situation is still the same and certainly it is not likely that one will find employment that is entirely satisfactory in all ways.

However, in my own case, I feel that I have come very close to finding the perfect job. I was hired by these companies as assistant personnel director. On the surface this field of work might seem far removed from the fields of journalism and economics. In reality, my job involves both of these plus innumerable others.

It becomes clear why certain courses were required in school. Looking back I wish that I had studied more mathematics, psychology and perhaps a business course or two. Even the comprehensives do not seem as worthless as I once imagined. It is difficult to recall any particular course that I studied in school that has not been of some value in performing my work.

One particular task I enjoy is the writing and editing of a small company newspaper. Through this publication I am putting my journalism training to work and at the same time accomplishing things pertinent to other phases of the business.

While most of my time is devoted to personnel work, numerous other phases of the business are involved. When time permits I assist the director of advertising and public relations in publishing various bulletins, magazines, newsletters, etc. This, of course, demands a reasonable knowledge of many company activities. The work is interesting, ever-changing and somewhat unusual.

I feel particularly fortunate in having this job for many reasons. The fact that I am able to remain in Kansas—work for and with Kansas people all interested in the improvement of Kansas agriculture—is most satisfying. After talking with a few of the boys who have left the state to work, I am more convinced that just as much opportunity exists in Kansas as elsewhere.

I would suggest to the 1950-51 graduates that they look the field over carefully and thoroughly. Look for the better jobs available in Kansas—I sincerely believe that there are some unusual opportunities available.

Vocational Ag Teachers Discuss Their Problems

By HAROLD E. EVERSMEYER

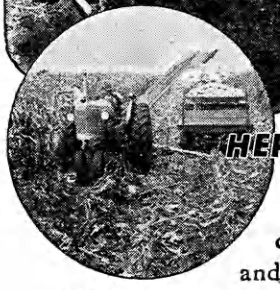
First and second year teachers of vocational agriculture in Kansas high schools are having a chance to discuss their problems at area meetings now in progress. In-service teacher trainers, Lawrence F. Hall and Loren Whipps, are in charge of these meetings.

One of the principal topics for discussion is the setting up and operation of a farming program for each individual student enrolled in vocational agriculture. The farming program is the teacher's basis of classroom instruction and the student's way to gain practical knowledge in handling farm enterprises. A properly operated farming program provides the student with financial profit as well as farm experience.

The preparation and use of father-son or parent-son banquets is another problem considered. Banquets help to make the parent realize that he is a necessary part of the vocational agriculture program, as the teacher and school can accomplish nothing without the parent's co-operation.

MINNEAPOLIS-MOLINE
MM
MODERN MACHINERY

Factory Built LP Gas TRACTORS



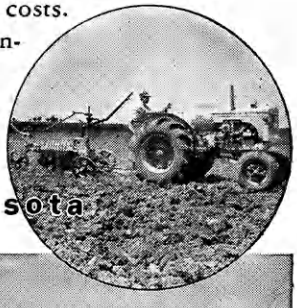
HERE'S CHEAPER POWER BY THE HOUR!

Economical LP *dry* gas burns clean, eliminates carbon deposits and crankcase dilution . . . keeps lubricating oil free of contamination, usable longer. With longer power impulse, uniform bearing pressures are maintained, the engine runs cooler and vibration is reduced to a minimum.

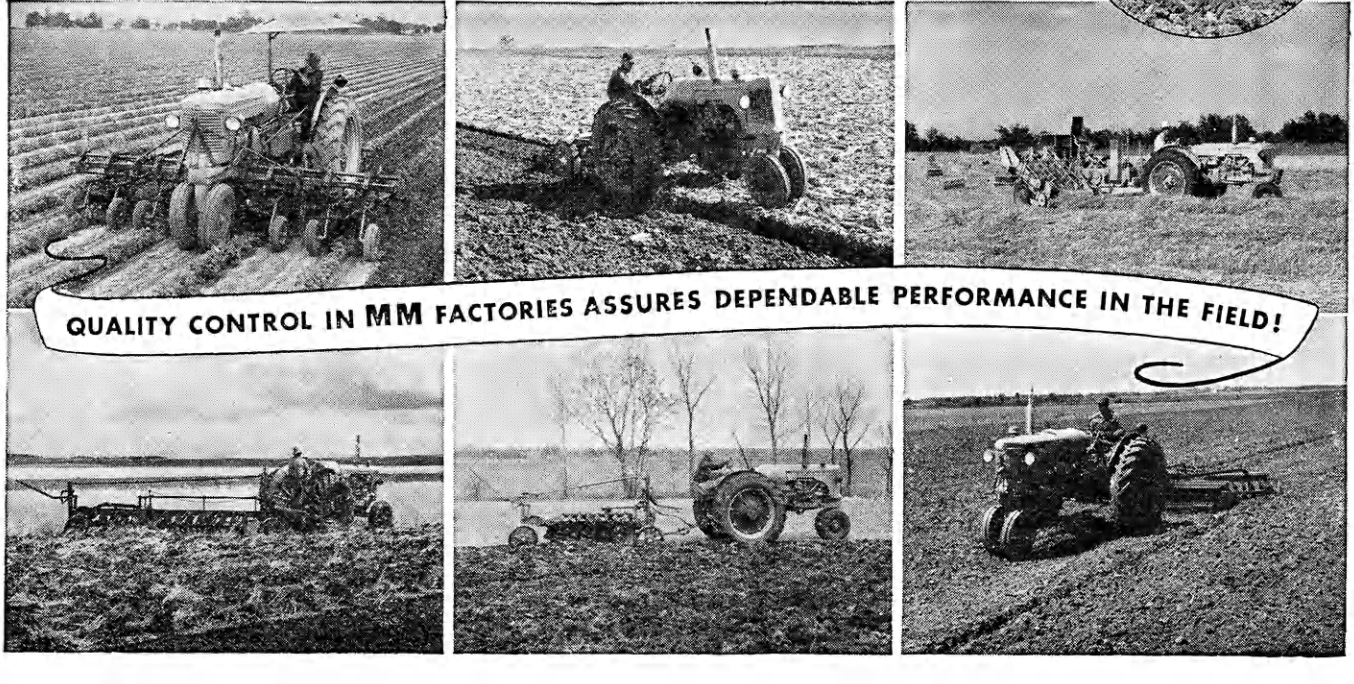
MM LP gas tractors, the first factory-built LP tractors in the field, meet safety requirements of *all* states. Special cylinder heads, special carburetors and special heavily built tanks with pressure-resisting MM pop-off valve are standard equipment. The entire MM LP tractor is engineered and built to exacting specifications to take advantage of all the benefits of LP gas.

Economical, high power MM LP gas tractors may be equipped with Uni-Matic Power for smooth, accurate hydraulic control of mounted or pull-behind tools. Like all MM tractors, MM LP gas models are Vision-lined for best visibility under all operating conditions.

So, show your friends and customers the way to more tractor power with safety and ease of operation at lower fuel and maintenance costs. Show MM LP gas tractors! Demonstrate MM LP gas tractors! Sell MM LP gas tractors for profit! For complete facts, write today!



MINNEAPOLIS - MOLINE Minneapolis 1, Minnesota



QUALITY CONTROL IN MM FACTORIES ASSURES DEPENDABLE PERFORMANCE IN THE FIELD!

Biddies Live in Luxury

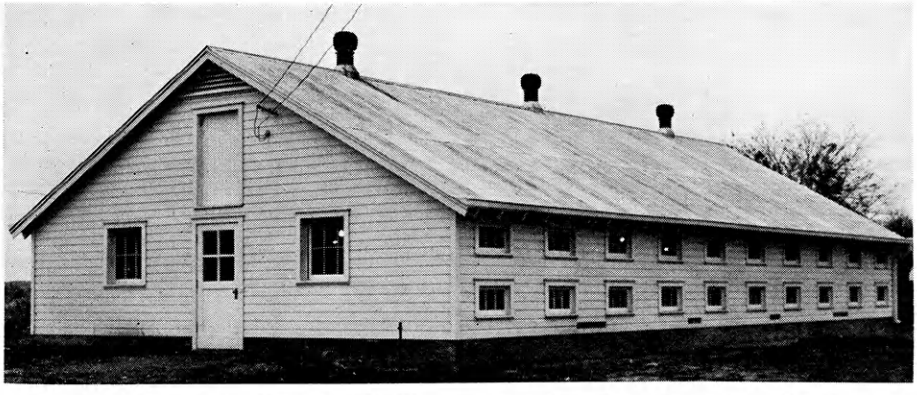
New House Simplifies Care of Breeding Birds

By SILAS BRANDNER

A poultry mating house running north and south to catch early morning and late afternoon sunlight was recently completed on the K-State poultry farm.

The new 30- by 60-foot unit will house approximately 600 mating birds to simplify the chore of caring for them, Loyal F. Payne, poultry husbandry department head, pointed out. Payne said heretofore the birds had been "scattered over several acres."

The house is equipped with double-decked 5x6-foot pens made of 2x6-inch welded wire mesh and will hold one male and eight females. This is a new feature in breeding houses developed at the KSC poultry farm.



The new poultry mating house on the K-State poultry farm. Note the double windows on the east side, one window for each pen. Below the windows are four slots where fresh air is brought into the house by the three ventilators.

Feeding, trapnesting and cleaning all pens is done from the aisle. A new type of automatic water fountain, operated by the hens, is installed in each pen. "In other words," Payne said, "all lots are serviced without the attendant having to enter the pens at any time."

The house will be used by poultry judging classes and the K-State judging team until about December 1 when the college breeding flock will go into the pens for egg production.

A single lever opens and closes rows of trap nests hung inside the pens. This device was designed by Herman Smith, research assistant at the poultry farm.

An automatic light switch provides the hens with a 12- to 14-hour working day—even in the winter. The interior of the building is painted aluminum to increase the efficiency of the natural and artificial light.

A fan sends warm air from a space heater diagonally across the building. Thermostatically controlled, the heater will maintain even temperatures in sub-zero weather, Payne said. Three rotating ventilators in the roof draw fresh air inside the house through slots above the foundation and out through the straw loft that partially covers the ceiling.

The central part of the attic is floored, and can be used for storage or to house about 175 birds.

A small office for keeping records of research work and other material takes up one corner of the building.

"This will greatly simplify the amount of work necessary to maintain our breeding flock," Professor Payne said. "Before, it was necessary to walk a half mile or more each trip to trapnest the birds five times a day. Feeding, watering and cleaning the pens was also a time consuming and laborious task. With the new facilities all of this work is under one roof and 48 pens can be cared for by walking only about 150 feet."

The farmer's wife was shocked at the language the new hired man used.

"Where did you learn such awful language?" she asked.

"Learn it, hell, it's a gift."

New Drug Helps Calves Get Off to Good Start

By Gordon Nelson

Aureomycin proved itself as a supplement for young calves in recent tests at Kansas State College. The wonder drug which has proved beneficial in poultry and swine rations, has shown its value in getting calves off to a good start, according to Dr. E. E. Bartley, of the dairy husbandry department.

In Dr. Bartley's work at K-State, every other calf born in the college dairy herd since May 1950, has had its ration fortified with an A.P.F. supplement containing the anti-biotic aureomycin. The other calves were raised as before, and were used as controls.

Half of the calves receiving aureomycin had their ration supplemented for seven weeks, and the other half for 12 weeks. Scouring, colds, and infections were common among the control calves which received no aureomycin.

The amount of colds and scours in both groups of calves receiving aureomycin was materially reduced under that of the controls. Calves receiving aureomycin for seven weeks made only normal gains, but those calves that were left on for 12 weeks made gains above the normal growth curve.

Rate of feeding was very low. Approximately three grams of the supplement containing only 15 milligrams of aureomycin were fed each calf daily. For a comparison, sixty times as much is usually administered to human patients.

A.P.F. is the crude product produced by a mold and contains both vitamin B-12 and aureomycin. The cost of the crude aureomycin is very low, about a third of a cent per day. The limiting factor is that the supplement must be fed in capsules which are expensive and hard to feed. However, methods are being worked out so that the aureomycin supplement can be added directly to milk and permit its use under practical conditions.

Further work will be required and is under way at the present time to determine to what extent anti-biotics can be used both as a growth stimulus and as a health promoter. It may be that in the future, anti-biotics will play a big role in animal feeding, but at present the only evidence of any value in cattle feeding is for young calves.

The editor and associate editor of the Ag Student were privileged to attend the annual convention of Agricultural College Magazine Editors in Chicago during Thanksgiving vacation. The above picture shows a general session in which the editors discussed various ways to improve the different magazines. Representatives were there from Missouri U., Purdue, Iowa State, Penn State, Georgia, Wisconsin, and others.

Knows His Guinea Pigs

By GLENN BENGTSON

Did you know that a new-born guinea pig can freeze to death, even when the room temperature is 60° F? Or that young females may be ready to reproduce before they are weaned by their mother?

Dr. Heman L. Ibsen, professor of genetics at Kansas State College, put information such as this into his contribution to the book "Care and Breeding of Laboratory Animals."

Dr. Ibsen's chapter, "The Guinea Pig," is a complete guide to the care, breeding and feeding of the little animals for laboratory purposes. He bases his writings upon 34 years of experience in guinea pig culture, and is perhaps the foremost expert in this field.

He came to Kansas State in 1919 after receiving a doctor's degree in genetics from the University of Wisconsin. Since that time he has been teaching and conducting research here. A large portion of his work has been devoted to the study of size inheritance in inbred lines of guinea pigs.

Dr. H. L. Ibsen

The work which Dr. Ibsen is doing has been made easier by permanent animal quarters and work space in the new Small Animal Laboratory. Before this building was constructed, Dr. Ibsen used several temporary places about the campus. In 1941, he lost his entire guinea-pig colony when the barracks in which it was housed burned to the ground.

Dr. Ibsen has studied inheritance and genetics in other animals and also in humans. He is the author of the text used in his genetics class, and his writings on the color inheritance in cattle received international recognition in 1932.

The new book to which Dr. Ibsen contributed was published as a guide and answer to numerous inquiries from persons engaged in breeding and caring for small animals used in research. Fourteen small-animal specialists, besides Dr. Ibsen, contributed chapters for the book.

Father: "I understand you made a spectacle of yourself after the party last night by trundling an old soak around the block in a wheelbarrow. Have you no sense of decency?"

Son: "Oh, come on, Dad. Don't be a wet blanket. After all, you got in and asked for a ride, you know."

J. G. Morrison, second from left, receives a leather traveling bag for winning the John Morrell and Company meats judging contest. The bag is being presented by Merrill Werts, Ag '47, now of the Morrell agricultural relations department. Meats team coach, Ed Margerum, second from left, receives a $100 check from E. J. Grier, general manager of Morrell's. The check was to help pay the team's expenses to the International show in Chicago.

He Knows His Meat

Morrison Wins Morrell Contest

By CLINT DAVIES

Joel Morrison, ag education senior, was awarded the John Morrell and Company award for meats judging November 14 in Topeka.

The award, a handsome leather traveling bag, is given annually to the highest ranking man in the advanced meats judging class at Kansas State College. It is based on overall year's class work and also includes the ranking on the regulation contest sponsored by Morrell's.

Twelve members of the class judged beef, pork, and lamb cuts and carcasses in the Morrell cooler during the day. They were dinner guests of the company at the Jayhawk hotel where the award was made.

Following Morrison in rank were Bob Edwards and Clint Davies. These three men were the Kansas State College meats team at the American Royal livestock show in Kansas City and also at the International Livestock Exposition at Chicago. The Kansas team placed fourth and fifth respectively and were awarded a large plaque for the high ranking team in beef grading at the International show.

To show its support and interest in meats work here at Kansas State College, the John Morrell and company presented Ed Margerum, coach of the team, a check for $100 to help pay expenses of the team on its trip to the International show at Chicago.

X-ray

(Continued from page 7)

showed clearly which kernels were infested by insects, Milner explained. It was also possible to trace the development of the insect from the time the egg was deposited in the kernel until the adult insect emerged. Kernels photographed soon after infestation by the adult beetles possessed a cylindrically shaped egg channel. Later the weevil larvae were identified by the balloon shaped object in the dark central cavity inside the kernel, formed by the feeding larvae. After five weeks, photographs revealed the exoskeleton structure of the adult insects as well as hollow kernels where the insects had been. These various stages of development of the insects may be seen in the accompanying photograph.

The x-ray picture also indicated whether the insect was living, Milner stated. In the picture, living insects possessed a smooth rounded appearance, while dead insects were rough in outline.

"This new radiographic test may find wide use in the milling industry, but the high cost of equipment for the test may be a limiting factor," J. C. Frankenfeld of the Bureau of Entomology, U. S. D. A., said. The technique can be applied in terminal elevators, and mills for grading on the basis of internal infestation, since it offers the only concrete evidence of the internal condition of wheat which millers buy.

The technique may also be useful for conducting research on the physiological characteristics of the weevils, Frankenfeld continued. By knowing these characteristics more effective control measures may be developed. The effectiveness of these new control measures can be tested by using the x-ray test on treated kernels.

"Development of new tests to determine internal insect infestation in wheat has been spurred on by a need to improve wheat grading for marketing," Milner said. "While milling techniques have been improved to keep the flour free of insect fragments, up to this time the internal quality of wheat coming to the mills was not known."

Several tests have been developed to aid millers in segregating this internally infested grain. These tests include the stain test, sectioning techniques, and the fluorescent dye test. The stain and fluorescent dye tests identify the infested kernels by making the gelatinous egg plug on these kernels visible under certain conditions. The sectioning technique recently developed at the University of Wichita, involves sanding away one-half of the kernel, and examining the remaining portion under an ultraviolet light for insect damage.

"These previous tests, while being effective, were slow and do not appear to give as much information as the new x-ray technique," Milner concluded.

Faculty members who co-operated in performing the research were Dr. Robert Katz and Milford Lee from the Department of Physics; Dr. J. A. Shellenberger and Max Milner from the Department of Milling Industry.

Fieldhouse Dream

(Continued from page 15)

of earth was removed. This is enough below ground space to sink the whole football stadium in.

The capacity of the fieldhouse for spectator sports is the most quoted figure, of course. The combined total of portable bleacher seats and the balcony is 13,000 people.

The ground level is a dirt floor, which will accommodate a 1/8-mile track. On this will be placed the portable basketball court. The court will measure 94 x 50 and will be made up of 4 by 8 sections. During practices, netting is arranged around the fieldhouse floor to keep the balls on the floor area.

The main entrance is on the east, with another entranceway on the north. The fieldhouse is not connected directly with the gym at any point, but the buildings are linked by a two inch expansion joint.

The fieldhouse, fifth largest in the United States, is a structure which will be much utilized. The result of a long and hard fight, it represents the latest achievement of our "campus of tomorrow."

Of one thing regarding the new fieldhouse we can be certain. It's big.

Whoever makes two ears of corn, or two blades of grass to grow where only one grew before, deserves better of mankind, and does more essential service to his country than the whole race of politicians put together.

—SWIFT.

K-State Wins

(Continued from page 3)

were judged and 50 eggs ranked according to federal marketing specifications. The birds have to be placed for both showing and breeding purposes in the exhibition contest.

Amos Kahrs was second high individual. Armin Grosse, third high man, is the son of a K-State graduate, Ben Grosse, who was a member of the third place 1922 poultry judging team. Others on the team include Albert Adams and Wayne Hanke, alternate.

The poultry team won permanent possession of a rotating cup that's been making the rounds since 1934. Three other schools went into the contest with two wins each and the chance to make it permanent property. Missouri, Minnesota, and Purdue, like Kansas State, had a chance to take it home for good.

K-State took the preceding rotating poultry cup out of circulation also, back in 1933 when this year's coach, Tom Avery, was a member of that team.

The meats judging team took first place in the classification and grading of beef carcasses but still trailed West Virginia, Iowa State, Wisconsin, and Massachusetts in total contest points. K-State's score differed from the winners by only 29 points out of a possible 3,120.

On pork, Coach Ed Margerum's boys took fifth, tied at eighth on lamb judging, and tied at third on judging lamb carcasses.

J. G. Morrison was second high individual on beef carcasses. Clint Davies was sixth on lamb grading and sixth on total scores. Robert Edwards was fifth high in lamb grading. Willard Phillips was the alternate on the meats team.

The crops judging team had a double workout Thanksgiving week. They judged in Kansas City at the National Collegiate crops judging contest on Tuesday and at the International Collegiate contest in Chicago on Saturday. Virtually the same teams competed in both places.

John Braum, Cleo Kuhn, Floyd Leonard, and alternate Robert Rethorst worked at both places under Coach Ernest Mader. In both contests, K-State ranked fifth.

At Kansas City, Oklahoma A&M, Texas Tech, Texas A&M, and the University of Nebraska chalked up larger scores than K-State. At Chicago, Nebraska traded places with Texas A&M for third and fourth places while all the other schools ranked the same. There were 5,400 possible points; K-State got 5,049.

Swift Essay

(Continued from page 6)

cause he most nearly reflects the consuming demand expressed in prices —and the consumer always wants to buy cheaply if possible. On the other hand the producer, represented by the commission man, constantly seeks the best price obtainable for his animals; and the number of them available, measured against the supply, fixes the prices.

It can be seen from the preceding discussion that the selling of livestock to packer buyers, through the terminal market, benefits both the producer and consumer. Both parties also reap a great many benefits from the present-day packing house operations. The packing plant is like an automobile factory in reverse. Instead of various parts being assembled into a finished product, a product is "dissembled" into various parts on an efficient, streamlined basis.

It is by this reverse process that the packing industry manufactures the products of the livestock industry into food and the various by-products. All of it is done under the most sanitary conditions and by the most skillful and efficient workers that it is possible to obtain. Scientists are at work constantly and diligently in an effort to find some new and more valuable use for all of the by-products. A close and careful inspection of all the manufactured articles, including the edible as well as the inedible products, is maintained—both by the packer and by the government. All meat products handled by packers engaged in interstate commerce must bear the stamp of government approval as to their wholesomeness and purity. Hundreds of veterinarians employed by the government inspect and pass upon all meat animals and on the products therefrom, and also upon the slaugh-

(Continued on page 34)

Raise More Corn

(Continued from page 10)

were two instances in which the treatments including phosphorus did outyield the treatments not including phosphorus. This trend did not hold true for all treatments on any one farm, therefore, little significance can be attached to the beneficial effects of phosphorus in these fertilizer tests.

Nitrogen response varied directly with the rate of application. Under conditions of this year's work as much as 80 pounds of nitrogen (equivalent to 240 pounds of ammonium nitrate) could have been used with great profit. The 20 and 40 pound rates of nitrogen each gave good increases in yield of corn but these were by no means as good as obtained from 80 pounds of nitrogen.

The time of application of nitrogen apparently was not as important as the rate of application. Usually there were no consistently large variations between treatments which involved different times of application of 40 pounds of nitrogen. The important effect was not so much dependent on whether nitrogen was applied all at seeding time, all as a side dressing, or as a split application between planting and sidedressing, as it was on whether or not nitrogen was applied.

"There is great significance attached to these results," stated Dr. Smith. "Assuming that an average of 20 bushels per acre of corn could have been added to each acre of corn in Kansas in 1950 by proper use of fertilizer, more than 50 million bushels of corn could have been added to the Kansas farm income. The average increase in these fourteen trials, representing virtually the entire corn producing area of Kansas, was more than 40 bushels per acre above the unfertilized soil for the best treatment employed. Actually, an average increase of more than 20 bushels per acre was obtained in these trials from the use of only 120 pounds per acre of ammonium nitrate. Thus an extra profit equivalent to about 18 dollars per acre was easily attained.

"It should be remembered that not every year will give such favorable results as 1950 with respect to corn fertilizer application. However," continued Prof. Smith, "similar trials conducted on a much smaller scale in 1948 and 1949 indicate that fertilizers, especially nitrogen, can be used extensively for increasing corn production in Kansas."

Alpha Mu

(Continued from page 16)

ter of Alpha Mu was formed at the University of Minnesota where another milling school was being established. At the present time there are ten members in the Beta chapter of the fraternity at Minnesota.

Since 1946, Alpha Mu has been hopping with vitality. Each of the three major events has been returned to the yearly schedule. Membership has grown. The meetings have centered around panel discussions of questions contributed by members. Last year the name of each office was changed again. The group is headed now by Dean Nunn, president; Glen Fisher, vice-president; George Lawrence, secretary; and James Mills, corresponding secretary.

"Your little son is a determined rascal."

"Yes, he'll have his bottle or bust."

Science finds a way to wipe out rust

HERE AT STANDARD OIL we are constantly seeking ways to escape the costly consequences of rust and other forms of corrosion. One place where corrosion hits hard is our cross-country pipeline system. Scientists long ago discovered that some types of corrosion are caused by electrical charges that flow away from metal into the soil, carrying with them small particles of metal.

Standard Oil engineers are employing a practical method for protecting our pipelines. It consists of burying deposits of scrap metal or more active metals at intervals along the pipeline and making connection. A weak electrical charge is then used to reverse the natural corrosive force, causing the metal deposit to do the rusting instead of the pipe.

This method has been proved in use, but it is not the final answer. Standard Oil research men are seeking better solutions to the problem of corrosion and of many other problems as well.

For men who enjoy facing up to the challenge of the unknown, there is no better place to work than Standard Oil. In the first place, we deal with petroleum, the master fluid of progress and probably the most versatile raw material in the world. Secondly, we deal every day with questions—corrosion, for example—that are not necessarily inherent to petroleum research.

That is why Standard Oil needs and uses skills from practically every field of science and technology. We provide our scientists and technical men with the finest equipment and try to create a favorable climate in which their ideas may grow. They have responded with outstanding contributions of real benefit to millions of their fellow-citizens.

Standard Oil Company

910 South Michigan Avenue, Chicago, Illinois

STANDARD

Kansas Hybrids

(Continued from page 17)

line is selected for seed (female) parent. When breeding fields are planted female rows are interspaced with male rows in the ratio of two to one. When tassels develop, they are removed from the seed rows before they start shedding pollen. Crossing two inbred lines results in a single-cross hybrid. Two single-cross hybrids are combined in the same manner to form a double-cross hybrid. This is what is sold to the public but the farmers who plant the double cross know it simply as hybrid seed corn.

Isolation from other corn of 60 rods is required for inbred lines and 40 rods for single cross as precautionary measures to insure pure seed. It is not only impractical but almost impossible for one individual to produce both the foundation stock and seed corn when these isolation distances are required. Through the association, foundation stock for all Kansas hybrids is made available, asserted Mr. Overley.

A few years ago, when I was a small boy, I helped my grandfather shell the round kernels from ears of corn. Granddad believed, like many other growers did then and a few still do today, that the rounds were not as potent as flat kernels. This has been disproved. Rounds are grown on the same cob as flats and have the same inheritance characteristics. According to authorities the crops will be the same.

Although special plates are required to plant round kernels, a uniform stand can be obtained. There are fewer kernels in a bushel of rounds than in a bushel of flats; therefore a bushel of each will not cover the same acreage. The round kernels are usually priced at a rate reduced enough to offset the cost of plates and the lower number of kernels per bushel, Mr. Overley said. Good corn is too expensive to throw away.

Student Threshes

(Continued from page 20)

sheets and recorded the field observations for each individual sample.

The next step was weighing the sample. This weight, when multiplied by five thousand, gave the yield per acre. The test weight was then determined by weighing 32.5 cubic centimeters of the wheat sample. This was converted into weight per bushel. The final step to determine the percent of dark hard and vitreous kernels gave an indication of the protein content. Again Professor Davis was responsible for this job which required much experience.

The samples were taken to Willard hall where chemists ran tests for moisture and protein content. All the laboratory data was recorded and sent to Topeka. In Topeka the data were tabulated and analyzed. Results were released every three or four days to farmers, grain buyers, millers, newspapers, radio stations, and others concerned.

Vets Pay

(Continued from page 13)

services of a professional veterinarian," Dr. Frick said. "The scientific knowledge of technical vet medicine is so complicated and exacting that the ordinary livestock grower, in attempting to do his own work, will soon run into serious trouble."

Ag Clubs

(Continued from page 18)

agronomy and to further acquaintance between students and faculty of the agronomy department. The club is a member of the student section of the American Society of Agronomy.

Each spring the club sponsors a crops judging contest with prizes in cash and merchandise totaling more than $150.

President ..... Eugene Dade
Vice-President ..... Bill Brown
Secretary ..... Wayne Fowler
Treasurer ..... Bernard Kastens
Corres. Secretary ..... Armin Grosse
Reporter ..... Don Flory

Dairy Club

The purpose of the Dairy Club is to promote interest and help students to become more familiar with the fields of dairy production and dairy manufacturing.

President ..... Ralph Rector
Vice-President ..... George Robinson
Secretary ..... Warren Nettleton
Treasurer ..... John Sackett

Horticulture Club

The club was organized December 16, 1920, for the purpose of promoting good fellowship among members, to further the horticultural interests of members and to advance the science of horticulture.

President ..... Richard D. Frye
Vice-President ..... Ann Marnix
Secretary ..... Cecil Kluge
Treasurer ..... Bob Christensen
Program Chairman ..... Virgil Bodine

Collegiate 4-H

(Continued from page 14)

to assemble and publish the yearbook. They have it ready for distribution at the Roundup. In addition to Club activities, the yearbook contains pages devoted to 4-H activities in the different counties of the state.

"This is the Voice of the Collegiate 4-H Club", is the theme of the radio program over KSAC sponsored each Saturday by the Club. The program is under the direction of Bill Parker. It is written and presented by a staff of 4-H members.

The present officers of the Club are Miles McKee, president; Loren Goyen, vice-president; and Mary Ann Miller, secretary-treasurer.

K-State Grad

(Continued from page 19)

this year, they are buying additional feeder calves.

Modern methods of soil conservation learned at K-State are put into practice on this farm. A detention dam and diversion ditches were built to prevent gullying of crop land by water rushing down from their pasture. They have yet to figure out a way to keep the Blue River in its banks.

Fred's leadership ability is recognized by other farmers. Last spring he was elected president of the Kansas Duroc association, and he is president of the Riley County Livestock association. Along with his farm work, these two offices keep him busy. He is an active church member. Last summer he served on the type standardization committee at the National Duroc conference.

He helps the college all he can. With his farm close to Manhattan, he permits Don Good, livestock judging coach, to use the Germann hogs to train the judging teams.

Swift Essay

(Continued from page 29)

tering and processing methods. All of these precautions are taken by the industry to protect the health of the consumer.

There should be mentioned one of the most noteworthy, if not epoch-making developments of the packing industry—the so-called by-products. In general they may be defined as anything from a hog, steer, or sheep not considered as meat proper. Among them are many products such as insulin and thyroid extracts which make humanitarian contributions to the pharmaceutical field.

The effect of the developments in by-product utilization upon the economics of the meat business has been nothing short of revolutionary. Today, cattle, sheep, and hogs are a great deal more than food; they are the raw material for a vast range of marketable and valuable commodities. It is on this basis, and not merely on their food value, that they are purchased. The result is that the livestock producers get better prices for their stock than they possibly could get if the inedible portions were not fully utilized. At the same time, meat prices have been reduced to the consumer.

After the manufacture of the industry's products comes the distribution and marketing of them. In days before our meat supply service grew up, housewives took it for granted that a great deal of the time they would be unable to get the meat they wanted. Their meat supply was "rationed" by the kind of meat animals raised within a few miles and by "good butchering weather." Today, thanks to the way our meat service works, the consumer may have whatever he wants, whenever and wherever he wants it. This is done through the use of refrigerator cars, coolers, and hundreds of branch houses that are situated in any locality in the country or in the world, where the demand for the product is sufficient to warrant the establishment of a sort of warehouse or wholesale house for meat and meat products. Towns not large enough for branch houses are served by refrigerator cars which make periodical stops to deliver meat to the retailers.

Meat is, of course, the principal product of the packing industry, but the industry also distributes such products as poultry, eggs, butter, ice cream, and cheese. Being perishable, these products require the same facilities for distribution that meat requires. Moreover, the use of the same equipment and facilities for distributing meat and other perishable products greatly reduces the net costs of distribution.

Under the old methods of handling, much of the butter, cheese, poultry, and eggs that went into cold storage was not in prime condition. Naturally, a strong prejudice developed against cold storage products.

In recent years, a large portion of the poultry, eggs, and cream is handled in the same plant. Sanitary conditions have dictated the arrangement and construction of these plants. Nonabsorbing materials have been used, and the maximum amount of sunlight has been sought. These plants receive, feed, and dress poultry; pack and inspect eggs; and manufacture creamery butter, cheese, and ice cream. The buttermilk from the creamery department is used for milk-feeding the poultry. This is indicative of the methods used to reduce waste to the minimum, which results in a higher price to the producer for his product and a lower price to the consumer for a superior good.

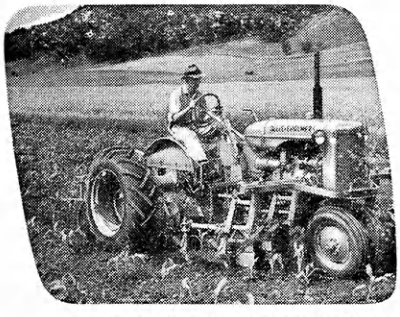
These are some of the highlights of America's packing industry. In brief, it is through the packing industry that the major portion of the surplus of agriculture of America is transformed into food and served to the people of almost every civilization of the world. It is the story of the service the packing industry is doing for humanity. As it stands today, it is one of the world's greatest and most efficient industries. There is none other like it anywhere else in the world, and it is an example of democracy in action which in this country brings so many good things to so many people.

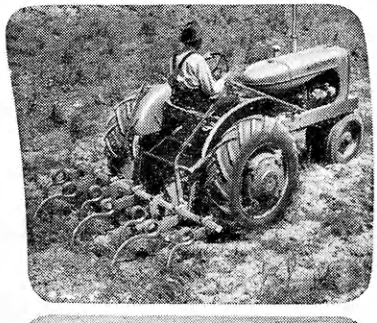
Little Jane, aged five, contentedly licking a lollipop, came into Jones' drug store and said her mama wanted some tissue paper. Jones wrapped it up and handed it to her.

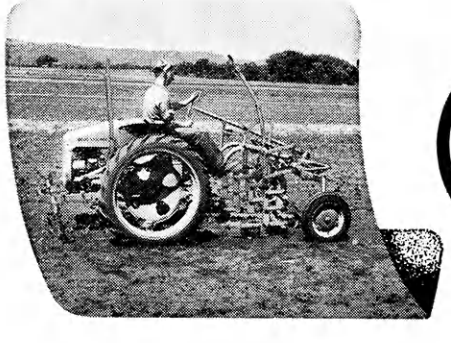
"Charge it, pleath," said Jane.

"Certainly," replied Jones, "but who is it for?"

"All of uth," lisped the little tot as she sauntered blithely on her way.







IT'S ONE·TWO·Go!

TO BETTER LIVING BETTER FARMING AND MORE PROFIT

Though rarely in the spotlight, tillage tools in recent years have matched the progress of tractors — with features unknown even ten years ago. A plow is still a plow, but new ideas have improved almost everything but its name.

Farmers who buy new Allis-Chalmers tillage tools in 1951 will be equipping themselves with superior farm implements, smoothly designed and beautifully streamlined. They are today's most modern farm tools. A universal feature of all these A-C tools is uniformly deep penetration without heavy weighing or forced pressure.

With these tractor implements it's:

ONE — *space CA or WD tractor wheels instantly with engine power to fit the implement.*

TWO — *attach the tool quicker than you can hitch up a team.*

GO — *with Hydraulic Power Control at your command for new, outstanding field performance.*

The new master line of Allis-Chalmers tools includes mounted, semi-mounted, and trailed types . . . hydraulically or mechanically operated . . . in many sizes, styles and combinations. All are "Quick-Hitch" implements, with a full range of adjustments to assure quality work. Construction is strong and durable. You will find them moderately priced. For every kind of crop and soil, Allis-Chalmers implements assure uniformly better tillage.

with Quick-Hitch TILLAGE TOOLS

Tractor Mounted Plows • Pull-Type Plows • Mounted Disc Plows • Tiller Disc Plows • Bedders • Listers • Furrowers • Subsoilers • Chisels • Ridgers • Bedding Discs • Disc Harrows • Field Cultivators • Row-Crop Cultivators • Vegetable Cultivators

BETTER TILLAGE TOOLS FOR BETTER FARMING

Listen to the National Farm and Home Hour Every Saturday — NBC Network.

ALLIS-CHALMERS

TRACTOR DIVISION • MILWAUKEE 1, U. S. A.

The Last Word

A Final Report

It seems funny, writing my first editorial for one issue and my farewell editorial for the next. But all good things (for me, not the reader) must come to an end and Stan Creek will be taking over the helm next semester.

It has been a great pleasure to work with you, both students and faculty, and I wish to thank you for your co-operation. I'm sure you will give Stan more of the same.

I also wish to thank the staff for their help, and especially those departmental reporters who turned in several stories and pictures for each issue. It is only through such co-operation that a magazine can be put out.

Stan and I were privileged to attend the national convention of ag college magazine editors in Chicago during Thanksgiving vacation. We think we learned a lot and I'm sure Stan will have some interesting new features for you next semester. My only regret is that I didn't attend the convention a year ago.

One thing we are trying in this issue is a new style in some of the headlines. We have tried to get away from the newspaper style we had been using and change to a shorter, more interesting head. Let us know if you like them.

In a final word I would like to encourage sophomores and freshmen to try for a position on the staff of the Ag Student. No matter what you plan to do after graduation, you will find that such experience will prove valuable.

Again I say, it's been great being editor and I hope I have been of some service to you.—D. H.

K-State Tops

Kansas State alumni should be proud today.

They should forget the mournful numbers with which they have been chanting the requiem for their football team.

Instead, they should boast about the five-man K-State team which won the collegiate livestock judging contest at the International Livestock exposition at Chicago.

Considering the purpose of the college, that victory is far more important than any purchased gridiron triumph.

It is high time Kansas State be rated for its achievements in agriculture and industrial science; on that basis it is tops in any league.—(Taken from the Salina Journal, Nov. 29.)

The above editorial hits upon a sad note in the American colleges of today. One sometimes wonders if their real purpose is forgotten.

It was indeed encouraging to see the livestock judging team given a hero's welcome upon its return to the campus. This sort of thing should be practiced throughout the College whenever *any* team wins an honor for K-State.

Another condition of this situation was illustrated on the campus a short time ago. When an athletic team has an unsuccessful season, there is an immediate clamoring for a change in coaching personnel. I dare say that an agricultural judging team could fail to win for years and most people wouldn't think much about it.

K-State should boast more of her fine record of judging teams, debate teams, achievements by graduates and the like. This is especially true since athletics have become so commercialized.—D. H.

Clubs Are Good Training Ground

By JOHN SCHLENDER

Three years ago I sat in freshman lectures and listened to the departmental club presidents tell of their clubs and the activities and opportunities of taking part in club work. As Dean Mullen introduced each one he stressed the importance of these clubs in rounding out a student's education. I can still see him with his eyes closed and his head tilted slightly in emphasizing "some day some of you will be up here in the place of these men, telling of your clubs. Interest and hard work will have given you the opportunity and responsibility of leadership."

Recently, I received a booster shot listening to Prof. David Mackintosh speaking to the Block and Bridle initiates. His words were "the success of this club and any club is dependent upon the members and their willingness to work."

To me the clubs and organizations on a college campus are not just names to add to a graduating senior's list of activities. Scholarship can be developed in the classroom and character in our relations with other people, but the development and growth of leadership is dependent upon such organizations in which the students themselves must assume the responsibility of governing and carrying out club projects and activities.

Living and working together in mutual co-operation is essential in the world today where the practice of isolation, both on family and national level, has become almost extinct. People are continually in contact with other people. Many students have no activities other than their departmental clubs in which to learn group work to better prepare them in living in close contact with people.

When a freshman enrolls in school it would be well that he look around and choose the clubs in which he would like to be an active member. Some day after graduation he will realize that his time spent will be repaid.

A true diplomat is a fellow who can tell you to go to hell so tactfully that you look forward to the trip.