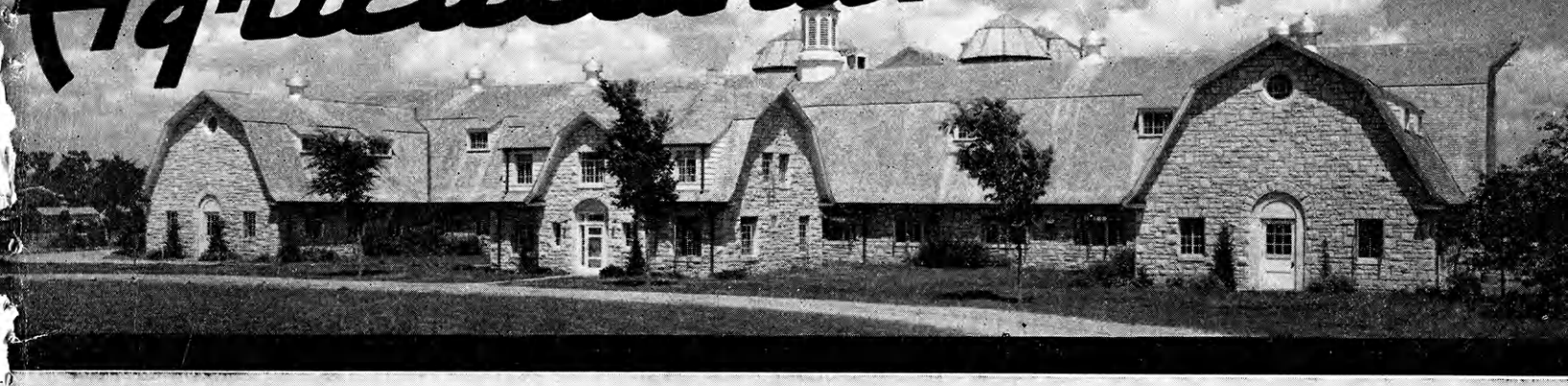
THE KANSAS Agricultural Student



Campus to GENERAL ELECTRIC

TAX AUTHORITY

The Story of

DONALD MILLHAM

THE average man who stews over the filing of his annual tax return is apt to shake his head quizzically over Donald L. Millham.

While he was in charge of General Electric tax accounting, Don used to file more than 500 returns a year—and like it. In some years the sums he paid out in taxes exceeded the Company's net income by more than four times.

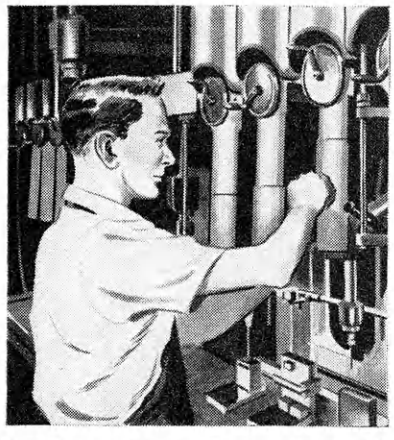
Although he has a new job today—the difficult and important one of Comptroller for the company—Don maintains an active interest in corporate taxation and is still considered one of the company's tax authorities.

A career in corporate taxation problems is, Don admits, short on glamor, long on hard and diligent work. In his early years with G.E. he had learned a great deal about business methods in the company's Business Training Courses, and had worked as an accountant and traveling auditor. But until 1935 he had little more to do with taxation than the filing of his own returns.

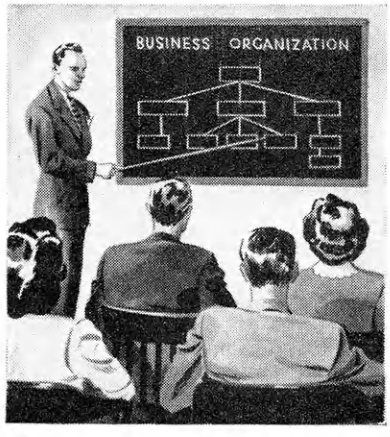
Then an opportunity opened in tax accounting. He took the offer and learned the background, the technical language, the legal complexities of his job as he did it.

By meeting the challenges of an exacting and constantly expanding field of endeavor, Donald Millham has made for himself a career with General Electric that is useful and important, and which has held his interest.

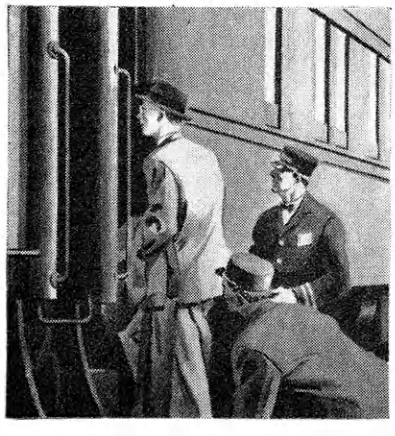
Next to schools and the U.S. Government, General Electric employs more college engineering graduates than any other organization.



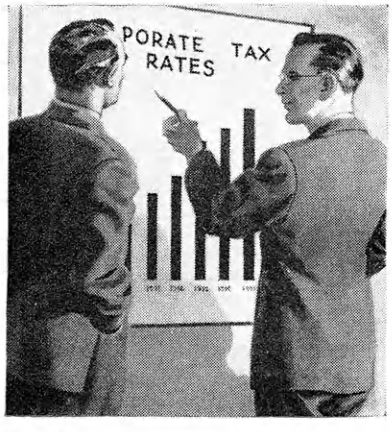
To help pay his way through Union College, Don worked for General Electric during summer vacations, operating a drill press.



After graduating with honors, he enrolled in the G-E Business Training Course, gained insight into modern business operation.



For five years Don worked as a travelling auditor, made a good record. In 1935, without any prior experience in taxation, he took over General Electric tax accounting.



Learning the job as he worked at it, he became the company's tax authority, filing 500 returns a year. Today he has the difficult and important job of Comptroller.

GENERAL ELECTRIC

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OF AGRICULTURE AND APPLIED SCIENCE
MANHATTAN, KANSAS

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Contents

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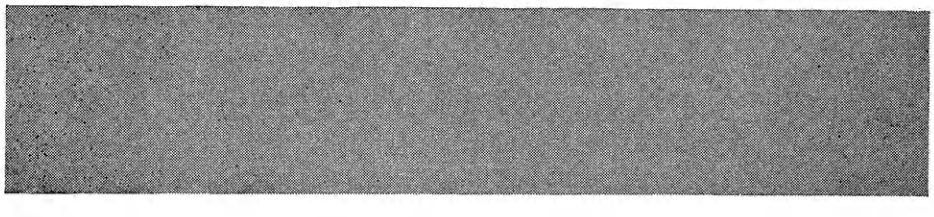

On the Cover--Judges Win Trophy at Denver

By PHILIP W. GEORGE

Blue Ribbon honors were achieved by the five-man team representing Kansas State College in the intercollegiate livestock judging contest at the National Western Stock Show in Denver, Colorado. The event was held on Thursday, January 9, prior to the official opening of the show the following day.

High-point man of the entire contest was John R. Massey of Kansas State. In addition, two other members of the winning team ranked near the top, with Clair Parcel tying for second and Wayne Ukena placing fourth. Massey's total score was 742 points out of a possible 800 in judging cattle, sheep, swine, and horses. Other members of the top team were James M. Collier and Frank R. Carpenter. Dr. R. F. Cox, professor of animal husbandry, directed the team at the Denver show in the absence of Prof. F. W. Bell, also of the animal husbandry department, who coached the team.

The Kansas State group, composed of juniors in agriculture, was triumphant in a field of nine college teams. Ranking below them in order were New Mexico A and M, University of Nebraska, Oklahoma A & M, Utah State, South Dakota State, Colorado A and M, Texas Tech, and Wyoming University. Thus, in placing first the junior K-Staters were able to win over a field that included a team from Nebraska, which was the only school that rated above the senior judging team from the College at both the American Royal in Kansas City and the International Livestock Exposition in Chicago.

This year's Denver contest was the first such event in the country to include the judging of stock horses. Animals of the Quarter Horse breed were used for this purpose. They replaced draft horses which are still used to make up the horse judging classes at the other major intercollegiate contests.

At Denver the judging group witnessed a stock show that specializes in beef cattle exhibits. The National Western is the scene of the country's major sale of breeding animals to the range cattle area and features carlot exhibits of Hereford bulls. The Denver show is now projecting a $3,000,000 building program.

Grad Sets Pace

C. C. Cunningham of El Dorado holds the longest record of any Kansas farmer attending Farm and Home week. This is Mr. Cunningham's 45th year of attendance since his first Farm and Home Week in 1898.

In 1911, this annual event shifted from December to February, thus losing a year. During each World War Farm and Home Week was suspended for one year. Claude Cunningham has missed only one other year in all his work in Kansas agriculture.

"My object in attending these meetings", Mr. Cunningham states proudly, "is to keep in touch with old acquaintances, to make new friends, and to keep up on new developments in agriculture."

The Plowing Schogers Choose the NEW Firestone CHAMPION GROUND GRIP

CHAMPION FARMERS, and farmers generally, are changing to Firestone Champion Ground Grip tires . . . insisting upon them when they buy new tires . . . specifying them when they order new tractors.

The new Champion cleans up to 100% more effectively; pulls up to 62% more; lasts up to 91% longer. And it rolls more smoothly over highways.

There are sound reasons for this superiority. The curved connected traction bars flare outward from the center, and mud falls freely from the wider shoulder openings. The high, pyramid-like bars cut into the soil with a cleaving action, and the connected bars take a powerful "center bite" in the heart of the traction zone.

Remember, Firestone Champions cost no more than ordinary tractor tires.

They're called "The Plowing Schogers." Starting in 1930, Carl Schoger won six consecutive years in the National Plowing Match at Wheatland, Illinois. In 1930 and 1931 he won all three National Matches at Wheatland, Lily Lake, and Troy, Illinois. When he retired from competition in 1942, sons Clarence and Harry were ready to defend the family laurels. Last fall, Clarence won the National Matches at Troy and Wheatland. Harry, the younger son, won first in his class at Troy and tied for first at Wheatland. The Schogers have always used Firestone Tires. You'll find new Champion Ground Grips on their tractors today.

Below, left to right—Clarence, Harry and Carl

Listen to the Voice of Firestone every Monday evening over NBC

Kansas Alfalfa Comes Back With Dehydration Industry

By Robert K. Petro

Alfalfa is coming back in Kansas. According to figures compiled by the Kansas State Board of Agriculture, alfalfa acreage has increased approximately 50 percent since 1941. The peak year in Kansas alfalfa production was 1919, when 1,316,000 acres were grown. Between 1935 and 1941 alfalfa production dropped to an average of 400,000 acres per year.

Since 1941, Kansas alfalfa has come back to over 722,000 acres. Counties in the south central area of the state have increased acreage 35 percent over 1941, and the northeastern counties, which have the largest alfalfa acreage, have gone up 10 percent. The above figures exclude alfalfa harvested for seed. What has happened to bring alfalfa back?

Most important, introduction of dehydrating plants has developed a new use for alfalfa in the form of alfalfa meal. This product is being used in making up commercial livestock feeds because of its high protein and carotene (vitamin A) content. Ninety percent of the alfalfa meal production has been incorporated into chicken feeds. It was found that it contained vital food factors necessary to chickens and not present in ordinary chicken feed. Dry dog foods, dairy, and hog rations are several new preparations into which alfalfa meal is being introduced.

The second factor accounting for more alfalfa in Kansas is the recent development of Buffalo alfalfa. This is a new, bacterial wilt-resistant strain developed by the Kansas Agricultural Experiment Station in cooperation with the United States Department of Agriculture. Buffalo produces as well as Kansas Common alfalfa and has the advantage of increased production in older stands due to its disease-resistant quality. A third reason for the comeback of alfalfa is that its growth is becoming more popular as a method of building up soil fertility in crop rotations, especially in Eastern Kansas.

The first dehydrating plant in Kansas was built in 1933 by W. J. Small of the W. J. Small Company at Neodesha. He stated that his plant was the first one west of the Mississippi and the second plant in commercial production in the United States. Over 50 of these plants were located in Kansas by February, 1946, and the number has continued to increase to date.

Kansas State College's Department of Chemical Engineering installed a small dehydrator late in 1943. With the cooperation of the Kansas Industrial Development Commission, study was begun in 1944 to try to improve alfalfa dehydration and find new uses for the product. A survey was made by Prof. W. H. Honstead for the purpose of determining the cost and methods of operation, cost of construction, and average production of these dehydrating plants.

Prof. W. G. Schrenk and H. L. Mitchell of the Department of Chemistry at the College started work on another problem in an attempt to improve the quality of alfalfa meal. It had been found that carotene was lost from the dehydrated alfalfa, and their problem was to find methods of reducing this loss. Professor Schrenk said that carotene was lost from field-cured alfalfa due to enzymatic action, but no such loss was found in the dehydrated product. The loss in the dry meal is due to exposure to high temperature during storage and to oxida-

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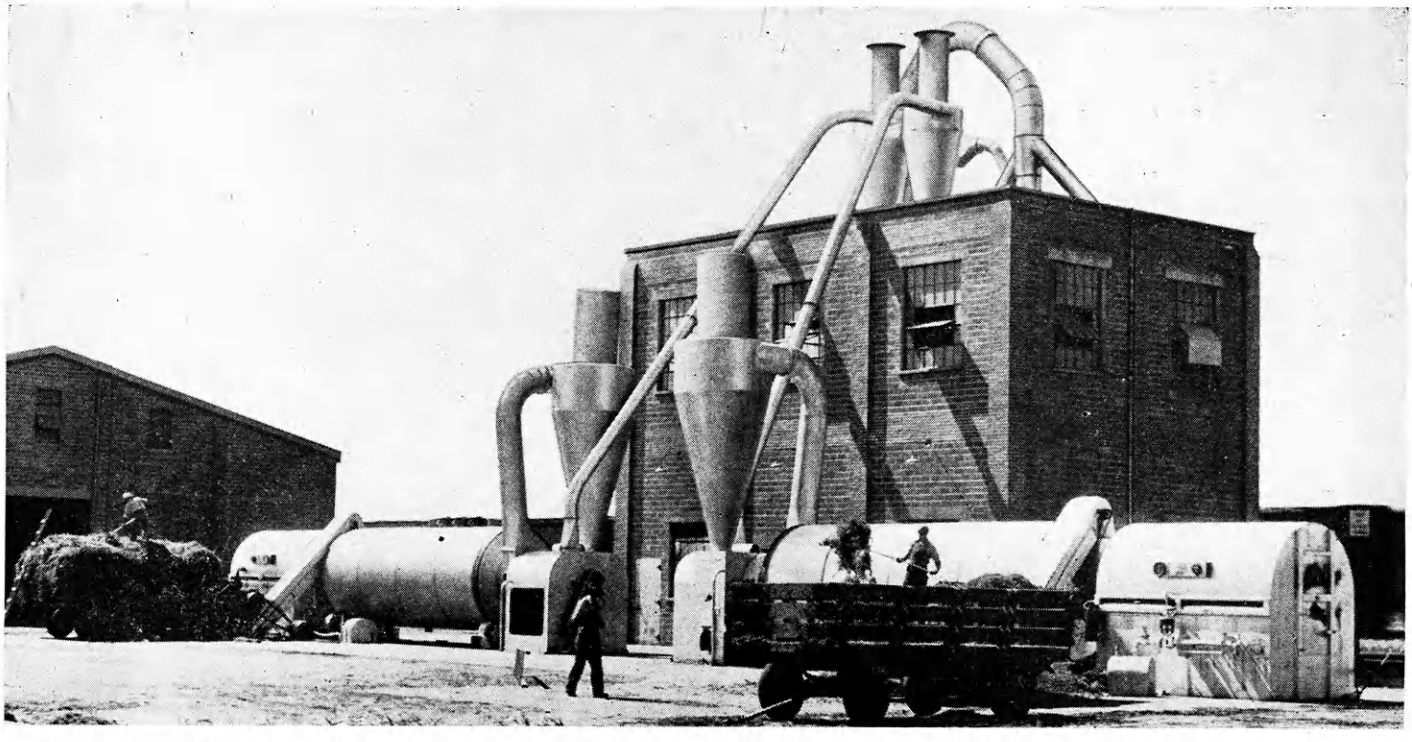

This two-unit alfalfa dehydrator is one of the new developments causing Kansas farmers to increase alfalfa acreage.

Departmental Clubs Offer Inspiration to Aggies

These Ags head their departmental clubs and honorary fraternities. (Back row, left to right) Floyd Rolf, Bill McMillan, Glen Weir, (center row) Harold Bellairs, William Phillips, Richard Eaton, Harold Riley, (front row) Floyd Frisbie, Marlo Dirks, and Howard Borchardt.

By DOROTHY COCHRAN

As much a part of college life as a course in freshman lectures is the work of the departmental clubs in the School of Agriculture. Long after the "edaphological" definition of soil has been forgotten, contacts made in these organizations will be cherished.

Within the School of Agriculture, there are eight departmental clubs and three honorary fraternities. In this listing, we hope to mention a few of the activities of each group.

Membership in these clubs is voluntary, and several clubs do not limit it to majors in their departments. Members of the honorary fraternities are chosen on the basis of grade averages plus leadership ability, personality, and attitude.

Students listed as officers of these groups are availing themselves of the opportunity to develop as leaders in the field of agriculture.

ALPHA MU

HAROLD BELLAIRS, *President*
WILLIAM F. HANSER, *Vice-President*
MARLO DIRKS, *Secretary-Treasurer*
PIERCE WHEATLEY, *Corresponding Secretary*
PROF. R. O. PENCE, *Faculty Adviser*

Alpha Mu is the honorary milling industry fraternity. Meetings are held monthly at the homes of members. Milling flour at Christmas time for the needy people is one of the projects of Alpha Mu. An annual spring banquet is given each year for all members.

ALPHA ZETA

HAROLD RILEY, *Chancellor*
FLOYD ROLF, *Censor*
DICK TURNER, *Scribe*
ROY CURRIE, *Treasurer*
DON PRICE, *Chronicler*
BILL MCMILLAN, *Program Chairman*
DR. G. A. FILINGER, PROF. GLENN H. BECK, PROF. C. P. WILSON, *Faculty Advisers*

Alpha Zeta is an honorary agricultural fraternity. Meetings are held on the first and third Monday of each month in East Ag. Alpha Zeta members give two smokers a year and a spring social.

GAMMA SIGMA DELTA

DR. M. J. HARBAUGH, *President*
DR. H. M. BARHAM, *Vice-President*
DR. H. E. MYERS, *Secretary*
DR. J. C. FRAZIER, *Treasurer*

Seniors ranking in the top 15 percent of their class and faculty members attaining recognition for research ability are eligible for consideration for membership. At the annual spring meeting members are selected.

POULTRY SCIENCE CLUB

RICHARD EATON, *President*
CLAUDE MOORE, *Vice-President*
CARROLL MOGGE, *Secretary*
FLOYD HIXON, *Treasurer*
PROF. T. B. AVERY, *Faculty Adviser*

Poultry Club members meet the first and third Mondays of each month in Room 211 of West Ag. An annual poultry judging contest is sponsored by members. A chicken barbecue is held in the spring. This year the Poultry Club dressed more than 200 turkeys before Thanksgiving. This gave members practical experience and financed club activities.

BLOCK AND BRIDLE

FLOYD L. FRISBIE, *President*
DON LARSON, *Vice-President*
MERRILL WERTS, *Secretary*
DELL GATES, *Treasurer*
DON PRICE, *Sergeant-at-Arms*
PROF. D. L. MACKINTOSH, *Faculty Adviser*

Block and Bridle members sponsor many events through the year, including the Little American Royal. This pre-war event, given in cooperation with the Dairy Club, is to be held in the fall of '47. Meetings are held the first and third Tuesdays in Room 14 of East Ag. In May Block and Bridle will sponsor the annual student livestock judging contest.

KLOD AND KERNEL KLUB

WILLIAM PHILLIPS, *President*
FLOYD FRISBIE, *Vice-President*
LEWIS SCHAFER, *Secretary*
R. S. NICKELSON, *Treasurer*
VERNON WOESTEMEYER, *Sergeant-at-Arms*
MELVIN THOMPSON, *Reporter*
C. R. PORTER, *Faculty Adviser*

An all-student crop judging contest is held each spring by the Klod and Kernel Klub. Meetings are held the second and fourth Tuesdays of each month in East Ag 211.

DAIRY HUSBANDRY CLUB

GLENN WEIR, *President*
IVAN STRICKLER, *Vice-President*
GLENN MCCORMICK, *Secretary*
WAYNE FULLER, *Treasurer*
ROGER WILKOWSKE, *Program Chairman*
PROF. F. W. ATKESON, *Faculty Adviser*

Dairy Club members sponsor the Little American Royal in cooperation with Block and Bridle. The two clubs also work together in feeding guests during Farm and Home Week. The group will sponsor a dairy judging contest in April. Meetings are held on the second Tuesday of each month in West Ag 104.

MILLING ASSOCIATION

MARLO DIRKS, *President*
JOHN FITZSIMMONS, *Vice-President*
JACK MUSE, *Secretary-Treasurer*
ARLIN B. WARD, *Faculty Adviser*

All milling students are members of the Milling Association, which meets

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Dean Call Observes Philippine Agriculture

By L. E. CALL

Dean Emeritus L. E. Call has recently returned from the Philippine Islands, where he spent six months as chief of the agricultural mission sent by our government. The mission had been requested by the Philippine government to aid in reestablishing agriculture in the islands following the ravages of war.

The Philippine Islands have a total land area of 114,800 square miles or an area about equal to that of the state of New Mexico. About 23 percent of the land area is in farms. Of the area in farms, about 59 percent is cultivated. This represents an area in cultivation of 9,770,000 acres, or approximately two-thirds the area that was planted to wheat in Kansas last fall. Before the war, this area of less than 10,000,000 acres produced an amount nearly sufficient to feed the 16,000,000 people living in the Philippines, and in addition produced commercial crops valued at $100,000,000 that were exported.

How was it possible for a country so small to feed so many people and still produce agricultural products in large amounts for export? The factors that were chiefly responsible for this accomplishment were the following: first, the character of the climate; second, a productive soil; and third, the method of farming.

The climate of the Philippines is tropical. The temperature rarely falls below 65, and temperatures above 95 are not common. The rainfall in the principal farming areas ranges from 50 to 150 inches a year. A climate of this character makes possible the production of crops throughout the year and is conducive to rapid plant growth. It is, therefore, possible to grow food crops in abundance at all seasons of the year.

The soils of the islands are derived chiefly from volcanic ash and rock, although coral limestone soils are common, especially in the southern islands. Lateritic weathering due to high temperatures and heavy rainfall is common, though few true laterites are found. The soils, while not highly fertile, are nonetheless productive under good systems of field management.

The inefficient methods of farming followed on most Filipino farms while not conducive to high output for the individual worker do make possible a fairly high output from the standpoint of the area under cultivation. Since rice is harvested by hand, there is no loss in harvest; care is taken to see that each individual head is gathered. In like manner, other crops are grown, harvested, and utilized in a way that contributes to a maximum of human food from the cultivated area.

The farm crops of the Philippines may be grouped into two general classes: first, subsistence; and second, commercial or export crops.

Palay, or rough rice, is decidedly the most important crop grown on the islands. Standard lowland rice is the kind most extensively grown. On the average before the war, about 3,188,000 acres of the cultivated land were planted to this crop. Upland rice is less commonly grown, but over one million acres were normally planted. The other kinds of rice are much less commonly grown.

From the standpoint of food, corn is the second most important crop. About 11 percent of the cultivated land was normally planted. Corn is grown almost wholly for human food and is seldom grown when it is possible to grow good rice. An exception occurs on the Island of Cebu where corn is a favorite food and where 20 percent of all the corn produced in the islands is grown.

About 300,000 acres or approximately 3 percent of the cultivated land was devoted to the production of camotes (Spanish yam or sweet potato). The tops are eaten as a green, and the underground part as a carbonaceous vegetable. One fourth of all the farms in the country grow the crop, but it is seldom sold from the farm, being utilized chiefly for home use.

During the Japanese occupation, cassava supplied a major portion of the carbohydrates in the diet of many Filipinos. Normally, it is grown on about one-half of the farms of the islands and is grown extensively on the Island of Jolo.

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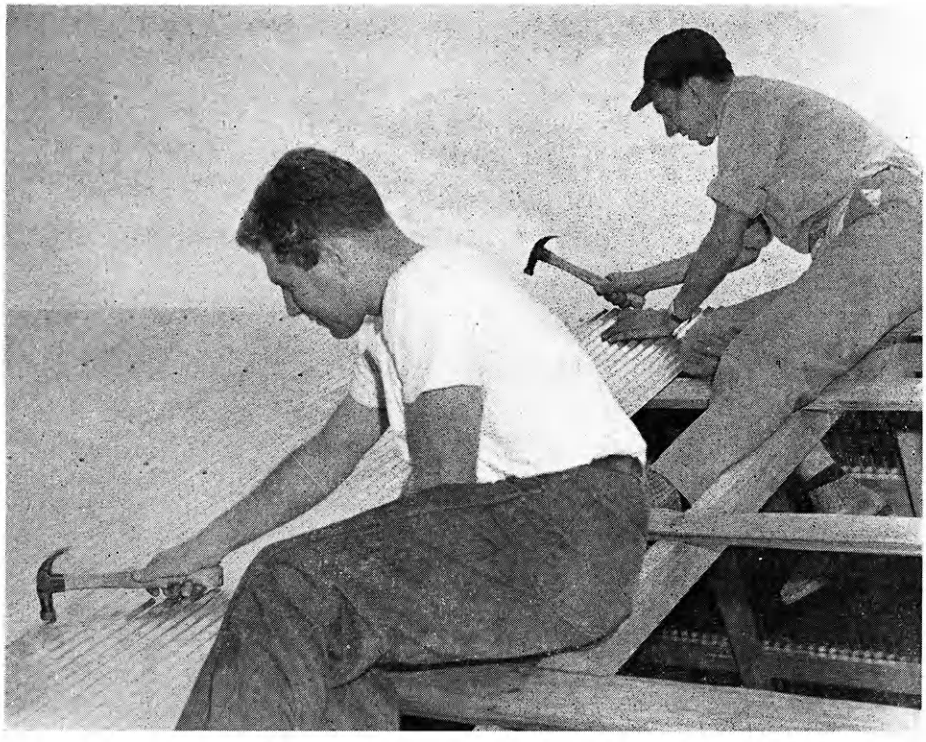
Buffalo power is common in the Philippines. Here, the farmer is preparing land for rice with a type of plow drawn by a water buffalo.

Ag Education Trains Vocational Teachers



Dean Hoppas and George Stephens lay an aluminum roof on one of the poultry houses on the college farm. Work with this new type roofing is part of a laboratory exercise in farm building construction class.

By RAY WARD

"College students of agriculture should not overlook the many fine opportunities open to them after a few years of successful experience in teaching vocational agriculture," stated Lester B. Pollom, supervisor of agricultural education of the State Board for Vocational Education. "Many cases could be cited of lucrative offers from commercial concerns and other agricultural agencies to agricultural graduates after a few years of successful experience in this field. At least a hundred agricultural graduates will be needed in the next few years to serve as special instructors in on-the-farm veteran training courses offered in Kansas schools having vocational agriculture."

The principal reason for establishing the new curriculum in the School of Agriculture, designated as the curriculum in Agricultural Education, according to Prof. A. P. Davidson of the Department of Education and Psychology, was the requirement of 18 semester hours in professional education and 17 semester hours in farm mechanics. It was found necessary to organize a special curriculum in which the state requirements plus a broad foundation in the field of agricultural science could be offered.

The curriculum in Agricultural Education attempts to do three major things in preparing students for teaching vocational agriculture: (1) Provide a broad basic training in the field of general agriculture; (2) provide broad basic training in farm mechanics; (3) and meet the professional educational requirements set by the State Department of Education.

In the early days graduates desiring to teach agriculture in the Kansas secondary schools were issued special certificates by the State Board of Education. The Smith-Hughes law of 1917 provided for federal aid for teacher training in the field of agricultural education. With the organization of the vocational educational program in the Kansas high schools, following the Smith-Hughes Act, Kansas State College was designated as the institution to train teachers in the field of agriculture.

This necessitated organizing special courses in the professional education field which dealt directly with preparing agricultural graduates for teaching vocational agriculture in Kansas high schools.

Before the establishment of the Agricultural Education curriculum, the curriculum in Agricultural Administration provided an opportunity for persons interested in teaching vocational agriculture.

According to Prof. Harold L. Kugler of the Department of Agricultural Engineering, the vocational agricultural program in Kansas high schools has always recognized the importance of farm mechanics in the life of the Kansas farmer, and has

(Continued on page 28)

Lloyd Cray, Instructor C. J. Riggs, and Thomas Stockebrand demonstrate tractor maintenance in farm power laboratory.

Black Locusts Balance Budgets

By HAROLD A. RAY

In this day of high prices and scarce commodities the farmer still has a cheap source of lumber for posts, fuel, or homebuilding if he will plant black locust seedlings in that old abandoned feedlot or on that "south 40" which is difficult to farm.

Black locust has many virtues. (1) It is an excellent means of preventing soil erosion, because the strong spreading root system and early development of the tree has no equal among its kind. (2) The ability of its physical structure to adapt itself to all kinds of soils endears the plant to farmers throughout the United States. (3) It is a legume, and by virtue of the tree's root nodules the very soil upon which it is grown contains more nitrogen. (4) Large amounts of honey are extracted when the flowers of the plant are in bloom.

Unlike many varieties, black locust seedlings flourish in a well-broken loose soil. In such ground the lateral roots find easy entrance and stimulate good top development. The best time for planting or setting locust seedlings is in early spring before the buds begin to swell. In loose soil they may be planted in the fall after good rains have wet the ground to a considerable depth. Fall planting is dangerous in all tight soils because of probable injury from frost damage.

Spacing of the trees depends upon the number to be planted per acre, purpose of planting, type of topography, and existing soil conditions. For tree production a 6x6 foot spacing is a common practice. However, on badly eroded terrain a minimum of 4x4 foot spacing is desirable. These successive spacings require 1,210 and 2,723 trees per acre. In general the richer soil gives more rapid growth if it is moist and loose.

Most farmers consider care and cultivation of the trees of vital importance during the first three or four years of growth. The tract is usually cultivated the first two seasons. All livestock is kept from grazing on the tender shoots, for the young tree is a very tasty legume. Generally a strip is kept in continuous cultivation around the plantings to combat fire hazards. A cover crop is usually planted to assist in holding the soil and provide growth to prevent the soil from becoming too hard.

Trees may be ordered through your local Soil Conservation Office or may be obtained in bundles of 50 from the state nursery at Fort Hays, Kansas for only one cent per tree.

They Study On

By GLEN G. ALLEN

In this fast and furious life of today, we are inclined to overlook the work of our graduate students who are putting into research studies the talents and knowledge attained by four year of college. Several men who received their bachelor of science degree in Agriculture from Kansas State College within the last year now have fellowships at their Alma Mater.

Ralph R. Schlicht, '46, received a combination teaching and research fellowship. His teaching duty consists of instruction in Farm Accounting laboratories, and his research project is *A Method of Evaluating Land for Pasture and Cropland in Nemaha County, Kansas.* A Claflin, Kansas, boy, Schlicht majored in agricultural administration. He is an active member of a number of organizations, including the Agricultural Economics club, the honorary agricultural fraternities Alpha Zeta and Gamma Sigma Delta, and the honorary scholastic fraternity Phi Kappa Phi.

Gordon Hoath, '46, and Harold M. Riley, '47, have received Industrial Research fellowships. They are conducting further research on certain phases of the main study *Economics in the Kansas Meat Packing Industry.* Funds for this were appropriated by the Kansas Legislature in 1939. This project was part of a program intended to promote industries closely related to agriculture. Since meat packing is one of the most important manufacturing industries in Kansas, many studies have been made on this project. Hoath's study is *The analysis of economic factors affecting the location and efficiency of the meat packing industry in Kansas.* Hoath's home town is Anthony. Majoring in agronomy, he received his bachelor's degree and then went to work as a field man for the Great Western Sugar Company of Denver, Colo. After working a short while, he chose to return to Kansas State to do graduate work in economics. He is a member of the Klod and Kernel Klub, Alpha Zeta, and Gamma Sigma Delta.

With the advent of the cold storage locker industry, a new field opened for research in the meat packing industry. *Economical Handling and Processing of Inedible By-Products and the Disposal of Waste* is the study being conducted by Harold Riley in this new field. Receiving special emphasis in this study are the problems of small slaughtering plants. Holton is Riley's home. While working for his bachelor's degree he majored in agricultural administration; he is a member of the Agricultural Economcis club, Alpha Zeta, Gamma Sigma Delta, and Phi Kappa Phi. He also belongs to the Farm House fraternity.

Arthur T. Mussett, '46, received a teaching fellowship and is the graduate assistant in the Elements of Dairying laboratories. He is also conducting research in the dairy husbandry department. New phases of the old problems *Stabilizers in Ice Cream* and *Powdered Milk* are being studied. Another project is the study of *Psychrophilic* (low temperature) *Bacteria in Milk.* Mussett hails from Leavenworth, and majored in dairy manufacturing as an undergraduate. He is a member of the Dairy Club.

Lewis A. Schafer, '47, received his appointment at the start of the second semester. He is now conducting research in the Department of Botany and Plant Pathology where he is giving special emphasis to *Diseases of Cereal and Forage Crops.* Lewis comes from Jewell and is a member of the Klod and Kernel Klub, Alpha Zeta, and the Farm House fraternity. Last semester he served as editor of the Ag Student.

Other graduate assistants and graduate students in the various fields in the School of Agriculture are conducting research which is of interest and benefit to us all. Few of us realize the time and effort involved in doing research. Only after a person has attempted research can he appreciate the efforts of our graduate students.

Phi Kappa Phi scholastic honors were won by six freshmen in the School of Agriculture. Those recognized include Margaret Ricklefs, Salina; Boyce Dougherty, Shawnee; Richard Winger, McCune; Hal Rose, Ottawa; Raymond Peacock, Fall River; and Wayne Fowler, Circleville.

Future Farmers Compete in April

By MELVIN COTNER

Approximately 800 boys from Kansas high schools will attend the Twenty-Fourth Annual Vocational Agriculture Judging and Farm Mechanics Contest which will be held at Kansas State College, April 28 and 29. In connection with the contest the Kansas Association of Future Farmers of America will hold its Nineteenth Annual Program.

Contests in agriculture include judging poultry, crops, dairy, beef cattle, swine, and sheep. In farm mechanics, the contestant should have proficiency in sharpening tools, farm power, soil conservation, concrete work, welding, farm machinery, and farm carpentry.

Each high school is permitted to have one team of three members in the agricultural judging contest and a team of two members in the farm mechanics contest. Schools not represented by teams will be permitted to enter one or two individuals in each contest.

Among the activities of the annual meeting of the Kansas Association of FFA will be electing the 1947 class of State Farmers, the FFA speech contest, ranking of chapters in the state chapter contest, and election of officers for the ensuing year. The state president, Richard Chase, a student at Kansas State College, will preside.

The Future Farmers will be housed in Nichols Gymnasium through the cooperation of the Extension division and the athletic department. K. L. Ford, secretary of the Alumni Association, will be in charge of housing. Tours of the campus and experiment station will be sponsored by the Department of Economics and Sociology.

The banquet on April 29 in Nichols gymnasium will be provided by the Manhattan Chamber of Commerce, C. C. Kilker, secretary. The entire contest program is in charge of the College Contest Committee which includes Dr. W. E. Grimes, Dr. H. E. Meyers, Dr. A. D. Weber, Prof. W. F. Atkeson, Prof. F. E. Fenton, Prof. A. P. Davidson, and Prof. L. F. Payne, chairman. L. B. Pollom, Topeka, is state adviser of the Kansas Association of FFA.

A purebred Shorthorn heifer valued at $1,000 has been given the College by L. Russell Kelce, owner of Merryvale Farms of Grandview, Mo. The heifer has been added to the College breeding herd.

Prof. A. P. Davidson shows the FFA plaque to Dick Turner and Bill McMillan. The students are officers of the Ag Education club and will help with the FFA contest.

Danforth Fellowship Presents Challenge to Youth Leaders

By MERLE EYESTONE

Have you ever acquired more than a semester's practical knowledge in less than one month's time? Perhaps some of you have done this, but probably not in quite so interesting and enjoyable a fashion as did I in my experience this summer on my Danforth Fellowship.

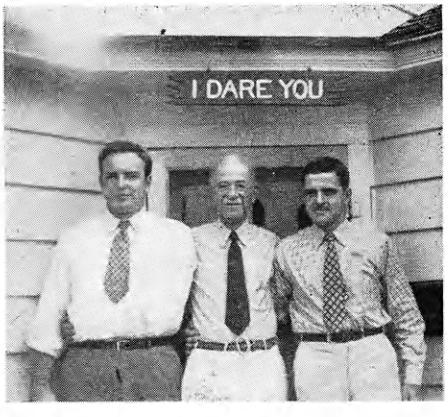
Each spring in 37 agricultural colleges of the United States and in the Ontario Agricultural College of Canada, there is selected a student in the junior class to be awarded the Danforth Fellowship. This includes two weeks in St. Louis studying agricultural problems and business concerns related to agriculture, and another two weeks at the American Youth Foundation Camp, Camp Miniwanca, at Shelby, Michigan. Also available to the outstanding agricultural freshman of the same college is a two weeks scholarship at the camp.

Arriving on the beautiful campus of Washington University as shadows lengthened on Sunday, July 28, the "Kansas Kid" signed his name as the twenty-first of the twenty-five 1946 fellowship winners to register from agricultural colleges throughout the United States and Canada. I was assigned to a second floor room of Liggett Hall and found my roommate for the next two weeks in St. Louis was a splendid fellow from Washington State College.

On the following day at a mid-morning hour a bus arrived to carry the Danforth Fellows to the Purina Experimental Farm at Gray Summit, Mo., 43 miles southwest of St. Louis. We established ourselves on the makeshift cots in the auditorium at the farm and then were ready for whatever the next three days on the farm could bring. After a refreshing seven cups of milk (goat's milk I found out later) which I relished, we were introduced to Elmer D. Powell, farm manager, who gave us a history of the farm. From the opening remarks of Mr. Powell's speech to the close of our two weeks stay in St. Louis, I acquired much practical, interesting, and educational knowledge presented in a most interesting fashion. We Danforth Fellows became farmers immediately following Mr. Powell's speech.

Under the guidance of other college-trained departmental supervisors, we studied feeding, raising, and management of hogs, beef and dairy cattle, sheep, dogs, foxes, mink, rabbits, and all type of poultry. We learned how the 540-acre Purina Farm operated. In contrast to farms of many other similar concerns this farm was run in a very practical manner, and was not merely a showpiece. Its work consisted of testing, improving, and formulating correct rations for all meat, dairy, and fur-producing animals. The farm stresses a program of *good breeding, good sanitation, good feeding,* and *sound management.*

Although our program was very full, we Danforth Fellows found time for a softball game, many "bull sessions", and a swim in the Merrimac River in mother nature's best. At the end of the three days our acquaintanceship had become very close—nicknames were prominent and each Fellow had identified himself as a character.



LOREN CLINE, left, and MERLE EYESTONE pose with WILLIAM H. DANFORTH, the founder of the Danforth Fellowship.

Each year, Mr. Danforth awards scholarships to two students from the School of Agriculture. One, to a freshman, provides for a two-week leadership camp as Shelby, Michigan; the second, to a junior, represents a two-week tour of Purina holdings in St. Louis in addition to the camp period.

Applications for the Danforth Fellowship are made through the dean's office around May 1. From these applicants, the winners are chosen by a committee composed of the heads of the departments in the School of Agriculture. The chief factor considered in the selection is a well balanced mental, physical, social, and religious development. All applicants must be under 23 years of age.

We returned to St. Louis all too soon with many regrets and a book full of notes, but there new worlds were opened to us.

Each day was a new experience, for we never knew what would come next—except that it would be something very good. The next 10 days opened new fields of thought to us Fellows. Classes in animal and human nutrition, advertising, merchandising, price forecasting, office personnel, salesmanship, research, and in management and operation of big business were worth many classroom hours in college. Tours of laboratories were made and experiments explained, as were feed milling processes and shipping and routing of feeds. We learned of problems in big business; and realizing how little we knew, we listened, keenly alert, to the advice of the executives who spoke to us.

It wasn't all work and no play, as the Ralston Purina Company spared no expense and time to give us every opportunity to enjoy our stay in St. Louis. We were entertained in royal fashion, making trips to the world-famous Shaw's Botanical Gardens, the Municipal airport, the Swift Packing Company in East St. Louis, and the zoo, and attending the opera "Robin Hood" being given in the great open-air Municipal Auditorium in Forest Park, and also a major league baseball game. These were only a few of the interesting sights enjoyed in St. Louis.

As the first half of our fellowship ended, we packed suitcases and trunks and headed toward Camp Miniwanca. Traveling in an automobile as a few of the boys did, we visited the Notre Dame campus and Purdue University enroute to camp, as well as many other interesting points.

Arriving at Camp Miniwanca, I found it to be a most unique camp, ingeniously located among the sand dunes on the eastern shores of beautiful Lake Michigan. Here among the pines, one finds an atmosphere very conducive to the moulding of lasting friendships.

We joined some 350 other boys from all over the country to spend two weeks of study, adventure, recreation, and fellowship.

The theme of the camp program was based upon four-fold development—physical, mental, religious, and

(Continued on page 28)

Chicken of Tomorrow Comes Today Through Research

Doctor Warren is justly proud of this hen. She is representative of his strain of Kansas White Rocks.

By DOROTHY COCHRAN

Washing up for dinner is a pleasure with the captivating aroma of fried chicken coming from the kitchen. When Mom announces "soup's on", little time is spent in getting to the table, for what is better than a piece of golden brown, tender fried chicken? But do we appreciate what is behind this tasteful dish? Much experimental work has been done by poultry breeders to bring us the best quality friers.

Dr. D. C. Warren, professor of poultry husbandry and geneticist at the agricultural experiment station, has been conducting a breeding project to get an early-feathering strain of White Plymouth Rocks that is also high in egg production. Without these two characteristics top profits can not be expected.

In 1938 this project was started by Dr. Warren with the objective of improving the economic qualities of the White Rock, the most popular heavy breed in the mid-west. Its docile disposition, white plumage, and good eating qualities appeal to the farm family, and the meat-type conformation and white plumage please the poultry processor.

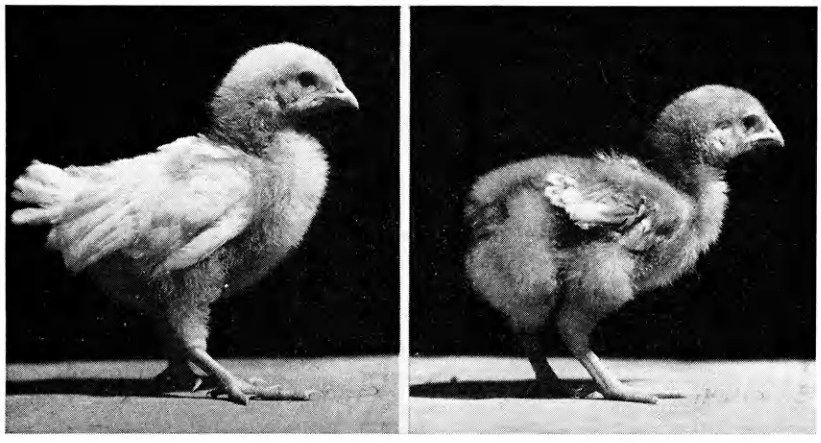
Market discrimination against bare-backed broilers has been the incentive to this project. Packers object to late-feathering birds because they are full of pin-feathers. A little over a year ago a $26,000 contribution was made for the experiment by the National Poultry Packers Association.

The first step in the experiment was to get an early-feathering bird with white plumage. This was done by mating early-feathering New Hampshire males to Plymouth Rock females. The New Hampshire is outstanding for rapid growth, so it was hoped to introduce into the Rocks both improved feathering and growth rate. Rhode Island Reds were then mated with this cross, using the Reds as a source of higher egg production.

This year 30 individual male breeding pens are being made, and from these pens 8,000 offspring will be produced. The relative performance of the individual bird's progeny or of its brothers and sisters determines what birds will go into the breeding pens. At mid-season an entirely new set of males will be placed in the pens in order to test males in large numbers. Over 1,100 pullets are now being trapnested, and a much larger number will be under test the coming year.

Some of this stock were released in 1945 and a much larger number in 1946 to determine how they would perform under farm conditions. Over 40,000 hatching eggs were released in 1946. In 1947 the stock is being tested in 14 different states and all available eggs for the year are now engaged.

After nine years of breeding work by Dr. Warren, the Kansas White Rock was compared with other commercial strains of the variety. They were housed together as layers and comparisons made for several traits. The Kansas White Rocks were outstanding for low mortality, rate of feathering, early maturity, and high annual egg production. In certain other traits they were only average or even below, and these facts are being utilized in determining where emphasis is to be placed in the future breeding program.



These 10-day old chicks show the difference between the early and late feathering strains of White Plymouth Rocks. Doctor Warren is developing an earlier-feathering blood-line.

They've Lost Their Eyes

By MERRILL WERTS

Do you remember those dehydrated potatoes some T/5 army cook used to throw at you over in France or Germany during the late fracas? The day I landed back in the States, I swore I'd never again look one in the eye. But you know, the other day I tasted some dehydrated mashed potatoes that were actually *good*. Not only did I swallow the potatoes, but also the vigorous oath complete with unmentionable adjectives that I had made previously.

Interestingly enough, this rejuvenated spud was born right here at Kansas State in the chemical engineering laboratories. It was during the summer of 1945 that Dr. John W. Greene, then head of the chemical engineering department, with Prof. A. E. Messenheimer and Prof. W. H. Honstead started on this project which, who knows, may revolutionize the whole potato industry.

Last fall, when Dr. Greene went on to greener pastures in his field, Dr. F. A. Rohrman took over the reins of the department and the spud project; he added Grant Marburger, class of 1943, to his staff. Incidentally it was upon request of the Quartermaster Corps of the army that this bit of research was started. Apparently all of that griping about the chow that we in the ranks did found its way up through channels after all.

Maybe by now you're wondering just what it is about this new creation that's so wonderful. As Dr. Rohrman explains it, the secret lies in the process of dehydration. I'll lay down the steps here and you see if you can develop the logic.

First, the potatoes are washed and cooked in half-inch slices for 30 minutes, then immediately frozen. The purpose of the freezing is to fix the starches; that is, to prevent them from breaking down into sugars. It is at this time that the peelings are removed. The next step is to thaw the spuds, after which over 40 percent of the water can easily be removed by a mechanical press or a centrifuge. The fluid that is squeezed out contains a certain amount of sugar and protein, which if allowed to remain would cause the potatoes to become brown upon the addition of water for consumption. Furthermore, it wouldn't taste right. The remaining steps are granulation to about one-half the size of a pinhead, then dehydration. Dehydration is brought about by exposing the granules to hot gases from the combustion of fuel oil. With this technique, the moisture can be reduced to 5 percent or below.

There it is. The product that emerges from this process is stable, will not spoil, will not absorb moisture from the air, will not become pasty upon the addition of water, and is nearly as nutritious as the fresh multi-eyed tuber itself.

Are you ready to eat? A wonderful thing about this mashed potato powder is that it can be prepared for the table in just the length of time it takes to boil a little water. Just add enough hot water for the proper consistency, flavor with a little milk or cream and butter, season with a pinch of salt, whip up the mixture, put on the gravy, and hop to it. It's so amazingly simple that any bachelor or even the newest of brides can present a very satisfactory dish from this recipe.

The practical importance of this new product promises to be great. During periods of abundant potato production, large quantities can be dehydrated and either stored or shipped to areas, possibly abroad, that are needy. Their importance lies in the fact that potatoes are the most widely used food in the world; therefore, they will always be in demand.

Pitchforks Prove Passe

By HAROLD A. RAY

Almost lost in news of more world-shaking events during the war years was the decline and fall of the time-honored scoop shovel and pitchfork on American farms. They are still holding on by grace of shortages in power loading and unloading machinery, but many farm experts are agreed these hand tools soon may be as nearly extinct as the cradle.

History mentions the fact for us that a farm adviser in England about 1844 suggested the wood scoop for use around the grain bin. Scoops later were made of metal for the enterprising Yankees who wanted more durability.

Shovel production last year hit one of the highest levels in history, but wholesale hardware dealers say that was the result of "catching up" with the lower production during the War.

In 1943 fewer than five million shovels and spades were turned out, but in 1944 this number more than doubled to over 11 million, and last year it went above 11,640,000, a census of United States manufacturers reported.

But now, as fast as farm machinery can fill the demand, use of the old calloused hands for getting that grain in the bin may be soon forgotten. Farm boys will be as nimble on the piano as their city cousins, and the women-folk will be driving the hay baler while the hired help do other tasks.

New machines like the hydraulic tractor-operated grain loader, and one man self-propelled grain combines and hay balers are sounding the death knell for the scoop and forks.

Mostly the cause of the change is to be found in farm economics rather than in any disinclination for back-breaking work on the part of the nation's farmers. Farm labor is not so cheap as it once was, and boys are leaving the farm in large numbers to find work in the cities.

When a harvesting rig costs the farmer $2,500 and a scoop shovel $2.50, he doesn't see much sense in letting expensive equipment stand idle while he shovels grain by hand. Neither does he want the shovel to create a bottleneck in the speedy grain movement made possible by machine.

Of course the farm garden will still need hand labor, and many of our city farmers will use the shovel on Saturday afternoon to get that needed exercise—not to mention the city housewife who dabbles in the flower garden to maintain her once youthful figure.

"Back in 1946 when I helped write the dictionary—," R. O. Pence may be telling his grandchildren one of these years. Anybody fortunate enough to have a 1946 Second Edition of Webster's New International Dictionary can look among the pictures of special editors and find on the third page "16. R. O. Pence, *Milling*" along with Professor Pence's photograph. On the same page is the picture of E. B. Working, formerly of the Department of Milling Industry at Kansas State, also named as a special editor and authority on milling.

Mike Makes Market Study On Meat Exposition Trip

By MIKE BURNS

It was a wonderful experience, that trip to Chicago last December, and Swift and Company was a wonderful host to the 31 of us who were fortunate enough to win in the Swift Essay Contest.

I went up in time for the last day of the International Livestock and Meat Exposition before starting on the Market Study Trip. I also saw a collection of early English paintings loaned to the Art Institute by the London Gallery, and "Harvester Farm"—a full scale modernly-equipped farm at the Museum of Science and Industry.

At our first meeting on the Market Study Trip, Mr. T. G. Chase of Swift's agricultural research department discussed the industry in general, grading and marketing methods used, and the functions of his department.

To get some idea of the size of the Chicago plant, Mr. Chase pointed out that 12 to 13 million gallons of water are used daily—just to keep the plant clean. At the yards 57 acres are reserved for Swift and Company.

The next morning, we went out in small groups with the hog buyers. They took us with them as they bid on hogs offered for sale by the commission men they met in the alleys. Then the head hog buyer for Swift told us that buyers look for health, quality, and weight in the animals they buy. Buyers seldom miss over .5 percent in guessing weights of hogs. He told us there are 95 identifiable cuts in a hog carcass.

"Cows and Chickens USA", a color movie of the work of the dairy and poultry departments, was shown, followed by short talks by heads of departments in those fields. Swift now ranks sixth in ice cream production in the nation.

Cattle and lamb buying was the next phase of our trip. In the yards, I went with a steer buyer to see a pen of Montana cattle he had just bought. Then I watched him ride through several pens of cattle to determine what he should bid on them. Cattle buyers base their bids on dressed cost. They must estimate the live weight and the dressing percentage. Such things as meat on the rail, coming holidays, and weather also govern their bids and purchases.

In the general offices, we were shown loading desk operations. Here, representatives of each of the departments—beef, poultry, and others—make up carloads of products for shipment to various parts of the nation. Care must be taken to suit varying consumer tastes, and a weight checker sees that cars are not overloaded. It's a fast business, filling orders that are wired in to the desk.

A complete tour of the slaughtering and dressing departments followed by a trip through the hide cellar, wool pullery, and research laboratories completed another day.

We started with hog slaughtering. The plant has a capacity of 600 hogs an hour.

In the hide cellar, we saw hides being salted down as they were piled to form huge blocks. In the pullery, we saw pelts being treated, and a puller grading the wool as he pulled it. As many as 15 recognized grades of wool may come from one pelt.

The laboratory, one of 300 operated by Swift, carries on extensive experimentation for the production of feeds, cleansers, and numerous other items. One department of the laboratory is devoted to improving production methods.

The last morning of the tour, groups of us went through Chicago's branch houses. We saw the coolers where local buyers get their supplies, and the egg crating rooms.

After luncheon with the Board of Directors, we met Charles H. Swift, chairman of the Board, who told us briefly, the story of Swift and Company. We then saw "Red Wagon", a color movie of this development from Barnstable on Cape Cod to the present.

Later, I visited the Saddle and Sirloin Club rooms at the Stock Yard Inn. Here are extensive livestock records and the world's finest collection of original portraits in oil of the great livestock producers and packers of America. Later still, that evening, I was on my way back to Manhattan.

Each evening during the tour we were free to do whatever we wanted to do. One night I saw "Song of Norway", an operetta of the life of Edvard Grieg, Norwegian composer.

Twenty-four of the men on the trip were World War II veterans and several are married and had their wives with them. We had plenty of opportunities to get acquainted, and I have since heard from a number of the fellows I met.

Yes, the trip was certainly educational, practical, and very much worth writing a theme for!

Millers Set Up Pilot Plant Fund

A new pilot baking plant will be set up in the Department of Milling Industry with funds supplied by milling companies in Kansas, Missouri, Minnesota, and Illinois. Students in milling will get practical experience in operating commercial baking equipment, for this new plant will have a capacity equal to most small town commercial bakeries.

Performance of flour under baking operations such as mixing, fermentation, and baking is of vital importance to millers. With the $12,000 worth of new equipment to be purchased with the funds provided by these companies, it will be possible to do research with flour and dough quantities used in commercial work.

Present experimental apparatus in the milling and baking laboratories is designed for working with the small quantities necessary when testing the numerous samples submitted to the department in regular wheat variety testing work. The small loaves baked allow research to progress much more rapidly than would be possible with commercial size loaves, but do not always get the same results, particularly in the fermentation process. With the new equipment, such things as toasting and keeping qualities of regular size loaves can be tested.

Contributors to the fund include American Flours, Inc., Commander-Larabee Milling Company, General Mills, Inc., Kansas Milling Company, Midland Flour Milling Company, Moore-Lowry Flour Mills Company, New Era Milling Company, Pillsbury Mills, Inc., Rodney Milling Company, Shellabarger Mill and Elevator Company, Standard Milling Company, and William Kelly Milling Company.

May Cultivate Mexican Fireweed

By HENRY R. HUDGENS

Mexican fireweed (*Kochia scoparia*) has been introduced as a new foliage crop for dry areas. This weed has several names, such as fireball, summer cypress, burning bush, and belvedere. The botanists call it Kochia.

E. L. Erickson of the agronomy department of South Dakota State College was the first to do any work with this weed. He found that it was almost equal to alfalfa as a roughage. Fireweed is not a legume; therefore, it is like most grasses and takes nitrogen from the soil. It is known to carry 65 percent leaves and on chemical analysis to have 13 percent protein. The aroma of the hay is much like that of alfalfa; it is similar in color, but the leaves stay on better.

Kansas farmers have raised the question as to the value of fireweed as a roughage. In the Kansas area, it has been listed as one of the poisonous weeds.

Fireweed, according to Dr. Frank C. Gates, Department of Botany and Plant Pathology, possesses a poison known as saponin. This plant has been known to kill livestock that eat it. Fireweed is ornamental and usually grows in gardens, fence rows, turnrows, railroad ballast, and in drought-stricken or overgrazed pastures. It is in the same family of plants as the Russian thistle, lamb's quarter, and sugar beets. Fireweed is an annual plant and grows throughout United States. Prof. C. D. Davis, associate professor of farm crops, states that it is a serious weed pest comparable to pigweed, Russian thistle, and lamb's quarter.

Choose K-State

By CAROL C. MONTGOMERY

A father and son from India have enrolled at Kansas State College. They are Dr. Sukh Dayal Nihjawan and his son, Om Parkash Nihjawan, who come from Punjab, India. Dr. Nihjawan is employed by the Punjab government and will further his training by studying various advanced courses in soils. Mr. O. P. Nihjawan has enrolled as a freshman in chemical engineering.

Slick Chicks Go On Parade

By BERNARD KNOWLES

"Miss Slick Chick of 1947" might be a Kansas hen. The judges in this contest as in most any other beauty contests are looking for the coquettishness of eyes, contour of figure, and sweep of the tail; but the basis of contest are charm, personality, and sex appeal.

Something new in beauty contests occurred when the Poultry and Egg National Board announced a nation wide search for "the most beautiful hen in America".

The finale of the contest is the premiere showing of the movie "The Egg and I" starring Claudette Colbert and Fred MacMurray. The regional winner receives a free trip to the showing, the national winner collects $500. According to R. G. Christie of Manhattan, the man in charge of Kansas entries, each contestant's pride and joy will be judged from an 8 by 10 inch photograph to determine the regional winner. The actual hen will be present for the national judging.

Ag School Grows

By WAYNE PEARCE

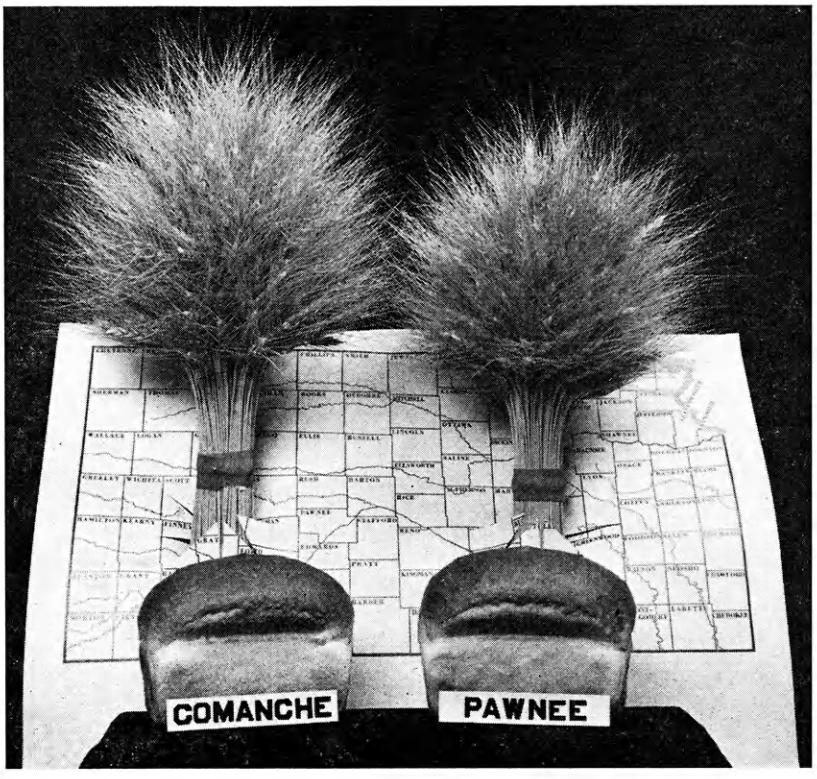
The Ag school is bursting at the seams with an all-time high enrollment of 961 students. This represents an increase over the preceding semester's total of 927, despite the fact that the total college enrollment has decreased this semester.

What about next fall's enrollment? No one likes to make a prediction but it would seem safe to expect a much larger enrollment than at present.

The question, "How are we going to take care of everybody?" naturally comes up. Well don't ask it. The faculty has enough to worry about.

Mrs. Musil has appealed to the Ag Student to carry her sincere thanks to the boys who are responsible for the beautiful Sheaffer pen and pencil set she is now using. She was unable to obtain a list of the boys' names, so it is not possible for her to write a personal note to them. We are glad to carry a great big "THANK YOU, BOYS" to you from her.

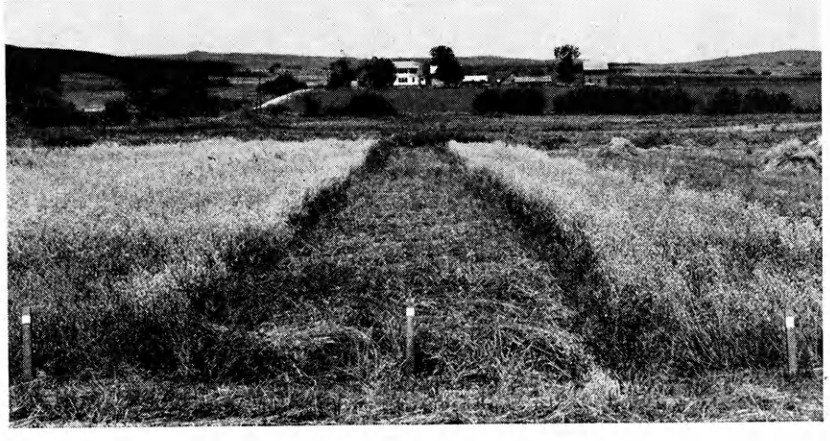
Station Research Develops Crops



Comanche and Pawnee are recent developments in wheat breeding work accomplished at the Kansas Agricultural Experiment Station. They represent the results of 14 years of breeding and testing by outstanding specialists.

As a result of the development of these two varieties, Kansas farmers obtain increased yields and greater disease resistance. Millers also comment on the improved baking characteristics.

Since the drouth years, farmers have been particularly interested in pasture improvement. In response to this demand, the Fort Hays Branch Experiment Station is conducting buffalo grass selection tests. They report a number of good types have been isolated.



Too often, farmers lose what appears to be a fine field of oats as the grain "goes down" just before harvest. To prevent this loss, the Kansas Agricultural Experiment Station is breeding oat varieties more resistant to lodging. In the center plot is Kanota, and on each side is a new resistant variety. Station agronomists recommend Osage and Neosho oats for Kansas.

Farm Families Served By Management Association

By HENRY R. HUDGENS

To the farm org student, records are dull classroom exercises to please an exacting prof. To a dirt farmer, records are essential preliminaries to planning a balanced farm program. Today the pencil and paper is finding its place beside the plow as standard farm equipment.

About 800 Kansas farmers have become members of the Kansas Farm Management Association which was organized in 1930. The membership dues paid by the farmers depend upon the type, size of farm, and type of service they desire. The dues are $25 per year, except for those farms in association number two. There the membership dues are based on number of acres in the farm, their dues ranging from $16 to $50 a year.

The Farm Management association is operated on a budget. The salaries are partly paid from Federal and State funds for the personnel required to oversee the work, summarization, and analysis of the Farm and Home account books. Membership dues supply all the other funds.

The information from a farmer's book is not made public. His book goes to the college, known only by a number, and is analyzed from an impersonal standpoint.

Farm families receive the information from the summaries and analyses of the books by news articles, circular letters, bulletins, and by radio.

The field representative of a particular association spends half of his time on a visit going over the books and the other half answering questions about management and marketing. The fieldman makes two visits a year to a member's farm; for a third visit, there is an extra $5 fee.

There are four associations in Kansas serving 67 counties. Kansas, Iowa, Minnesota, and Illinois are the only four states in the United States that have farm management service.

Size of farm, crop yields, livestock returns, and efficient use of labor and equipment are the four best measures of a farm business, according to farm management experts.

A farmer may know his operating costs yet not know that they are too high. With the comparative figures put out by the association, he may find a means of adjusting his program to lower the cost per acre.

There are no two farms alike. Each farm has its own problems, and a change in livestock or some field crop may make the farm a higher producer. There is no blanket system that will cover each farm in the same area. By finding the natural advantage of the farm, the farmer may build his farm around that advantage.

J. A. Hodges, Kansas Agricultural Experiment Station, and J. H. Coolidge and Paul Griffith, Extension economists, are directing and supervising the work of the associations. Marion Pierce of Hutchinson, Earl Means of Kinsley, and R. L. Rawlins of Holton are the field representatives.

Tabulating Farm Management records keeps these laboratory technicians busy.

Poultry Winners Announced

By DON MCWILLIAMS

Ten Kansas poultrymen shared a reward of $250 for their outstanding work as recognized in the Kansas Poultry Improvement Contest. The cash prizes and 11 recognition certificates were presented on Poultry day during Agriculture week here at Kansas State College by Extension Specialist M. A. Seaton.

The contest, which has completed its third year, is intended to recognize poultrymen who have initiated improved practices and maintained complete records of profitable returns. It included three divisions; one for U. S. Kansas Certified, a second for U. S. Kansas Approved flocks, and a third for all other flocks. First place winners in each division were awarded $50 each.

Some outstanding improvements demonstrated by Mr. and Mrs. Lloyd Sellers, winners in the U. S. Certified division, include a new tile open front strawloft laying house, an ever running water fountain, dropping pits, and large grain and mash bins on the side of the wall. The Sellers farm is in Rice County.

The other first place winners had comparable records with modern equipment. Mr. and Mrs. E. A. O'Brien of Lyon County took first prize in the U. S. Approved division, and Mr. and Mrs. L. H. Reece of Wilson County won first in the general flock division.

A wolf lives to be about ten years old, on an average.

IN MEMORIAM

KENNETH E. KRUSE '39
Barnes, Kansas
USAAF
Killed in Plane Crash Dec. 16, 1942
Pacific

DOYLE W. LA ROSH '41
Natoma, Kansas
U. S. Army
Killed in Action 1944
Italy

JAMES O. LARSEN F. S. '44
Scandia, Kansas
U. S. Army
Killed in Action Nov. 1944
Europe

JODIE R. LOWRANCE F. S. '43
Midian, Kansas
U. S. Army
Killed in Action Dec. 23, 1944
Germany

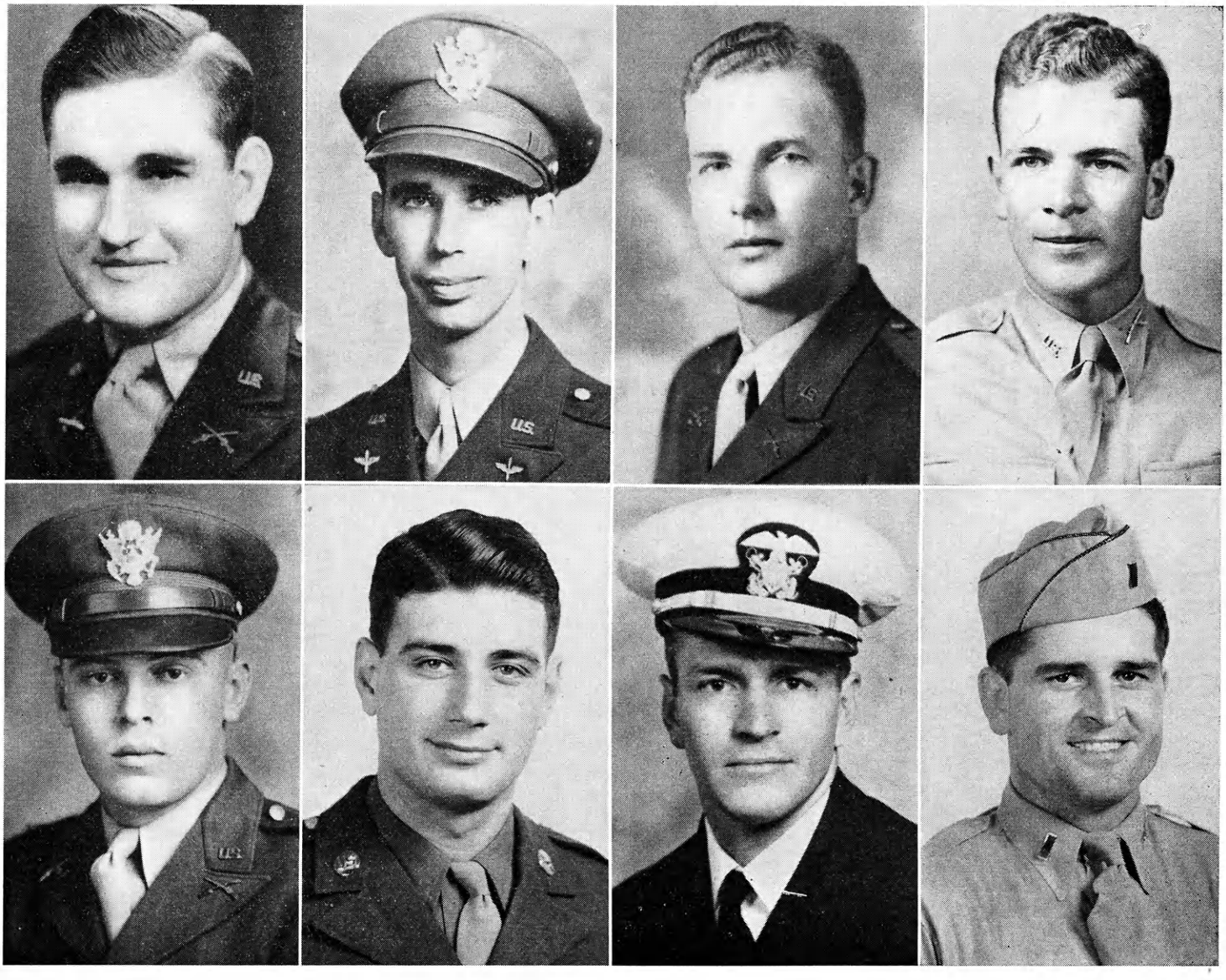
J. EDWIN MCCOLM '36
Emporia, Kansas
U. S. Army
Killed in Action Dec. 24, 1941
Pacific

DALE F. MCCUNE '43
Stafford, Kansas
U. S. Army
Killed in Action July 5, 1944
France

LEE ROY MITCHELL F. S. '39
Auburn, Kansas
USAAF
Killed in Plane Crash Dec. 4, 1943
Africa

WARREN F. MOORE F. S. '47
Holton, Kansas
U. S. Army
Killed in Action March 1, 1945
Holland

This is the third of the series of pictures honoring graduates and former students who gave their lives in World War II.



LYLE M. MURPHY '37
Manhattan, Kansas
U. S. Army
Killed in Action April 17, 1945
Philippine Islands

W. DEAN NELSON '41
Haddam, Kansas
USAAF
Killed in Action Oct. 1943
Europe

HAROLD L. NONAMAKER '32
Osborne, Kansas
U. S. Army
Killed in Action 1945
Germany

ROBERT K. PAGE '42
Topeka, Kansas
U. S. Army
Killed in Action July 22, 1944
France

ROGER N. PHILLIPS '42
Manhattan, Kansas
U. S. Army
Killed in Plane Crash Nov. 1943
Africa

ELDON M. REICHART F. S. '45
Arrington, Kansas
U. S. Army
Killed in Action March 30, 1945
Germany

CECIL R. ROBINSON '40
Nashville, Kansas
USNAC
Killed in Action July 1944
Pacific

RAYMOND R. ROKEY '42
Sabetha, Kansas
U. S. Army
Killed in Action June 1944
France

Winter Grads Go To Variety of Jobs

By Wayne Pearce

Many people believe that the School of Agriculture trains its students to be farmers only. Due to the rapid advancements and improvements in farming methods, agriculture has become a big business requiring that a man be a smart business man as well as a good farmer.

The many phases of training offered in the Ag School are indicated by the activities of last semester's graduates. There were 24 in all and they made up the first class of any size to graduate since the war.

Four members of this class have taken out-of-state work. Bob Randle has accepted a teaching position with Eastern New Mexico College at Portales. He will have charge of the entire agricultural department. Dale Rake plans to become a federal grain inspector at Enid, Oklahoma. Lyle Carmony is now in Louisville, Kentucky, where he is working as a milling chemist with Joseph Seagrams and Sons of bottled in bond fame. James Little will probably farm with his father-in-law in Illinois.

A large number of the Ag students here at the college have farms patiently awaiting them after graduation. This is the case with Jim Cunningham who is returning to the home farm near El Dorado. Taking over the operation of his father's 1,280-acre farm in Ford county is Orville Hill, while Paul Schroeder is returning to the family farm of 640 acres in Ellsworth county. Keith Tolson also expects to return to the farm. He and his father intend to farm together in Stanton county. Philip George, whose home is in Coffey county, also expects to farm, as does Robert Gilliford, whose home address is Garrison in Pottawatomie county. Francis Gwin has returned to a Wichita county farm probably to remain only temporarily, since he plans to go into business or civil service work in economics next fall. William Hartman is returning to the farm, but like Francis Gwin, intends to remain temporarily.

There is considerable interest in even higher education in this graduating class, as shown by the comparatively large percent of the class taking work for advanced degrees.

Harold Riley is taking graduate work in agricultural economics, plus doing a bit of teaching. John Kraus is now a temporary assistant instructor in the agronomy department, while taking some graduate work. John Fitzsimmons is also taking some advanced work while putting in his spare time as a temporary instructor in the milling department.

Specializing in animal nutrition is Robert Flipse, who is doing his graduate work in conjunction with the dairy department. John Vawter is taking graduate work in agricultural economics.

The various state and federal positions open to college graduates have attracted several members of the class. Jim Nielson has recently become fieldman for the newly-organized Wabaunsee County Balanced Farming Association. Daniel Musser is now working with the Farmers Home Administration at Sedan, Kansas, and John Nelson is working with the Soil Conservation Service in Miami county.

Two members of the class have taken county agent positions, Laurel E. Loyd in Decatur county, and Bernard Jacobson in Russell county. Two other members of the class are teaching vocational agriculture, Elmer Akers at Cottonwood Falls and Robert Wallace at Clifton.

Alfalfa Dehydration

(Continued from page 3)

tion from contact with the atmosphere.

"Fresh, dehydrated alfalfa has 8 to 10 times as much carotene as field-cured alfalfa", said Professor Schrenk, "but in about nine months under usual farm storage conditions it loses most of its extra vitamin A content".

There are two types of dehydrators in use today. They are both built on the rotating drum principle but differ in the method of heat application. One type heats by direct fire in the drum and the other has an auxiliary furnace which blows hot air through it. Both of these plants will dehydrate one ton of meal, containing 5 percent moisture, per hour from alfalfa which is 75 percent water. They employ temperatures ranging from 1,500 to 2,000 degrees Fahrenheit with an exposure of three to five minutes. Most of these plants operate 20 hours a day, 25 days a month, for 5 months during the growing season.

The effect of the dehydrator on the Kansas farmer has been good, and each new plant has increased the acreage of alfalfa in the area surrounding it. C. O. Grandfield of the Department of Agronomy at Kansas State who helped develop the new Buffalo alfalfa said, "This increase in alfalfa production has helped the farmer, as it is his highest paying cash crop and is always a good livestock feed and substantial source of nitrogen". Professor Honstead remarked, "The only drawback in sight for the dehydrator is that the field is becoming crowded". This means that supply is catching up with demand; hence the need for creating new uses for dehydrated alfalfa.

Yes, it seems that alfalfa and dehydrators are definitely a part of Kansas agriculture and they appear to be here to stay.

Dr. Sheppard A. Watson, Ag '20, has been appointed president of Friends University at Wichita. Dr. Watson goes to Wichita from Wilmington College in Ohio.

Hair grows faster in warm weather than in cold weather.

Again in 1947 FARMALL* Tractors set the pace as the most successful farm tractors in the world. The four Farmalls—A, B, H and M—with the broad range of Farmall machines, play a major role in the success story of American farming. Watch for new developments, *new surprises*, in the Farmall system!

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WITH THE HELP OF

INTERNATIONAL HARVESTER

Millions of men—and their fathers and grandfathers before them—have built their farming careers on the long line of International Harvester tractors, trucks and farm machines that stem from the invention of the McCormick Reaper, 116 years ago. They built *soundly* for the future.

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All of International Harvester's long-promised products—new machines and methods for improved handling of crops in all seasons, new developments in the FARMALL* System—will be on their way to the farmers of America as fast as we can build them.

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180 North Michigan Avenue Chicago 1, Illinois

Tune in James Melton on "Harvest of Stars" every Sunday, NBC Network. See newspapers for time and station.

FARMALL is a *registered trade-mark.
ONLY International Harvester builds FARMALL Tractors.

INTERNATIONAL HARVESTER

Farm with **FARMALL* TRACTORS**

Clubs Plan Student Contests

By ROBERT K. PETRO

April 19, 1947 is the date set for the student dairy cattle judging contest which is sponsored each spring by the Dairy Club of Kansas State College.

This year's contest will feature two divisions. There will be a senior division and a junior division, the latter being restricted to students who have had no advanced dairy cattle judging work. All students in the School of Agriculture are eligible to enter the contest.

There will be no reasons required in the junior division, but the senior division contestants will be asked to give oral reasons on two classes. Four classes will be judged in each division, one on each of the popular dairy breeds. The official judges will be members of the dairy department staff. Cash and merchandise prizes will be awarded to the winners in each division.

Departmental Clubs

(Continued from page 4)

on the third Thursday of each month in Room 7 of East Ag. The association holds its annual picnic each spring.

HORTICULTURE CLUB

HOWARD BORCHARDT, *President*
EVERETT JANNE, *Vice-President*
BETTY GOERTZEN, *Secretary*
EUGENE MOFFATT, *Treasurer*
BOB CHAPIN, *Social Chairman*
PROF. R. W. CAMPBELL, *Faculty Adviser*

An annual exhibition is sponsored by student horticulturists. In addition this club has an annual service project; this year it probably will be to assist in putting a sun-dial in the formal gardens as a memorial to three former members of the department killed in World War II. Meetings are held second and third Thursdays in Dickens 108.

AGRICULTURAL ECONOMICS

FLOYD ROLF, *President*
JOHN BOLLER, *Vice-President*
MERLE EYESTONE, *Recording Secretary*
RAY WARD, *Corresponding Secretary*
ROY CURRIE, *Treasurer*
DR. W. E. GRIMES, *Faculty Adviser*

Ag Economics club members meet second and fourth Tuesdays in East Ag 312. This group sponsors an annual spring steak fry.

AGRICULTURAL EDUCATION

BILL MCMILLAN, *President*
MERRITT ATWELL, *Vice-President*
LESTER CRANDALL, *Secretary*
DONALD LAWRENCE, *Treasurer*
FRANK CARPENTER, *Parliamentarian*
DEAN SCHOWENGERDT, *Reporter*
EARL NICHOLS, *Sentinel*
PROF. A. P. DAVIDSON, *Faculty Adviser*

Helping with the vocational agriculture state high school judging contest this spring is one of the projects of the Ag Education club. Meetings are held the second and fourth Thursdays in Education Hall.

May 17 is the date set for the annual crops judging contest sponsored by Klod and Kernel Klub. This contest is open to all students and numerous prizes will be awarded. This contest will be divided so that competition in any one division will be among students with equal college classroom training in crops judging.

"...and it grew LIKE SIXTY"

THERE have been, in this country, prophets of doom without end. They've looked into their murky crystal ball and foretold the dismal end of our country, our freedom, and our civilization. They've watched through wars, panics, and financial depressions, and predicted, in each case, the end of all the things upon which America is built and for which it stands. Yet, in spite of all their prophecy, the country came through "and it grew like sixty".

In spite of present prophets of doom, our country will continue to develop and grow, as long as free, intelligent enterprise guides productivity of the soil, from which all wealth springs, and of industry which fabricates the produce of the soil. As long as free enterprise is guided by native intelligence broadened by free education, the developments of the future will exceed, by far, those of the awe-inspiring past, and our country, repeating its illustrious history, will continue to "grow like sixty".

JOHN DEERE • MOLINE • ILLINOIS

Alpha Zeta Is Goal of Aggies

By Roger Wilkowske

Successful reorganization was the keynote of the Alpha Zeta Conclave held in Denver, Colorado, December 31 and January 1 and 2. All of the chapters active before the war had reorganized, and the delegates were eager to get ideas which they could carry back to improve their chapters.

Representing the Kansas chapter at the meeting, I was impressed by the quality of the men that the chapters had sent. Men from all parts of the country were there, with the common goal of improving agriculture as well as themselves.

Few organizations are as fortunate as Alpha Zeta. We commemorated the fiftieth anniversary of the founding of the fraternity in 1897, and the two founders were able to be with us at the celebration. The founders, Dean John F. Cunningham from Ohio State University and Dr. Charles W. Burkett, former director of the Kansas Agricultural Experiment Station, were guests of the conclave. Both men addressed the assemblage and imparted advice which only years can give.

It was decided at the conclave to initiate a graduate scholarship to be known as the Alpha Zeta World War II Memorial Fund. Savings of the fraternity will finance the fund. The scholarship will be for $1,200 a year. The high council will select the winner from the nominees of the chapters. Each chapter will nominate one man each year to be considered for the award. It was hoped that this plan would make it possible to give material aid as well as honor to the individual.

Alpha Zeta has a membership list of over 15,000 men, which promises to show a large increase in the future. The renewed interest shown at the conclave indicates that the fraternity will continue along the same lines as in the past, with a constant effort to better past records.

Observing the work of the national organization gives one a greater enthusiasm for the functions of the local chapter. The Kansas chapter was founded in 1909. Like most active chapters, it is an honorary chapter for students in agriculture, though at some schools Alpha Zeta is a social fraternity maintaining a chapter house. At Kansas State it recognizes scholarship, character, and leadership, and endeavors to promote fellowship and high ideals among its members.

In an effort to encourage scholarship, the Kansas chapter annually awards a medal to the freshman student in agriculture making the highest grade point average in his class. The alumni list of Alpha Zeta includes many faculty members, and a banquet is held every spring so that student members may become acquainted with these faculty members. The chapter is now preparing a permanent list of alumni records.

Hugh G. Myers

H. G. Myers

By James E. Pruden Jr.

Hugh Garry Myers, associate professor of agronomy at Kansas State College and a lieutenant junior grade in the Navy, died in the Brooklyn Naval Hospital, New York, Nov. 21, 1946. He was born at Barnard, Kansas, August 17, 1916.

While attending Kansas State College Hugh Myers was a member of Phi Kappa Phi, Alpha Zeta, and Gamma Sigma Delta. He graduated with honors in 1938, and in 1941 he received his master's degree from the University of Kentucky.

During the year he instructed at the latter school he studied the excretion of nitrogen from legume roots. In 1942 he became an agent of the Bureau of Plant Industry, U. S. D. A., returning to Kansas in charge of dry land farming investigations at the Garden City branch experiment station. In November 1943 he became a member of the teaching and research staff of Kansas State College. He received a leave of absence in July of 1944 to enter the Navy.

Mr. Myers was married to the former Alice Sloop of Nortonville, also a Kansas State grad of the class of 1938. Mrs. Myers and two children, Judy and Garry, live in Manhattan at 1122 North Eighth.

Dr. Harold Myers, head of the agronomy department, said of Hugh Myers, "The untimely death of this promising young man and scientist is a regrettable loss to the field of soils investigations; a loss which is keenly felt by those who knew him best for his genial personality, clear thinking, and indefatigable spirit."

Pickett Prizes Walnut Desk

By Dorothy Cochran

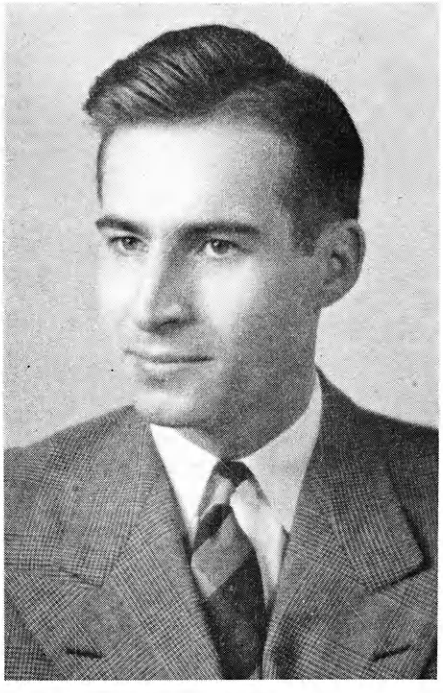
A solid walnut desk is one of the main attractions in the office of Dr. W. F. Pickett, head of the Department of Horticulture. This desk is appreciated not only for its attractiveness, but also for the story back of it.

The wood in the desk came from the old Horticulture farm, the former Bluemont College site west of the campus. The lumber was brought to the shops on the campus; it was sawed, kilned, and dried by one of Dr. Pickett's former students. Dr. Pickett said with pride that the desk is as beautiful now as it was when it was finished in 1939. The only scratch on it was made by a traveling salesman, who has never returned to that office since.

President Eisenhower is now having two tables of the same type made in a similar manner for his inner office.

The student livestock judging contest will be held May 10. The contest, formerly an annual event, was discontinued during the war years. Block and Bridle sponsors the competition.

Senior Prexy Doubles in Bass



MERRILL WERTS

By FLOYD FRISBIE

If drive is what it takes to get ahead, Merrill Werts should attain his goal in life. He shows this drive with the many successful activities he carries on here at Kansas State College.

He graduated from Smith Center High School in 1940 and came to Kansas State College that fall. Serving as cheer leader his first two years, he showed his leadership early in his college career. About this time Uncle Sam stepped in to capitalize on this leadership. In July, 1944, Merrill received his commission and went to Europe the following November to join the fighting 69th Infantry. At the time of his discharge, he held the rank of first lieutenant in the U. S. Army.

Merrill resumed his college duties in February, 1946, and renewed his association with many college organizations. That he is capable, responsible, and popular is shown by his election as president of the senior class, vice-president of Sigma Phi Epsilon social fraternity, secretary of the Block and Bridle Club, treasurer of Blue Key honorary fraternity, and a member of the YMCA Cabinet. He also received the distinction of being listed in Who's Who Among Students in American Universities and Colleges this year. He still finds time to be active in S. P. E. B. S. Q. S. A. in which he is known as the bass in the Collegiate 4 Quartet. Being an enthusiastic worker, an able leader, and a regular Joe, he is an inspiration to those who are associated with him.

After receiving his B. S. degree in animal husbandry this spring, Merrill plans to take graduate work in journalism. This study will lead him into the field of public relations in ag journalism; so don't be surprised if you see the name "Merrill Werts" on farm magazine articles in the years to come.

Side of Bacon Is Contest Topic

By HENRY R. HUDGENS

A trip to Chicago may be yours by writing an essay on *A Side of Bacon,* and sending it to The Saddle and Sirloin Club of the Union Stock Yards, Chicago, Ill., before November 1, 1947. All undergraduates in agricultural colleges in the United States and Canada are eligible.

The winner will receive the "Ruth" Gold Medal at the annual dinner of the American Society of Animal Production which will be given at the Saddle and Sirloin Club. There are nine other prizes including the "Ruth" silver, "Ruth" bronze medal, and choices of agricultural books.

Essays will be approximately 2,000 words in length, must be written on one side of the paper and typewritten if possible. Contestant should write his name and address on a plain sheet of paper and attach it to the essay. No name or address will be on the essay.

C. J. Weyker of the Drovers Journal, Jerry Satola of Armour and Company, and Frank Richards of the American Aberdeen-Angus Association will judge all essays.

All students of Kansas State College are eligible to enter the contest. Particulars are available in Room 105 East Ag.

Wilbur Hart, '46, writes that he is now teaching vocational ag at Howard. Wilbur has a comprehensive program underway—one which he says makes him envy us our "leisurely pace" here in school.

Sorghum Starches Offer New Income Source to Kansans

By ROBERT K. PETRO

Sorghums have been a stable crop in Kansas agriculture for many years. They have given the state recognition, too, for she ranks third in the nation as a producer of sorghum. Wheat is the only crop that is of more importance to the state's farm income. In a report to the people of Kansas, Roy Freeland, associate editor of the Kansas Farmer, said, "Whatever the sorghums may lack in glamour or tradition, they make up a hundredfold in dependable service and versatility." This we can understand by looking at some of the statistics regarding sorghums.

Between the years 1929 and 1944 sorghum was planted on an average of 917,000 acres per year in Kansas. The value of this crop was $16,965,000 in 1943, which was an average year as far as acreage was concerned. Sorghum acreage doubled in 1944 and the value of the crop grown on almost two million acres was $43,037,000. Sorghum is grown all over Kansas but predominates in the southwest and south central counties. It is a crop ideally adapted to this country, as it will grow and make a crop with very little moisture. Give it a good season and it responds with a golden shower of grain and forage that has held agriculture in Kansas together through drought and depression.

Development of a new role for sorghums began in 1937 when the Kansas Agricultural Experiment Station began studies to find new markets for surplus Kansas crops. Recent corn and soya bean developments suggested that sorghums might be utilized in new ways. Work was started in the form of a Bankhead-Jones project.

Dean L. E. Call, then director of the Kansas Experiment Station, assigned Dr. H. H. King of the Department of Chemistry to head the project. Time passed and news of the work soon attracted the attention of the State Chamber of Commerce and, more recently, the Kansas Industrial Development Commission. These two organizations began boosting the project until today quite an interest has been developed both locally and nationally in the possibilities of new industrial uses for sorghum.

It has been found that by a process of "wet milling" the sorghum, grain can be divided into its principal fractions. These fractions average starch, 70 percent; protein, 13 percent; oil, 3 percent; and wax, which is found in the seed coat. The remainder is made up of moisture, ash, and fiber. The work at Kansas State has been to find the technical "know how" of extracting these fractions on a commercial basis.

The most important of the above fractions is starch, which is of superior quality and will have economic advantage over corn starch in the food industry. It forms a smoother, more workable paste and has less tendency to "bleed" or "weep" (lose water) than corn starch. There are sorghum starches which will duplicate most all commercial starches.

Much attention has been given to sorghum oils. These oils are equal in value to corn oils for food purposes. The wax obtained from the seed coating is of an excellent quality and can be used in all cases where imported Carnauba wax is utilized. Dr. King said, "It has been calculated that, at the present price of Carnauba wax, the wax available from a ton of Blackhull Kafir is worth $32." The protein residue left from the process of extraction would make an excellent high protein feed for fattening livestock, thus leaving no product as waste material.

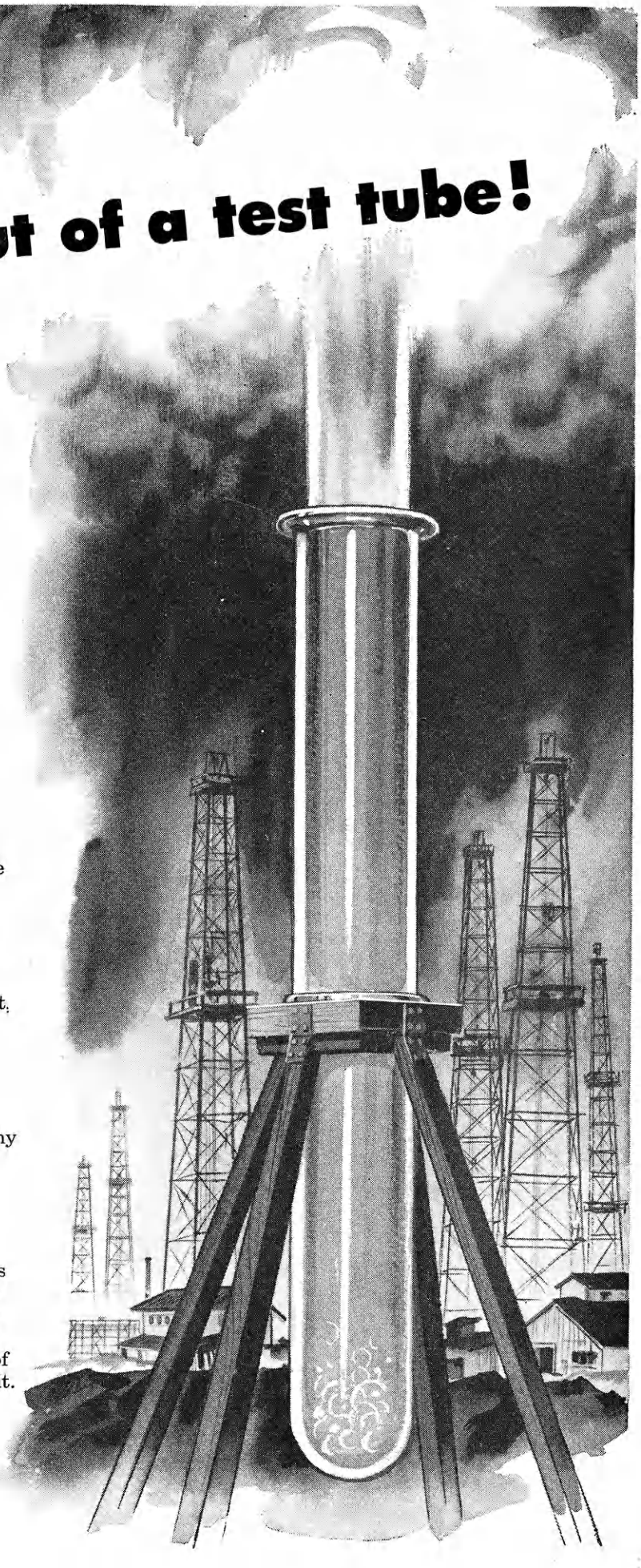
At the present time the Department of Chemical Engineering at K. S. C. is setting up a pilot plant. It will be used to prove the theory behind the "wet-milling" of sorghum so that it can be set up on a commercial scale. A plant may be built soon thereafter in Southwestern Kansas where underground water supplies and natural gas provide ideal conditions for the industry.

New sorghums are being developed which will lend themselves to this new use. A. F. Swanson of the Ft. Hays experiment station has already produced combine varieties which put together palatability of stalk with high grain yield. Among these new varieties are Midland and Westland. Kafir starches have proven more valuable than sorghum starches for food use, with Pink Kafir the most desirable.

This promising prospect of an increase in demand for sorghum grain is of vital interest to the Kansas farmer. It will make a valuable cash crop in the form of grain and will leave him a plentiful source of fodder for animal feed. It not only affects Kansans, for sorghums are raised in many of the surrounding states; so many thousands of Mid-Western farmers can look for a new boost toward better living.

Victor Thompson, '44, writes from Hope, Arkansas, where he is on the staff of the Arkansas Agricultural Experiment Station. He mentions that he had received the Ag Student and was particularly interested in the article on new varieties of farm crops (October, '46). Two of the varieties of corn mentioned in the article, K2234 and K1585, are on test at the Arkansas station, Vic relates.

A "Gusher" out of a test tube!



You have heard much about petroleum reserves and their vital importance to America's future. It is good to know that reserves already discovered are ample for many years to come and that explorations can be relied upon to find great new reservoirs under ground.

It is good to know, too, that petroleum chemists and engineers have been taking a long-range view of the future in motor fuels, have been seeking a new source, and have developed a method of using it. A "gusher" out of a test tube!

The new source is natural gas. And the new method is the Synthol process. This will utilize America's vast reserves of natural gas—will turn gas into gasoline . . . at a cost-per-gallon comparable to that of gasoline made from crude oil. In the development of this process, the Standard Oil Company (Indiana), through its subsidiary, the Stanolind Oil and Gas Company, is playing a leading role.

Fundamentally, the Synthol process uses oxygen to convert natural gas to a mixture of carbon monoxide and hydrogen. The carbon monoxide and hydrogen, passing over a catalyst, react to produce hydrocarbons in the gasoline and distillate fuel range, plus oxygenated compounds which have uses as chemicals.

And now, after intensive research—exploratory, pilot plant, process design, engineering—the Stanolind Oil and Gas Company is planning a full-size Synthol plant designed to convert natural gas into 6,000 barrels a day of high quality gasoline.

Here is applied science indeed! And—what's more—a modification of the Synthol process would produce liquid fuels from our tremendous reserves of coal . . . fuel enough for a thousand years and more. So there's big-league research ahead . . . research devoted to producing power from every possible source. And the scientists of Standard of Indiana will be right in the thick of it.

STANDARD OIL COMPANY
(INDIANA)
910 South Michigan Avenue
Chicago 80, Illinois

Philippine Agriculture

(Continued from page 5)

Dean Call inspects Philippine corn drying on wooden racks.

Beans, egg plant, and tomatoes are also commonly grown and constitute important items in the diet of the people, although the total area of land devoted to other crops is small.

Fruit and nuts are more important items of diet in the Philippines than in this country. Fruit is abundant, and there are many delicious kinds of tropical fruit commonly eaten. Bananas, papayas, pineapples, mangoes, avocados, breadfruit, jackfruit, and a number of kinds of citrus are the most abundant. Peanut, cashew, and pili are the most common nuts.

Four major export crops are grown extensively in the Philippines. They are coconuts, sugar cane, abaca, and tobacco. The prewar exports of these crops and their products amounted to $100,000,000 a year.

Next to palay, the coconut is the most important crop in the Philippines and is more widely grown than any other export crop. About 2½ million acres are devoted to coconuts. Since the crop is widely distributed over the islands, and since the equipment used in processing the crop is generally simple and inexpensive, the coconut industry suffered less from the war than any of the major export industries. For this reason, and also due to accumulation of nuts during the war years and the urgent current need for vegetable oil, more copra (dried coconut) is being exported at this time than at any time in the history of the islands.

While sugar cane was normally grown on only a little over a half million acres, representing less than six percent of the cultivated land, the value of the 1938 crop was estimated at more than $22,000,000. Sugar cane is used chiefly for the production of centrifugal sugar, but native production of muscavado and panocha for domestic use is common since the war. Sugar cane is also used for alcoholic beverages and for chewing for the juice. Because the large sugar processing plants (Centrals) were so extensively destroyed during the war, it will be several years before the Philippines will be able to supply their full allotment of sugar to this country.

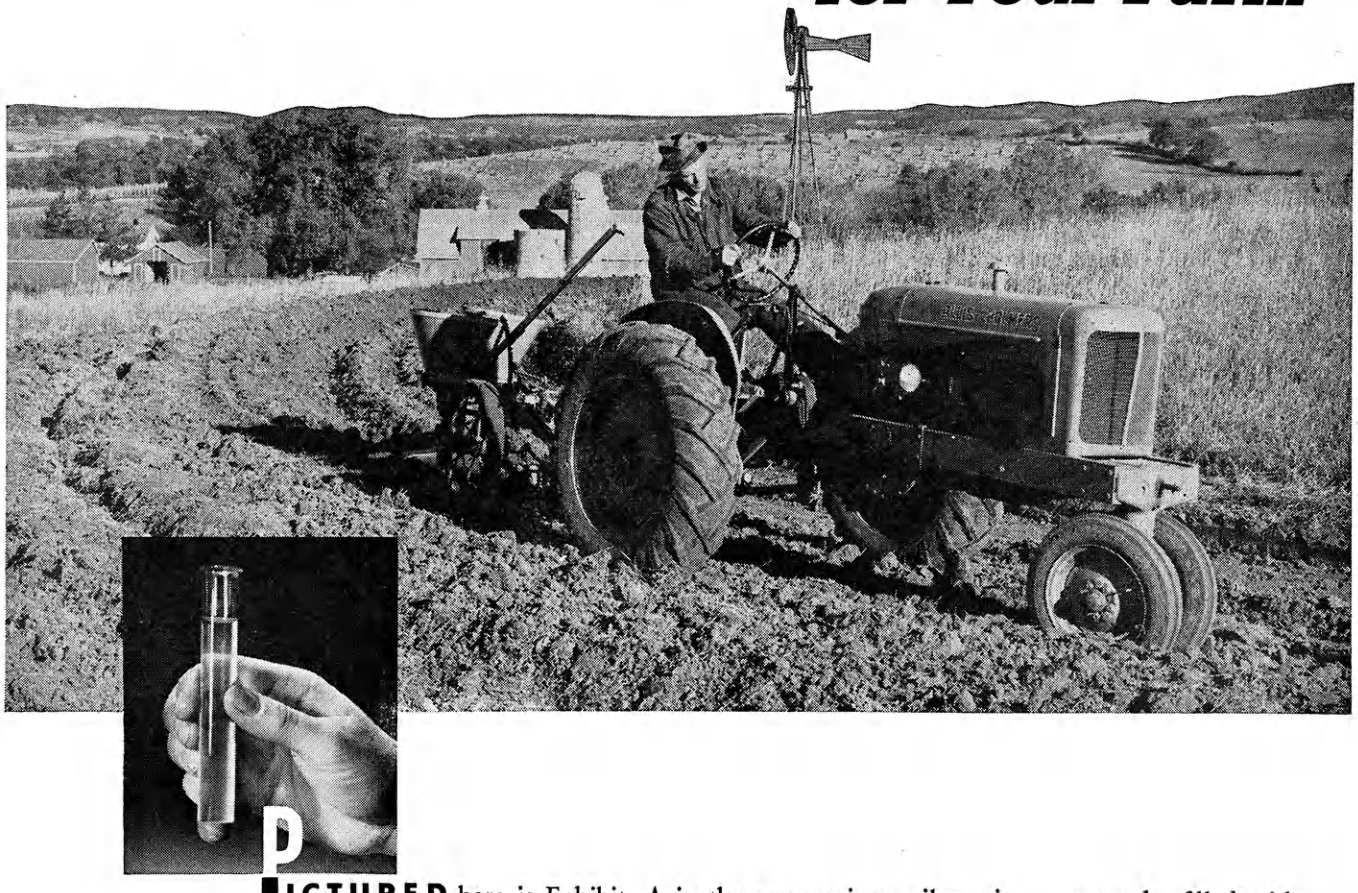
Abaca or Manila hemp was grown before the war on approximately 7½ percent of the cultivated land representing about 720,000 acres. There are three chief abaca producing regions: first, the Bicol region on Luzon; second, the islands of Leyte, Samar, and Masabote; and third, the Davao region on Mindanao. The Davao region was the most productive and produced the best hemp. Since the production here was largely in the hands of the Japanese, and since the Japanese plantations have been taken over by less experienced Filipino operators, the outlook for the industry is uncertain at this time.

Tobacco is one of the oldest export crops of the Islands. The area devoted to the crop is not large, representing in normal times only about 143,000 acres. The chief producing areas are in Northern Luzon and especially in the Cagayan Valley. The tobacco exports are chiefly to Spain.

While the four crops discussed above constitute by far the most important exports, there are normally small exports of rubber, pineapple, coffee, derris, kopak, cacao, and ramie.

Rice harvest is hard work. Thus far machinery has not been developed for the job.

TERRACES.. *"Eaves troughs" for Your Farm*



PICTURED here is Exhibit A in the case against soil erosion, a test tube filled with water from the mud-swollen Missouri River. There is unmistakable evidence in the ⅜-inch layer of fertile silt which has settled to the bottom of this glass tube. Here is a revealing sample of the *100,000,000 tons* of topsoil swept away every year by this one river alone. When spring and summer rains begin, the Missouri's sediment load jumps from 10,000 to 3,000,000 tons a day. That's the topsoil equivalent of a 100-acre farm every five minutes.

Something can and is being done about it. Like almost every farming territory, the Missouri watershed needs "eaves troughs" — terraces and contour strips to control runoff water. Allis-Chalmers is co-operating with soil conservation engineers in demonstrating tractor methods of terracing with moldboard and disc plows, strip cropping, constructing ponds, waterways and reservoirs.

All these operations can be done with regular home-owned tractor equipment. Costly graders and heavy crawler tractors are no longer required.

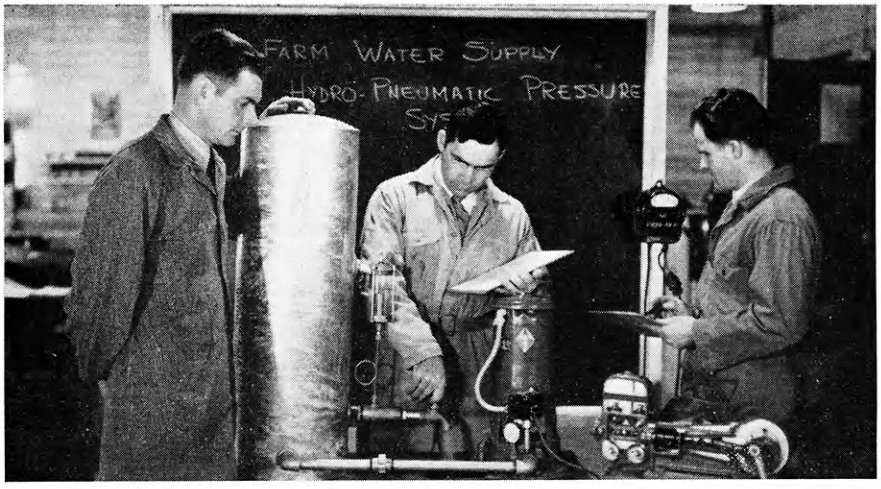
By holding rain water on the slopes, modern tractor plows are providing life-giving moisture to crops and healing the cancerous erosion eating into our farmlands.

NEW HANDBOOK

"You Have What It Takes to Contour and Terrace"

Prepared by Allis-Chalmers engineers in cooperation with the Soil Conservation Service. Pictures and diagrams show practical soil-saving measures with regular farm equipment. You may obtain a copy without charge from your local Allis-Chalmers dealer, or by writing to . . .

ALLIS-CHALMERS
TRACTOR DIVISION — MILWAUKEE 1, U. S. A.



George Larson, instructor, watches as Lloyd Moody and Jay Bayha run a test to compare the efficiency of water systems.

Ag Education

(Continued from page 6)

divided the emphasis of instruction between agriculture and farm mechanics. Approximately three-fifths of the high school student's time in vocational agriculture is spent on agriculture, and the remainder on farm mechanics.

Since more than 40,000 Kansas farms are electrified and more than 100,000 tractors are used in the varied farm operations, the framers of the vocational program in agriculture for Kansas high schools were farsighted indeed, when in 1917 they included in their state plan a requirement of 17 semester hours of college work in the field of farm mechanics for those students who are preparing to teach vocational agriculture.

Here the student gains practical experience in arc welding, construction of farm buildings, farmstead wiring, laying out terrace lines, overhauling farm motors, using metal lathes, and construction of concrete sidewalks. This curriculum in Agricultural Education was also designed to provide practical training for those who plan to enter farming for themselves.

J. A. Hodges, Kansas Agricultural Experiment Station, and J. H. Coolidge and Paul Griffith, Extension economists, are directing and supervising the work of the associations. Milton Manuel assists in the research work done on the records at the College. Marion Pierce of Hutchinson, Earl Means of Kinsley, Carroll Brooks of Clay Center, and R. L. Rawlins of Holton are the field representatives.

Danforth Fellowship

(Continued from page 9)

social. The camp motto was "To be myself at my very best, all the time." A very complete and enjoyable program was conducted throughout the camp for our entertainment and education. Classes were held on ethics, philosophy, four-fold development, and life essentials. In addition to fine lectures, we had a complete sports program. Afternoons of swimming, softball, volleyball, sailing, and tennis were followed in the evening by vesper services held on the top of an enormous sand dune overlooking the lake. At the close of vespers, the evening's program consisted of group singing, tribal contests, and local entertainment.

Perhaps the greatest inspiration and thrill that the Danforth Fellows received at Camp was the personal interviews and talks with Mr. Danforth. Recognized as an outstanding manufacturer, Mr. Danforth also is one of the greatest lovers of youth in the nation, making endless opportunities possible for them.

We left camp on August 25 with a real challenge in life, friendships bonded, and a feeling of having had a most extraordinary experience in the short time of four weeks.

The freshman and junior Danforth Winners were only two of the ten representatives from Kansas at the Camp. Three other students now attending Kansas State attended the camp. They are: John Aiken, sophomore in Veterinary Medicine, and Tom Means and Dick Bigham, freshmen in the School of Agriculture.

It's a Small World, He Said

When good K-Staters get together—left to right, Dr. J. A. Shellenberger, John Neale, and Otto Hubp.

By EUGENE SWENSON

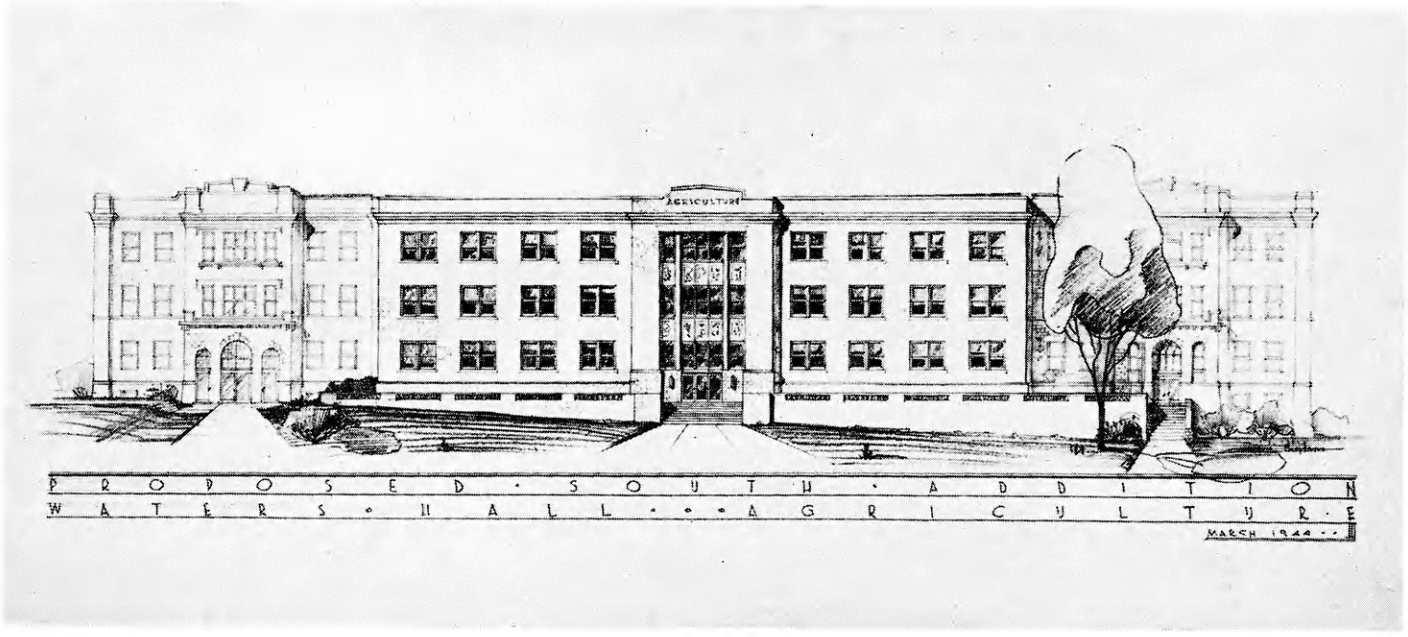
Graduates of the School of Agriculture surely do get around. Dr. J. A. Shellenberger, head of the Department of Milling Industry, found last summer when he made a trip to Peru for the Office of Inter-American Affairs. Much to his surprise, he found upon arrival in Lima that the man in charge of the Office of Inter-American Affairs for Peru was a graduate of Kansas State College.

Mr. John R. Neale is Director of Servicio Cooperativo Inter-Americano de Produccion de Alimentos for Peru, and his chief assistant is Mr. Otto Hubp, food production specialist. Mr. Neale majored in animal husbandry and received his degree from Kansas State College in 1917. Mr. Hubp majored in dairy husbandry in the class of 1915.

Both men have spent considerable time in Latin America; Dr. Shellenberger said they are doing excellent work not only for their own country but also for Peru. They still maintain an active interest in the affairs of Kansas State College.

Where did Indian corn originate? Dr. Paul Mangelsdorf, Ag '21, MA '23, is conducting research at Harvard to find the answer, and has collected a large assortment of corn types from North and Central America.

A Dream May Come True



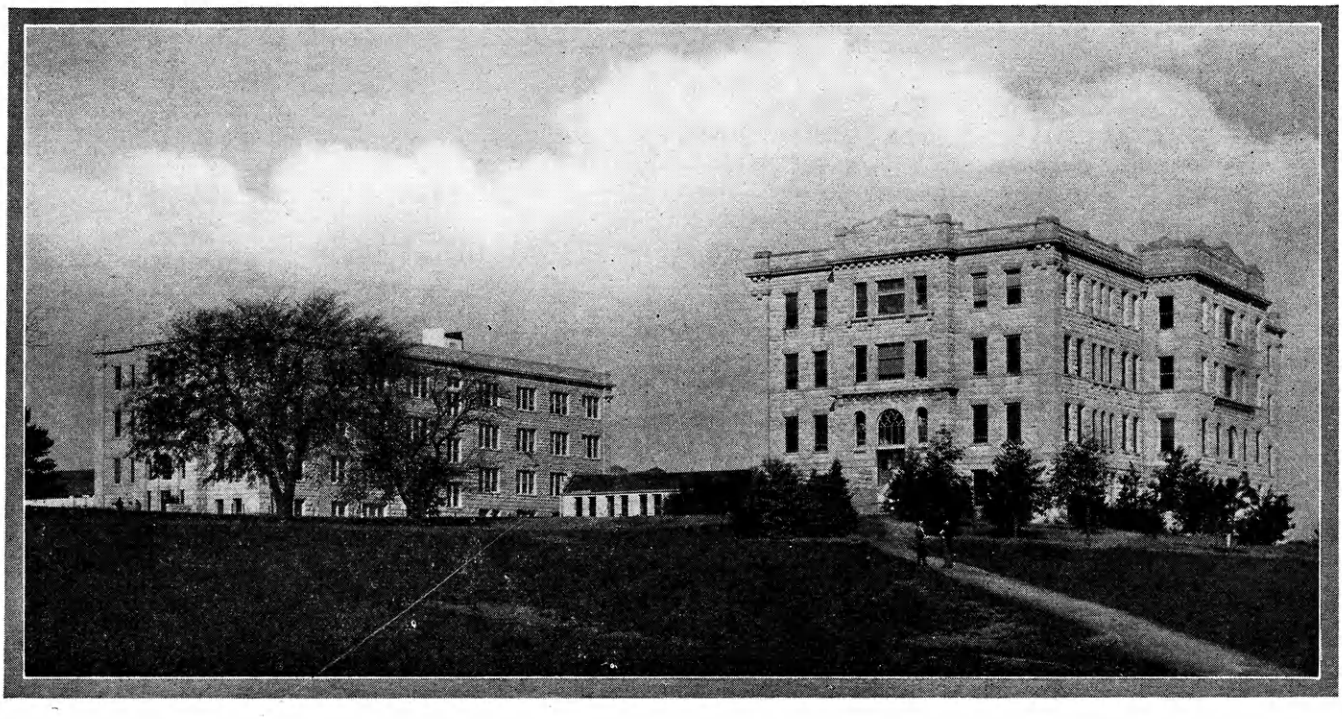
In 1923 when West Ag, the second wing of Waters Hall was completed, Kansas farmers were justly proud. The Ag Division at Kansas State was adequately housed and the construction of a Livestock Judging Pavilion between the two wings enabled the staff to centralize practical instruction.

With the enrollment increasing to more than 950 Ags here at K-State, facilities in the two wings have become inadequate. Also the Extension Service, which has collaborated very closely with the School of Agriculture, is without a home.

In order to facilitate the coordination between the Extension Service and the School of Agriculture, President Eisenhower has requested $460,000 in his annual budget to connect the wings of Waters Hall.

Below, we have the wings of Waters Hall on either side of the Livestock Judging Pavilion as they appeared after completion in 1923. Above, we have the suggested new Waters Hall —combined home of the School of Agriculture and the Extension Service.

Waters Hall is named in honor of H. J. Waters, President of the College from 1909 to 1917.



Book Review

Tobacco, Its Production, Processing and Consumption

For 20-odd years Prof. R. J. Barnett has been chairman of the editorial committee of the agricultural experiment station. He is the author of some 30 technical articles, bulletins, and circulars.

An alumnus of Kansas State College, Professor Barnett has been with the hort department since 1920 and he acted as head of the department from 1930 to 1938. He is now professor of horticulture, emeritus.

Professor Barnett prepared the accompanying book report especially for the Ag Student.

The production of tobacco. W. W. Garner, Ph. D. Philadelphia - Toronto: The Blakiston Company, 1946. Pp. XIII + 516. (Illustrated.) $4.50.

In "The Production of Tobacco", Doctor Garner has written a book which is understandable by and useful to everyone involved in the production and processing of this important crop. It should be required reading for all college students of agriculture, especially those majoring in soils, crops, or horticulture. The author is eminently qualified to write on this crop due to his work with it since 1908 in the U. S. Department of Agriculture. His name is familiar to botanists and agronomists because of his pioneer work, with H. A. Allard, on the photoperiodism of plants.

The style of the writing makes this book interesting reading for both students of the subject and the "ultimate consumer" of the product.

The text of the book is divided into three parts and these into 23 chapters. Part I, only 56 pages, is entitled The Tobacco Industry and treats of the plant, its history, botany, and the distribution of its production in the United States. Part II takes up growing, curing, and marketing the crop. It covers 245 pages. Varieties, soils, culture, curing, grading, marketing, and pests are among the important topics discussed. Part III includes the physiology, chemistry, and genetics of tobacco. It is 183 pages in length. About 25 pages of this third part constitutes a chapter on tobacco manufacture.

The typography of this book is in every way excellent. The text sometimes seems to lack concreteness, due no doubt to lack of research, but certainly this book is a highly valuable addition to agronomic texts.

James Nielson of Marysville, Harold Riley of Holton, and Robert Flipse of Oakley were named to Phi Kappa Phi in the mid-year election.

The Last Word

Editorial Comment

Paths Threaten Campus Beauty

With the swollen enrollment on the campus have come many problems. The answer to most of these is too involved for student action. The paths across the campus, however, constitute a problem that can be solved only by students.

The fact that we have the answer to this problem in no way minimizes its seriousness. While all students appreciate the fact that these paths are marring the appearance of our campus lawns, Ags further realize that from these paths small ditches may arise. Several of these lawns have been seeded within the last few years, and the sod is not too well established. Erosion, once started, will be difficult to control.

Fittingly enough, when the campaign to keep students off the grass was initiated, the man named to head the drive was a representative of the School of Agriculture—Prof. L. R. Quinlan. While the record of the Ags in ignoring sidewalks is probably no worse than that of other students—we hope it is better—each of us 950 Ags needs to support Professor Quinlan's effort. Let's influence others against using the campus paths. Above all, let's stay on the walks ourselves.

—J. T.

Dust Off the Cameras, Ags

Ags interested in photography are invited to participate in the 1947 Ag Student Photo Contest. The contest opens with publication of this issue and closes noon, April 19, 1947. Students interested in photography as a hobby or as a skill to be used in future professional work will appreciate the opportunity to enter an amateur contest which offers enticing cash-merchandise awards for winners in the competition.

The following stores in Aggieville and downtown Manhattan have contributed merchandise awards: Guerrant's Photo Shop, Wright's Appliance Store, Palace Drug Store, Wolf's Camera and Sports Mart, and Burk Photo Service. These materials will be supplemented by the Ag Student to make the following list of prizes.

First place—$5 cash and $10 in merchandise at Wright's Appliance Store.

Second place—$3 cash and $7.50 value 8x10 gold toned enlargement of placing print in salon mounting by Guerrant's Photo Shop.

Third place—$2 cash award and $5 merchandise at the Palace Drug Store in Aggieville.

Fourth place—$2 cash award and one 8x10 Ansco color print, any transparency, by Burk Photo Service.

Fifth place—$2 cash award, six rolls of film and book "Photographic Lenses and Shutters", from Wolf's Camera and Sports Mart.

Sixth place—$1 cash award.

RULES

1. Contest is limited to the students enrolled in the School of Agriculture. Members of the staff of the Kansas Agricultural Student will not participate in the contest.
2. Pictures submitted must have been taken by the student submitting the prints; however, it is not necessary that the developing and enlarging be done by the entrant. Each contestant may enter four prints.
3. Judging will be based on subject material, composition, and technical quality; judges' decisions will be final. The contest will be judged by a faculty committee selected for their interest and ability in photography.
4. Subject material may be selected from the following:
   a. Agricultural scenics
   b. Farm animals, crops, or activities
   c. Campus shots
   d. Agricultural research
5. Prints must be 5x7 inches or larger on single weight, glossy paper.
   Back of print must carry the following information:
   a. Name of entrant
   b. Name of camera
   c. Type of camera—folding, view, box, press, or 35mm.
   d. Approximate date the picture was taken
   e. Statement telling whether the print was made personally or by a commercial finisher.
6. Prizes will be offered for the first six placings. No person will be permitted to receive more than one prize.
7. Prints must be submitted to the Ag Student office, East Waters Hall, Room 105, not later than noon, April 19, 1947. All prints become the property of the Ag Student.