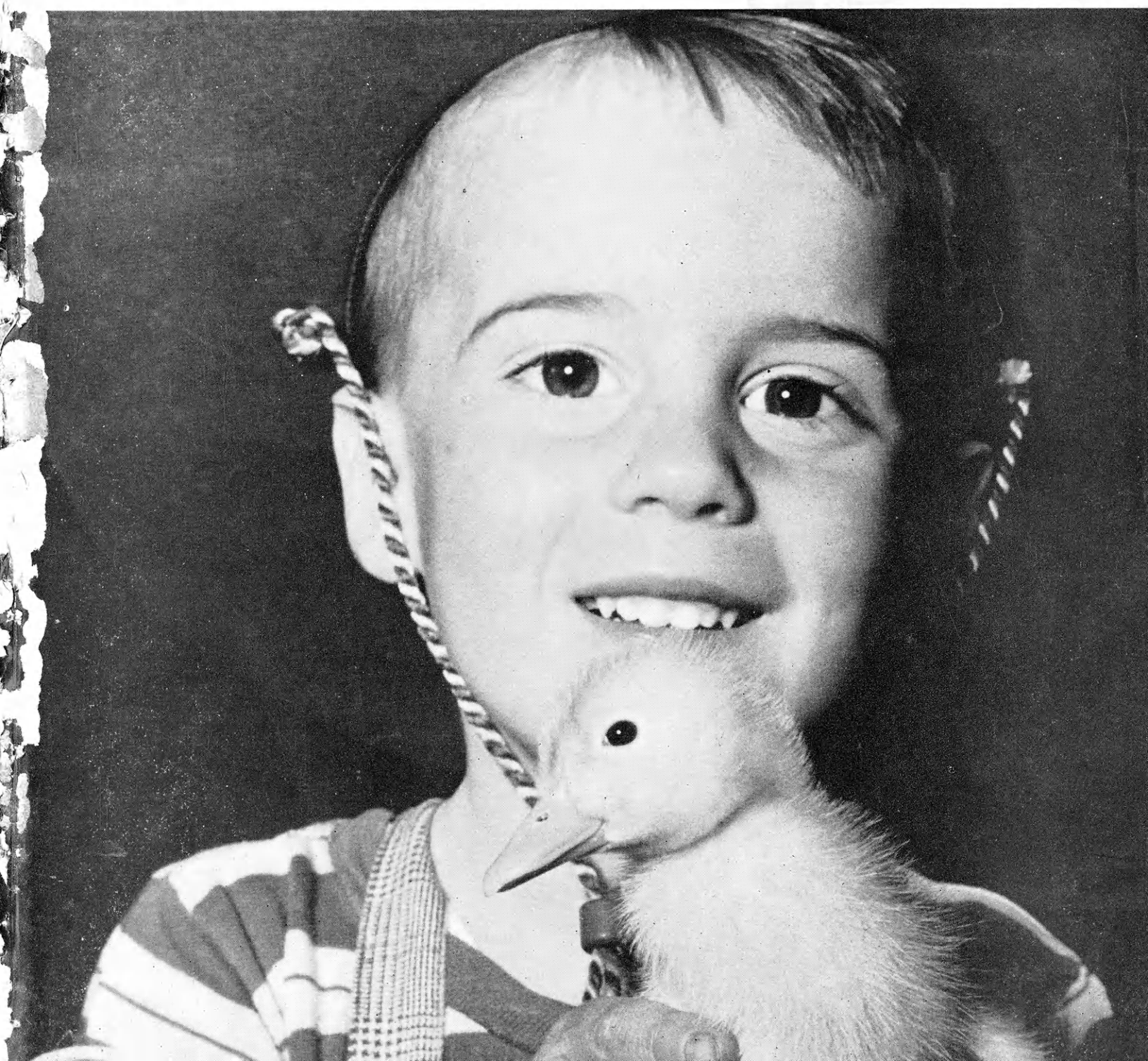
THE KANSAS Agricultural Student

MAY, 1950



Public Opinion—
NOTHING IS STRONGER
...given the facts
NOTHING IS WISER

On Bigness

We are today a much larger country than we were short years ago. Comparing 1930 with 1948, Federal government expenditures have grown from $3.6 billion to $40 billion. National income has grown from $75 billion to $226 billion.

* * *

Is small business holding its own with big business in this growth? Or being driven from the American scene, concentrating business into a few hands?

* * *

In 1900, there were 15 firms for each 1000 people. Today there are 18. (Apparently small business is not losing ground.) The average firm has the same number of employees as at the beginning of the century.

* * *

According to a survey by the Federal Reserve Board covering approximately 2,000 concerns, during the war, the small and medium-sized firms in total increased their profits, assets and net worth faster than did large concerns. In 1948, there were in operation one-third more business units than in 1944.

* * *

Can new businesses crowd in and climb to the top? In 1935, to take the electrical business as an example, only 153 companies did over $500,000 business. By 1947, there were over 342 companies with sales in that higher bracket.

* * *

General Electric, in spite of its growth during the past 20 years, has only been able to keep pace with the growth of industry and of the country. We estimate that our percentage of production in the electrical industry was about 23% in 1930, 25% in 1940, and is today approximately 24%.

* * *

It is the job of all business and all industry to supply the ever-expanding needs of people. Big jobs require big tools. No company and no industry in the American economy is yet big enough to bring enough goods to enough people.

You can put your confidence in—

GENERAL ELECTRIC

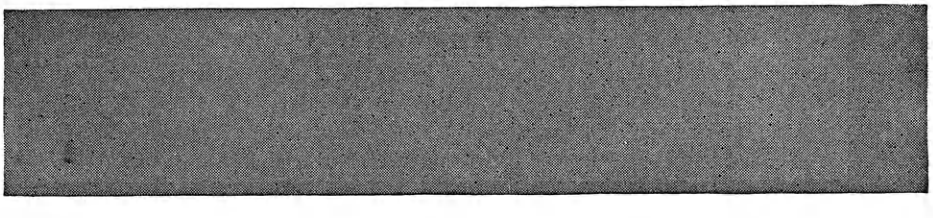
THE KANSAS
Agricultural Student
KANSAS STATE COLLEGE
OF AGRICULTURE AND APPLIED SCIENCE
MANHATTAN, KANSAS

VOL. XXVII | MAY, 1950 | No. 4

Contents

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

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



On the Cover . . . Donald, Duck Win Ag Photo Contest

Cover picture for this issue is the winner of the annual Ag Student Photo contest. Second and third place winners are reproduced later in the magazine.

The winning picture was taken by C. M. Webster using a Ciroflex E. Webster is a Soil Conservation junior from Kansas City, Mo.

Other winners in the contest in order of placing are Donald Hoff, using a Kodak Anastar; William Willis using a Kodak Duo 620; Mary MacCaskill, Don Wilson and again William Willis.

Joining the Ag Student magazine in furnishing prizes for the contest were the Campus Book store, Palace Drug store, Burk Photo Service, Manhattan Camera Shop, Cowan Camera and Sport Mart, and Guerrant's Photo Shop.

All sizes and types of cameras were used in the contest. They ran from a small box camera to the large Speed Graphic. Practically all were good shots. To all who are interested, it is time to begin to think of next year's contest.—D. W.

Night-club Habitu'e (staggering out of a dive at 4 a. m.): Good Lord, what is that strange odor around here?

Doorman: That, Sir, is fresh air.

Purchaser (whose newly-acquired horse has walked into posts and ditches as though they were non-existent): Amos, that horse you sold me is blind.

Vendor: No, Hosea, he can see all right. He just naturally don't give a damn.

"Farm products cost more than they used to."

"Yes," replied Bill Perkins. "When a farmer is supposed to know the botanical name of what he's raisin' and the zoological name of the insect that eats it, and the chemical name of what will kill it, somebody's got to pay."

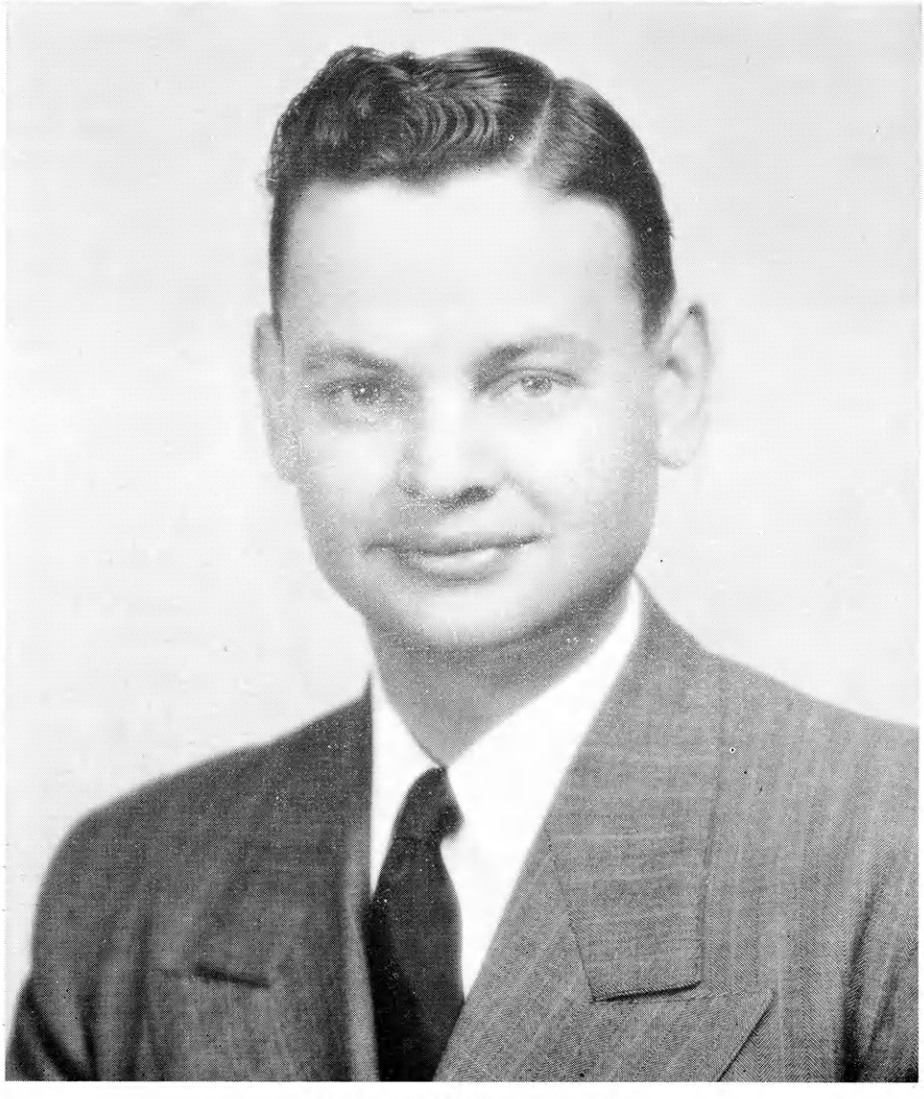
"All that I am or to be I owe to Mother."

"Why don't you send her two bits and settle the account."

Plays Baseball Too

Livestock Judging Coach Provides Spark As Teams Win at Royal and International

Good Considers Success Measured by Love for Work and Intelligence



Don Good, judging team instructor.

By CLYDE WAYLAN

Though oral reasons cause wobbling knees and shivering levis, the livestock judging classes attract more boys than a picnic on a summer evening. Dr. A. D. Weber's importation in 1947 of Don Good, a graduate of Ohio State, has been what has proven to be a royal flush for the Animal Husbandry department at Kansas State college in regard to judging teams.

Born in Van Wert county, Ohio, October 8, 1921, Don was the fourth child in a family of five, four boys and one girl. His start with livestock was in 4-H Club work when he was ten years of age. Don was also active in school affairs, being president of the F. F. A. in his Junior year and president of his high school graduating class. He also served as president of the 4-H club. Don played four years of baseball while in high school as catcher and was a member of the American Legion team that won second honors in state championship play offs.

In 1939 his F. F. A. project was a sow and litter which grew into a ton litter and made Don a permanent member of the Ohio Ton Litter Club. The sow, a Spotted Poland China, farrowed 13 pigs and raised 12.

Don started to Ohio State in January, 1940. His ambition upon entering college was to be a member of the livestock judging team. He worked his way through school by working and living at the livestock barns. This he considers an important part of his education while at Ohio State. He was a member of the Saddle and Sirloin Club, a member of the Junior Livestock Judging team that participated in Baltimore, Maryland, in 1942.

During the various summers, Don spent his time showing cattle for French Broad Farms, C. B. Teegardin and Sons, and also helped exhibit livestock for Ohio State.

At the Little International, a show patterned after the International and serving the same purpose as the Little American Royal, Don won horse showmanship, beef showmanship and was second one year in swine.

Early in 1943 Don entered the Army. He served in the Infantry in the European Theatre and also in the Asiatic Pacific Theatre. He was discharged in March 1946, and during the same month returned to Ohio State to complete his studies.

In the fall of 1946 Don was a member of the livestock judging team and at the American Royal was high man on horses and high man in all classes. At Chicago, in the same year, he was a member of the winning Ohio team and was high man in beef cattle,

(Continued on page 26)

Saves Arguments

Claydon Devises Color Test

Cream Grading Can Now Be Done Quickly and Accurately

By STAN CREEK

The young inspector from the health department had troubles on his hands. Out to check the cream buying stations, he had run into the almost inevitable argument with the farmer who insisted he had a better grade of cream than the inspector allowed.

"I been raisin' cows and milkin' and sellin' cream for better'n forty years now!" the big man in blue denim said. "I know cream a lot better than you armchair boys in health department do. This cream is top grade and I want top price for it!"

Recalling that incident, Dr. T. J. Claydon, researcher now with the K-State dairy department, said that he felt like shriveling up under the big man's glare. Not especially big to begin with, Dr. Claydon said it took all the courage he had to insist the farmer's cream was No. 2 grade, not good enough for top price.

The scientist still remembers the way the big man wheeled and stomped out the door, swinging his cream bucket by his side. Quite likely the farmer sold it for top cream at some other station where the buyer did not check too closely and there was no health department inspector to irk him, Claydon said.

Dr. Claydon had tested thousands of samples while obtaining his master's and doctor's degrees and those tests taught him the difference in the grades. The only field test he had, however, was the odor and flavor of the cream in question.

Flavor and odor are still the standard used for grading cream. Scientists call it the "organoleptic method" but it always goes back to the ability of the buyer or inspector to taste and smell correctly. There's no visible evidence to support a grader such as there is with the Babcock test for butterfat. And one grader will often interpret a flavor completely different than another grader.

As a health department inspector, Dr. Claydon ran into many such arguments about cream quality. Though several years ago, that was the spur that set him out to find some simple accurate, *visible* method for grading cream.

Of course dairymen have had laboratory methods of grading cream for years—difficult tests that require expensive equipment and trained technicians and lots of time. Ordinary cream buyers cannot afford to grade like that, nor do they have the time.

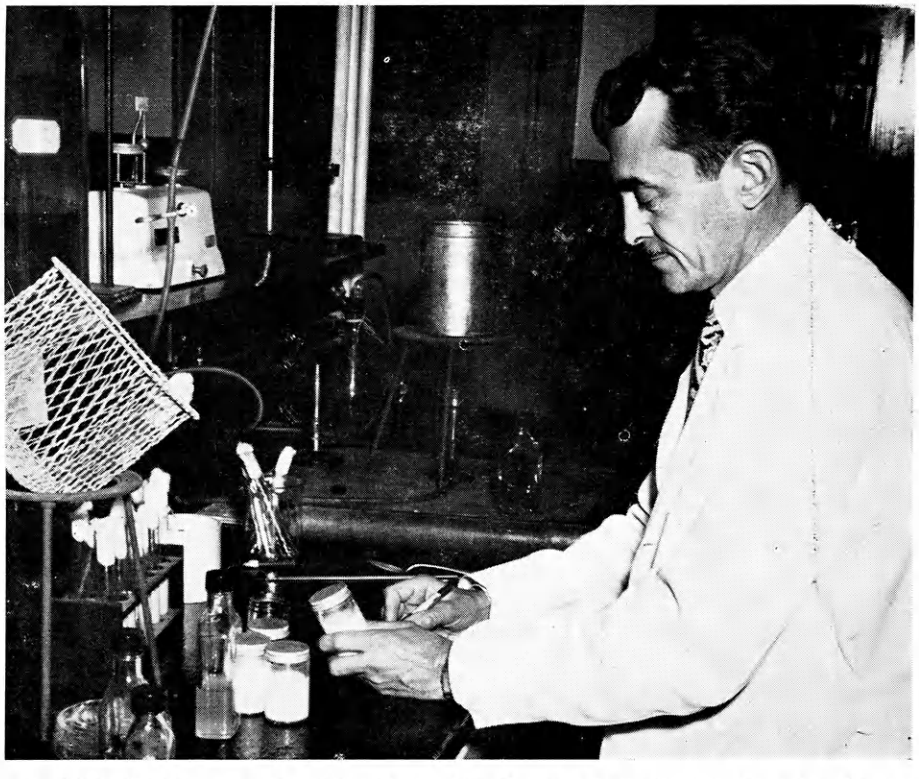
Entire text books are devoted to the study of cream—one of nature's most complicated products — but roughly, tricky combinations of fats, lactose, albumin, globulin, organic acids and other ingredients make it up.

And these combinations change constantly, even when refrigerated—though that does slow down the change. Eventually it turns so sour that it can't be used. The point is—and most folks never stop to realize it—there are so many degrees or shades of deterioration.

After years of research, Dr. Claydon devised a simple accurate test that quickly shows just how much that cream has deteriorated. It's based on color and has been named the Claydon Colorimetric test in honor of its originator.

To a given sample of cream are added certain chemicals—sodium hydroxide and a crytal violet dye. This turns the sample to one of several shades of lavender. The darker the color, the worse the cream. Dr. Claydon has prepared a color chart to match with the sample. By matching colors, the degree of deterioration (i.e., the grade) of the cream may be easily determined.

(Continued on page 22)



Dr. T. J. Claydon, research specialist in the dairy department, studies several samples of cream in the dairy lab. He has developed a new test for grading cream that is based on color. The new test is intended to replace the old taste-and-smell method now used almost universally by cream buyers.

Provides Better Bulls

Artificial Insemination Is Now In Third Month of Operation

By Gordon Nelson

Artificial breeding of dairy cattle in Kansas has become a reality. In March 1950, in its first month of operation, the Kansas Artificial Breeding Service Unit, better known as KABSU, served 1,672 cows according to Mr. Earl L. Farmer, director of the operation.

At present there are 37 county wide associations, serving 5,000 farmers with 33,000 cattle. By January 1, 1951, it is expected that there will be 50 associations with 7,500 members and a total of 50,000 cows.

The program in Kansas is under the direction of Earl L. Farmer, a graduate of Missouri University. Mr. Farmer also worked with a program in Oklahoma similar to the program in Kansas. Harry W. Mudge and Harold J. Seymour, both graduates of Kansas State college, have been hired as the technicians for the stud.

KABSU is set up as a state wide federated organization with all the bulls to be kept at one stud. Plans for the organization and operation were formulated by the guiding committee. The members of the committee were faculty members from the Dairy Husbandry Department, the Extension Service, and the School of Veterinary Medicine at Kansas State college.

The semen is shipped to the local associations which are set up on a county wide basis. They are independent self-supporting organizations and each hires its own inseminator. Credit for organizing the associations goes to the Extension Service of the college, the county agents, and the local farmer organizations.

Financial support was made available by a 60,000 dollar grant from the state legislature, which became available on July 1, 1949, and by the individual initiation fees of the members. It is anticipated that the organization will become self-supporting and will not need any additional grants of money from the state.

Because Kansas was one of the last states to initiate an artificial breeding program, it has been able to profit considerably from the mistakes and experiences of the other states. It has also been unique and outstanding in many respects and has a better chance of surviving than most studs had when they first started. Never before has a stud started with as many

(Continued on page 27)

Winner of second place in the Ag Student photo contest. Donald Hoff took this picture with a Kodak Anastar.

First Feeders' Day Told of Silage Use

By Melvin Bunge

This year marked the 38th meeting for Kansas State college's Livestock Feeders Day. The annual event started May 2, 1913, with W. M. Jardine, Dean of Agriculture and Director of Kansas Agricultural Experiment Station, presiding.

At the time of the first meeting several erroneous traditions existed relative to silage as a feed for livestock. The experiments discussed at that first Feeders day were planned to bring the attention of Kansas cattlemen to the value of silage as a feed besides overcoming some of the existing objections to its use.

The experiments reported at the first Feeders day involved use of five lots of steer calves on corn, kafir, and sweet sorghum silages. These rations were compared with basal rations which contained no silage.

It was announced that all the calves would be grazed together during the summer of 1913 and the effect of the different winter rations upon the summer gains of these calves, now yearlings, would be announced later.

The story of the first Feeders Day in the May 10, 1913, issue of the Industrialist contains the following interesting statement: "The calves were sold to D. D. Casement of Manhattan and will be grazed this summer in the same pasture and weighed in lots as fed at the close of the grazing season. This should give some valuable information regarding the effect of silage wintering on the next summer's grazing—a question which seems to hold up a great many farmers, when considering the silo as a part of their equipment for beef production."

They found that the gains of these cattle during the following grazing season varied inversely in proportion to winter gains. There was no significant difference in the total winter and summer gains of these five lots of cattle.

The results at the first K-State Feeders Day created a great deal of interest among Kansas cattlemen and

(Continued on page 30)

Can't Afford To

Norman Sheets, Ag Administration Junior Tells Why He Will Not Return to Farming

Impossible To Determine Outcome Since Farming Highly Organized

By NORMAN SHEETS

Why won't I go back to the farm when I receive my degree in agriculture? My answer, and that of many of my classmates, could be given in four words—I can't afford to.

Life on the farm would be my choice. I was reared on the farm, and I know the ups and downs in the business. I know the despair of drouth, hail and low prices, but I also know the satisfaction of seeing good crops grow and harvested. And more, I know no work that equals the farmer's in freedom and self dependency.

Since I have been in school and studied various phases of agriculture, I have thought of practices of farmers I know.

"This could be done," I say to myself. "If I had that farm I think I could make it pay."

But, since financing a farm would depend entirely on me, statistics and common sense tell me I can't afford to buy a farm this year, next year or probably the next.

Farming is no longer the means of livelihood for anyone who takes such a whim. More and more, it is becoming a highly organized business and those who go into a farming enterprise do not operate on a shoe string.

If I had the money to buy a self-sustaining farm, which I haven't, I would still have to stock it with the kind of livestock that would pay and to buy machinery to operate it. If I am to invest my own money and borrow a great deal of additional money, I want reasonable assurance that the enterprise will succeed providing I operate efficiently.

Naturally, then, I have studied farm real estate prices.

"Aren't prices abnormally high now, and aren't they likely to drop?" I ask. "Will they drop as low as they were before the war, and, if they did, how would I pay for high priced land with low priced products?"

Statistics show that from 1942 to 1948, land prices advanced on the average of one percent per month. In other words, in 1948, they were approximately 75 percent above those of the early part of 1942. Only in recent months has there been any sign of a dropping off in farm land value.

Looking into the historical background of the Kansas situation, I find the long-run (35-year) average is represented by an index of 103. The high point occurred in 1920, when a high of 48 points above the average was reached. The low was in 1933, when a low of 70 occurred. By 1947, a level approximately 37 points above the long-run average was reached.

Although it is not necessarily logical to assume history will repeat itself and prices will drop to the level of the early thirties, it is logical to assume that some recession in land prices is likely where advances have carried prices beyond a level justified by long-run conditions.

As an example, net income on land in a certain area of Kansas was near $15 per acre in 1946 compared with a long-run average income of near $5 per acre.

In consideration of these circumstances, I have determined to delay my hopes for owning a farm until prices become more stable. In the meantime, I intend to try to find a job that will teach me more about farming and to save money toward realization of my farming plans.

Clay Center again this year ran away with all the honors in the annual vocational ag contest which is held in conjunction with the FFA convention. This is the winning farm mechanics team. Front row, left to right, Harvey Benson and Louie Charpie. Back row, Ray Morrison, instructor, and Fred Case, alternate. Clay Center high school was top school in the contest last year also.

Dean of Agriculture R. I. Throckmorton interviews Phil Hedman, a graduating senior. The Dean has a personal interview with all seniors before they graduate.

It Takes Hard Work

Kansans Are Prominent in Producing New High-Yielding Wheat Varieties

By EDWARD L. ROBINS

Many changes have been made in Kansas' agriculture since white man settled this area. Corn and beans have become important and wheat now holds the throne.

To agriculture, the changes in machinery, labor and crops are no more important than the improvement of the crops produced. The improvement of crops has come from a long and tedious process of introduction, hybridization, and selection for which many Kansas men are quite prominent.

Wheat was brought to Kansas in 1830 by a colony of Russian Mennonites. Turkey was the variety they introduced. This variety, a hard winter wheat, proved to be adapted to Kansas climate and soil conditions. For years it was the only successful variety planted. Then came more introductions.

Outstanding for his introduction of the Kharkov, Crimean, and Kubanka wheat varieties, is a Kansan, Mark A. Carleton, Cloud county, Kansas. He introduced these varieties in the early 1900's and put on a campaign to get millers to improve their equipment so they could grind these hard varieties. Kubanka, a durum wheat, was not important to Kansans but was very valuable to the northern wheat areas. Until 1918, Kharkov, Crimean and Turkey led Kansas to a high position in wheat production. New wheats had to come, however, as rust was becoming a problem.

H. F. Roberts, another Kansas man, made a selection from Crimean. This variety he called Kanred. Tests by Prof. L. E. Melchers, KSC plant pathologist, showed this variety to be highly resistant to the known races of stem rust prevalent in the state in 1916. Kanred thus proved very valuable to the plant breeder. According to Professor Melchers, it has no doubt contributed more as a parent of other rust resistant varieties than any other wheat.

Another Kansan, Dr. J. H. Parker, produced Tenmarq and Quivira. Tenmarq resulted from a cross between Marquis, a spring wheat, and P1066 a selection from Turkey. These wheats were released to the farmer in the early 1930's and soon became popular varieties.

Other plant breeders affiliated with KSC are Dr. L. P. Reitz, A. P. Swanson and E. G. Heyne. These men are responsible for breeding and selecting the "Three Good Indians", Wichita, Comanche and Pawnee. These three varieties are the primary hard red winter wheats produced in this country.

In a tribute to Kansas plant breeders, one must not forget the contribution made by individuals not

(Continued on page 36)

Profs Test Effects Of Pasture Burning

By DALE JOHNSON

For many years the burning of pastures in Kansas has been a common practice. Possibly the early settlers got the idea from the Indians who burned off vast areas of the prairies in order to attract game animals by the early growth induced by the burning. Even with this long history of pasture burning, very little is known of the effects.

A study of these effects is the subject of an experiment being conducted by Kling L. Anderson, professor of agronomy, and Edgar F. Smith, associate professor of animal husbandry. They will attempt to determine the effect of burning pastures on cattle gains, condition and stocking rate. In addition they will study the effect on vegetation, its utilization and the effect on the soil.

This is not the first pasture burning experiment at Kansas State. Back in 1918 work was begun on the problem and continued at intervals into the '30's. In a bulletin titled "The Effect of Burning on Kansas Bluestem Pastures" (Kansas State Agricultural Experiment Station, Technical Bulletin 38, by A. E. Aldous, 1934) Aldous states that burning promotes earlier growth and that some weeds may be controlled.

Aldous further explains that many persons contend that the coarse dead grass must be removed to prevent patchy grazing which often leaves the ridges overgrazed and the slopes undergrazed. There is much controversy, however, regarding the final benefits and the detrimental effects. The effect on efficiency of utilization has never been established.

Three 45 acre plots will be used for the current tests. These are located on the Donaldson pasture which the college obtained in 1947. The first plot was burned March 20, the second plot was scheduled to be burned in mid-April and the third plot late in April. Other college pastures are to be used as checks against the results of the experiments.

According to Prof. Anderson, the pastures will be analyzed before they

(Continued on page 21)

Hormone Spray on Tomatoes Produces Favorable Results

By JOHNNIE FEIGHT

Hormone spraying for field-grown tomatoes may soon become as common as the age-old practice of "feeding" poison to potato bugs—which the entomologists say are really Colorado potato beetles.

One of the main functions of hormones, in this case, is to overcome the delayed set of outdoor tomatoes during cold, cloudy weather. Since the summer of 1948 when S. H. Wittwer of Michigan State college, a pioneer in this work, made his first tests, extensive testing of the chemical has produced favorable results in

(Continued on page 25)

June 12-13-14

Vocational Ag Teachers Will Have Chance To Learn New Developments

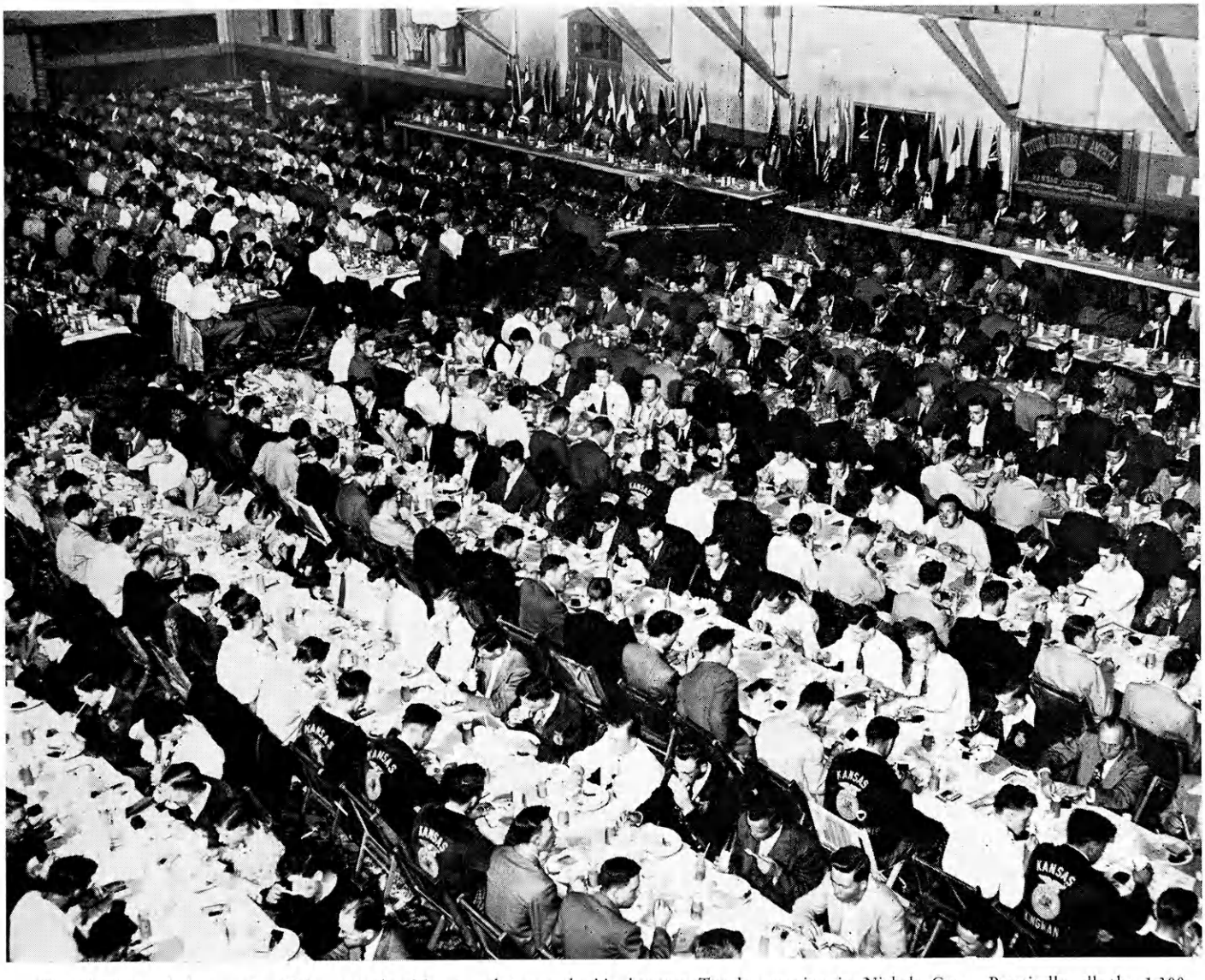
By HAROLD EVERSMEYER

Vocational agriculture and veterans-on-the-farm training instructors will have a chance to learn additional skills and "brush-up" on new developments in the field of agriculture and agricultural engineering through courses offered by Kansas State college, June 12-13-14.

These courses are offered for teachers in the field to enable them to keep abreast of new and scientific developments in the various phases of agriculture and agricultural engineering. On the instruction staff for this session are members of the Kansas State college faculty from the School of Agriculture, Division of Extension, School of Arts and Sciences and School of Engineering and Architecture. Other government and commercial agencies, the State Soil Conservation Service, The Lincoln Welding Company, The Portland Cement Association and Doane Agricultural Service, Inc., are supplying instructors and instructional materials for use in the courses.

Soils and crops classes will be

(Continued on page 26)



The highlight of the two-day FFA convention May 1 and 2 was the big banquet Tuesday evening in Nichols Gym. Practically all the 1,300 boys who attended the session crowded into the gym that night for the dinner prepared under the direction of Prof. Davy Mackintosh. The announcement of the winning teams came after eating. Newly elected officers of the FFA and college authorities sat at the speaker's table beneath the flags and FFA banner. President Eisenhower and Dean R. I. Throckmorton sat just to the left of center aisle. The boys were served hot beef sandwiches, potato salad, ice cream and cake, chocolate and white milk.

Ridges Stop Blowing

Dust Storms Cause Farmers To Take Soil Erosion Measures

By JOHN FRITSCHEN

Are we heading towards another dust bowl? Indications this spring are certainly definite reminders of the dirty 30's. A glance at the headlines will tell you that many localities in Kansas are now experiencing severe dust storms. This alarming situation is causing many agriculturists and farmers to take progressive action.

What emergency measures should be taken to stop the soil from blowing? Mr. L. C. Aicher of the Fort Hays Experiment station recommends deep listing to be the best and quickest way to stop blowing. Solid listing isn't necessary unless blowing is very bad. Listing furrows two rods apart may check blowing if done at the right time. If the blowing continues, the space between the furrows should be listed in.

Listing should be done diagonally to the wind and if the wind shifts from one direction to another checker board listing should be performed, Mr. Aicher stated.

Shallow emergency tillage may be satisfactory if the blowing isn't too severe. This may be accomplished by using a duckfoot cultivator or some type of field chisel. Whatever implement is used, it is necessary that subsoil moisture is reached. This aggregated or cloddy soil should be brought to the surface to help stop blowing soil.

Any implement used must leave ridges. The blowing wind itself doesn't do the damage, but it is the particles which are picked up by the wind and which act as abrasive material. The cutting power of this process will grind the surface soil into fine particles, in turn readily picked up by the wind. Ground winds may be reduced by establishing ridges which act as wind breaks and keep the ground winds from gaining velocity within the narrow strips between furrows.

Soil erosion from unprotected land will probably be worse than during the 30's, if the present conditions continue. Much of the soil that blew before has not recovered from the last damage. A large part of the organic matter and fine soil particles were blown away and granular structure of the soil was broken down and hasn't been restored.

Dust storms do not always occur because of drought and high winds. Soils that are protected with ground cover will not blow since loose dirt is necessary to make dust. Few pastures will blow unless they are overgrazed. Growing plants or dead plants also protect the soil and hold it together.

An important point to remember is that the time to get your land ready for a drought is when you have moisture. Cropland should have some type of cover on it at all times. Stubble, straw or stalks will make

(Continued on page 20)

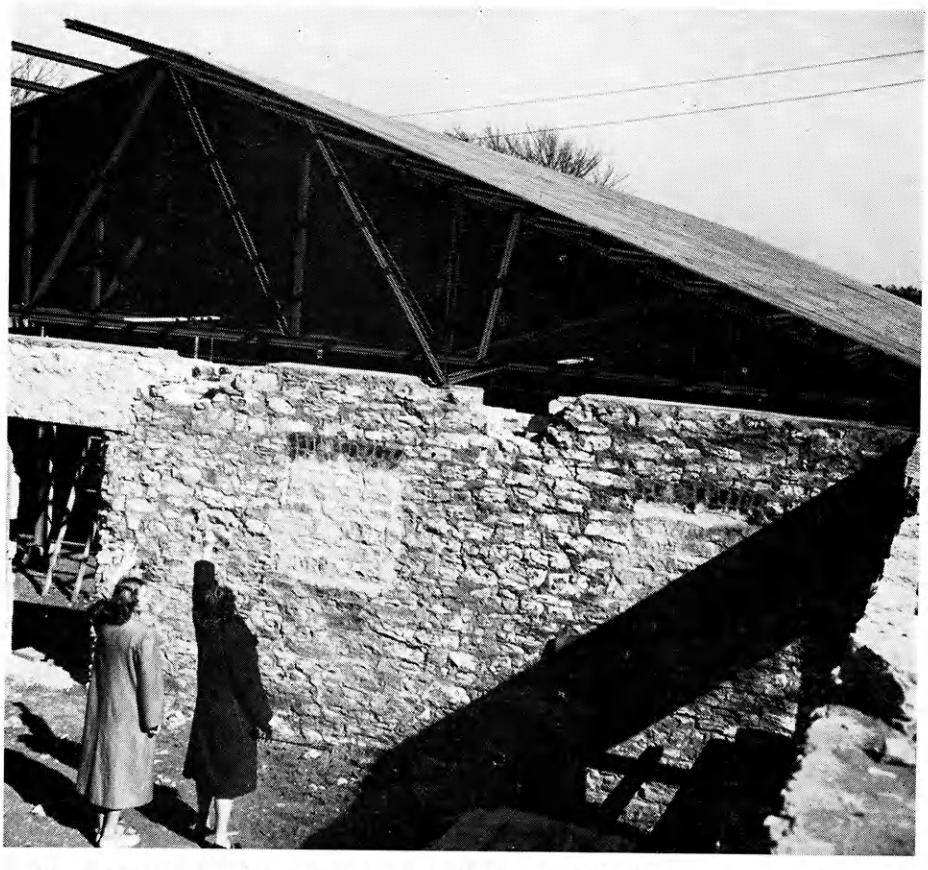
Insect Pollenization Vital for Seed Yield

By WAYNE JOHNSON

Profitable agriculture, at the present time, depends upon pollination. The pollination of legume flowers is as essential to the production of good seed crops as land preparation, cultivation, and favorable weather. Farmers can do something about all of these. Pollination should be arranged in order to have insects at hand to get a maximum set of seed when the crop will be in bloom. This practice pays because yields have been increased from two to five times their normal yield by it.

Without pollination, yields of seed crops are impossible, mainly because reproduction occurs only when pollen is carried or transferred from the stamens to the stigmas of the flowers. Wind will pollinate many of the small grain crops as wheat and oats, but insect pollination is necessary for legumes, fruits and many vegetables.

(Continued on page 24)



Two visitors inspect the construction details of the new artificial insemination bull barn west of the college. The barn is finished by this time and preparations are being made to shift the bulls from the Dairy pavilion stables where they have been temporarily quartered. The girls stand in what will become the lab and living quarters of the center. They point to the new style steel rafter construction that gives added structural strength to the barn. A picture of the finished barn appears on a following page.

Poultry Educators Produce Movie "The Good Egg"

By BILL JOHNSON

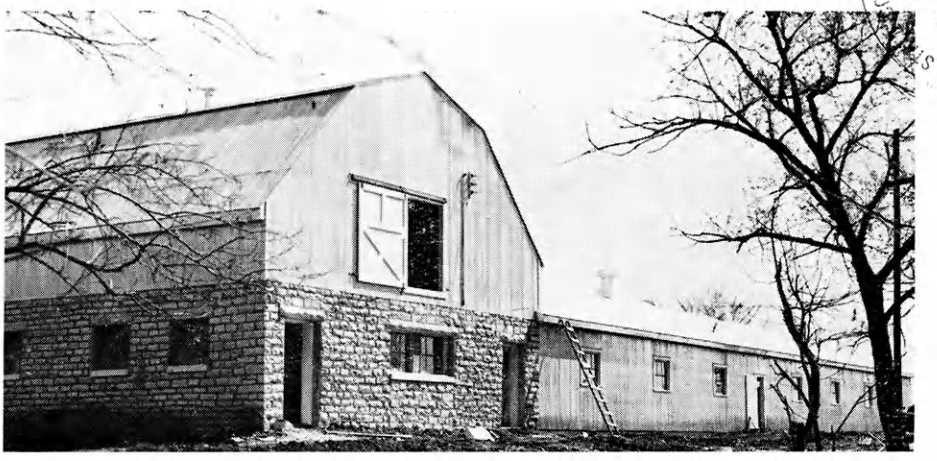
Here in Kansas the poultry experts are coping with a real man-sized problem. As agricultural progress keeps pace with that of other industries it is necessary that the poultry producers of Kansas stay abreast of the consequent re-employment of marketing ways and means.

During the last quarter century the changes in production efficiency and marketing methods have not been few. For instance, production per hen per year through better management practices has changed from 123 eggs to 186 eggs. Some diseases which a few years ago were major trouble makers are now so well under control that they are merely secondary considerations to today's poultrymen. Disease mortality, however, is still a major item never to be sullied by even the best managers. New diseases also show up. A few years ago Newcastle had no place in the poultryman's vocabulary. Such is not true today.

Despite this evolutionary progress the problem in Kansas is just as big or maybe bigger than ever. First, the modern housewife has become more quality minded. Second, Kansas produces a surplus of eggs and is located a considerable distance from the consuming markets.

Let's look at today's situation. In the past few years the average current-receipt price per dozen received by the Kansas farmer for eggs has been 10 to 12 cents below the average price per dozen received by farmers for the entire United States. This is essentially due to the fact that it takes longer for our produce to reach the consumer markets and if only mediocre quality is shipped in the first place, then a below average quality can be expected when the eggs are purchased two weeks later in some Eastern, Southern or Western city. Naturally if the eggs are of lower quality then the consumer could only expect to pay a lower price for them. Thus we have a vicious circle started. On the part of the farmers, "lower

(Continued on page 25)



Workmen are putting on the finishing touches to the new bull barn at the artificial insemination headquarters on the old Horticulture farm. About 30 bulls will be housed in the low one-story section on the right. Laboratory facilities and living quarters are within the stone work on the left. Hay will be stored in the loft. An exercise yard is to be on the right of the barn. Bulls will soon be moved into their new quarters.

More Wine Maybe?

Goal of Research Workers Is Development of New Grapes

By CHARLES DOUGHTY

Establishing new varieties that will rival or compete with California (vinifera) type grapes is the goal of research workers at the Kansas State experiment station. For many years the vinifera type grapes have been crowding the American species of grapes, grown here in the mid-west, out of the market.

An experimental test is being conducted at the Horticultural farm which will have some effect on this problem. The answer to this rather perplexing problem seems to be in selecting the so-called French-American hybrids. These new varieties are called French-American because they were first crossed by French hybridizers, from Vinifera or old world grapes, as they are sometimes called, and several species of the American type grapes.

Vinifera grapes of pure or near pure strain will not grow east of the Rocky Mountains because of adverse climatic conditions and certain insects and diseases. However, when these grapes are crossed with the natural hardiness of the native American grapes, we find quite a different story.

There are several American type species of grapes which will transmit disease resistance and hardiness to a hybrid offspring when crossed with a plant of the vinifera specie. By selection from a number of such offspring, desirable hybrids have been obtained, which retain some of the good qualities of the vinifera grapes and also the hardiness of the native American species.

The French system of naming a new hybrid is quite different from the American system. French hybrids have the name of the plant breeder and the seedling number which he attached to the plant when it was grown from seed. For example, Seibel-14596, or Baco-number 1. The Americans sometimes take the name of the experiment station which developed the hybrid and the seedling number, or if a private individual does the work it is named for a county, a favorite friend, or a town.

There are many of the hybridizers or plant breeders who have contributed to the long list of hybrids which are in existence today. Among these are Seibel, Couderc, Seyve-Villard, Munson, Hedrick and many others who work in the various experiment stations. The best known hybrids are those produced by Seibel, Seyve-Villard, Munson, Couderc, and several produced by the New York (Geneva) experiment station.

A wide variety of these hybrids have been set out this spring for test-

(Continued on page 32)

Important in Southwest

Capacity of Grazing Lands Is Raised by Sagebrush Control

By Bob Hurd

Sagebrush control is fast becoming an important phase in increasing the density of cattle per section of grazing land in southwestern Kansas.

Recent experiment results released by the division of forage crops of the Woodward Experiment station at Woodward, Oklahoma, show that the carrying capacity of grazing lands has been increased 60 to 70 percent by efficient brush control.

Various means of brush control have been tried, and some have proven satisfactory to a certain degree. However, no one method has yet developed that has yielded satisfactory results in all cases.

There are limiting factors involved in efficient sagebrush control that lend a pronounced effect upon the success of any given method or system of methods employed. Some of these are the topography of the grassland, moisture conditions prevailing, and adaptability of the area to brush control practices.

During the last ten years the trend toward sagebrush control has been nearly all of mechanical means. Of the various mechanical methods tried, mowing appears to be the most efficient. Several commercial concerns manufacture heavy duty power take-

(Continued on page 22)

Stomach Motion Is Studied with New Dairy Barn Unit

By Marvin Fansher

A new method for the graphic recording of rumen motility in the intact animal is being used in an experiment on the physiological effects of various roughages at the Kansas State college Dairy Barn. The experiment was started in December under the direction of Dr. F. C. Fountaine and a graduate student, Jim Knox.

Digestion in the ruminant stomach is an important process and is receiving widespread attention at the present time. Ruminant stomach motility plays an important part in digestion, synthesis, and absorption

(Continued on page 17)

The staff for the '50-'51 Ag Student will be: left to right (sitting), Dale Evans, associate editor; Delmar Hatesohl, editor; Bill Cady, assistant business manager; Jack Mings, assistant photographer; (standing) Prof. E. B. Macy, faculty adviser; Stan Creek, associate editor; Bob Wulfkuhle, business manager; Jim Mills, photographer.

Foreign Student Tells Of Middle-Eastern Ag

By KENNETH CARNES

"Agricultural practices in the Middle East are quite different than here in the United States," says Akbar Deededar, a native of Iran, now studying agriculture at Kansas State college.

Akbar, or "Joe", as he is known to his friends here on the campus, is in his early forties and has had considerable experience as a farm manager and stockman in Iran, formerly known as Persia. He has also traveled throughout the Middle East, including such countries as India, Pakistan, Balucstan, Iraq, Syria, Palestine, and Egypt.

Sheep raising is the most important agricultural enterprise in the Middle East, says Joe. Sheep are handled locally, or what corresponds to our farm flocks, and on the range.

The most widely practiced method is range grazing. Here the sheep are cared for by tribes, in flocks ranging from 100 to 5,000 head. A few large flocks number up to 20,000 head.

As the range is free and the climate quite variable, the flocks are constantly on the move, traveling about seven miles each day. They spend the winter in southern Iran and move northward until they reach northern Iran in early autumn, then they start moving south again. This practice keeps the flock on new grass and also escapes adverse weather.

Shepherds and their families have no permanent home, the tribes living in tents and moving with the flocks. Flocks travel about 2,500 miles each year, Joe estimates. This is the way sheep have been handled in that country for thousands of years.

Joe says that anthrax and smallpox are the chief diseases, so lambs are vaccinated against these. Weak and diseased sheep are culled out of the flock. As the flock moves constantly, danger of contagious diseases is very small.

Every town has a stockyard, and here the sheep are marketed as they move. They may be shipped by truck to larger cities.

Sheep are sheared in the spring and again in autumn. Shearing is done a

(Continued on page 28)

William Willis won third place in the Ag Student photo contest with this shot of a farmstead. It was taken with a Kodak Duo 620.

Take Your Pick

Curriculums in Ag School Offer Wide Variety of Courses

By HAROLD BROWN

Editor's Note: The following article is a continuation of a series about agricultural curriculums. Previous issues carried Agricultural Journalism, Agriculture, Floriculture and Ornamental Horticulture, Dairy Manufacturing, Milling, Agricultural Administration, Poultry Husbandry, Agronomy and Animal Husbandry.

CURRICULUM IN AGRICULTURAL EDUCATION

The teaching of agriculture in high schools of Kansas has become more popular through recent years. Students taking this curriculum at Kansas State college are specifically qualified for teaching jobs in Kansas high schools which are participating in federal Smith-Hughes and George-Deen funds. The curriculum is set up to meet the requirements for the Degree of B.S. in Agriculture and also meets the state requirements for the state certificate in teaching vocational agriculture.

Although the curriculum of ag education is specifically set up for teaching, many students taking this course return to the farm. There are a total of 17 hours in the agricultural engineering and shop departments and 18 hours of education courses included in the ag education curriculum.

Other courses in this curriculum include general agriculture courses in all departments and courses in other schools of the college. There is little chance for deviation in the four year course. Only six hours of electives are included in the 132 hours which are needed to graduate.

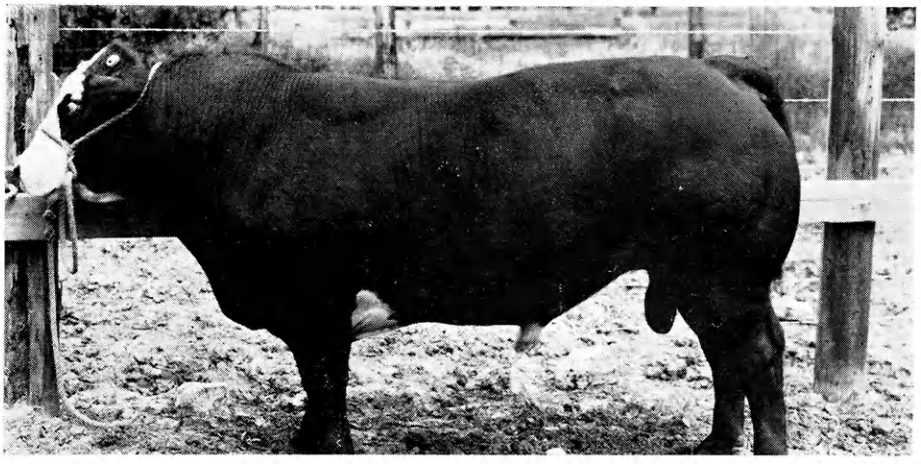
Most students enrolled in Agricultural Education at K-State are active members of the Agricultural Education Club. This year's president is Robert W. Anderson and the faculty sponsor is H. L. Kugler.

CURRICULUM IN SOIL CONSERVATION

One of the greatest problems of modern agriculture is that of proper soil conservation. Kansas State college, through experimentations and training of men well-versed in soil conservation practices, is among the leaders in this field.

The Curriculum in Soil Conservation is specifically planned to train students who plan to enter soil conservation work with federal, state or local agencies and for men who plan to do soil conservation work with public and private lending agencies. A degree in soil conservation is also valuable for the student who would like to follow county agent work,

(Continued on page 21)



Linebreeding has caused double muscling in the rump of this animal. The round is nearly twice the size of a normal individual.

Family Traits Not Good

Line Breeding Draws Qualities Undesired by Livestock Raisers

By Bill Schilling

With line breeding becoming more and more prominent among livestock raisers, there has been an increase in undesirable offsprings being born from these linebred individuals.

Linebreeding is a mild form of inbreeding. It consists of mating fathers to daughters, mothers to sons, or individuals within the same family or line. The members of a family naturally have many of the same genes. If two of the members are mated which do "carry" the same undesirable characters, a calf may be born which possesses the undesirable qualities. This is not always true, however, since the calf may inherit the "good" gene from either of its parents. About three of every four calves produced from such a mating will be normal.

Offsprings in some large herds of Holsteins have been born with what geneticists term the mule-footed character. These calves are born with no cleft in the hooves, but a solid hoof, much like a mule's foot, with only one bone extending down from the pastern instead of two.

The character is inherited as a recessive which means such an individual may be born from apparently normal parents. However, both parents must "carry" the gene. If mated to an animal which does not carry the mule-footed character, a mule-footed cow will produce normal individuals.

It is very difficult to eliminate this character, since individuals may only be carriers of the gene and show no apparent symptoms of it. The best way to prevent the character is to use a bull which does not carry it. To make sure the bull is a non-carrier he should be mated to cows which do show the poor character. If all the offsprings are normal the bull is not a carrier.

Another such character has been found in the Angus breed. It is known as the double muscle causing the rump of the animal to be thick and heavy, with the round being nearly twice the size of a normal individual. The loin is much larger also and gives the back a rounded appearance. The gene can be prevented in the same manner as described for the mule-footed character.

Dwarf cattle is another characteristic inherited in the same way. Some cases have been observed in the Hereford breed and a dwarf Angus bull has been brought to the animal husbandry barn. He stands only 30 inches high, weighs less than 250 pounds and is two years old. Despite the views of some breeders there is no economical reason to develop a breed of dwarf cattle. Killing ordinary beef calves at the same size would be just as reasonable.

Imperfect formation of the skin in embryonic development occurs in some instances of linebreeding. It causes parts of the animal's body to

(Continued on page 24)

THE GRADUATE'S PRAYER

Let your mind wander o'er your college career,
No doubt there are memories accompanied with fear.
There was English Proficiency, gad what a blast,
But all the papers were weighed—leaded paragraphs passed.

The semester starts and you plug for an "A".
As the season advances a "B" is okay,
Just a few more exams and the egg is hatched,
Oh well, a chicken's okay, if there's a grade point attached.

Semesters drag by with the speed of a snail,
Then finals rush in with the force of a gale.
Follow this routine for one cycle and you're bored,
After six or eight more you're in the psycho ward.

Remember the coeds—very few to be sure.
To relieve the strain from classes they are very poor cure.
Being small in number a decided advantage was theirs,
And when enrolled in an Ag class they received plenty of stares.

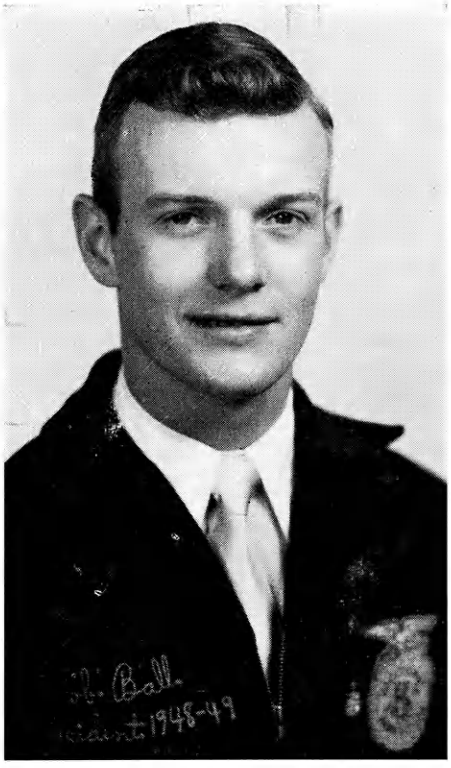
Week ends are as short as a juke box tune,
When Saturdays are cluttered with classes seven till noon,
But with Sundays free you can really go,
Maybe lavishly indulge, and see a class "B" show.

If you'll pardon the expression, "these rhymes are quite airy",
Though they sound of disgust it is quite the contrary.
This is indeed a large part of the fun,
Complaining what is and what "ain't" done.

If my luck holds out, and I'm gambling it will,
I will soon have swallowed the final pill.
In another semester I hope to see
A cap—a gown—and a B. S. Degree.

When I receive this treasured award
I'll keep, and cherish it as though

(Continued on page 36)



A member of the Garden City chapter of FFA, Robert Ball, won the public speaking contest at the FFA gathering on the campus of Kansas State College. Bob's topic was "Conservation and Patriotism". While here Bob was also elected president of the state chapter of FFA.

Kansas State Gets Experiment Station In Eastern Kansas

By PAUL MAYGINNES

Something new has been added! Kansas State College has at last acquired an Experiment station in Eastern Kansas. There has been a real need for one for many years but it was only recently that one was started.

An abandoned air field near Mound Valley, in Southeastern Kansas, was deeded to the college by the government for experimental work. The Legislature then appropriated $35,000 for development for the first year. An adjoining 40 acre farm with improvements was purchased, making a total of 283 acres in the Experiment station.

Mr. F. E. Davidson, former district supervisor for experimental fields in Southeast Kansas, was named Director of the Experiment station. Mr. Davidson has been connected with soil conservation and experi-

(Continued on page 32)

Graze Those Hogs

Pasture Plus Home Grown Alfalfa Yield Most Pork Profit in Kansas

By ALBERT F. SEWART

How to get the most from your investment, is a game that most of us play. Summer feeding spring pigs is no exception; we want the best results with minimum costs.

In Kansas, pork production from spring farrowed pigs ranks high. An important part is played by the use of pasture crops. This reduces the amount of concentrated feed required to produce the desired gain. Pasture feeding saves labor of harvesting and caring for pigs by allowing them to run on the alfalfa.

Because they grow rapidly, pigs need rations containing protein. Many times profits depend on proper feeding of protein.

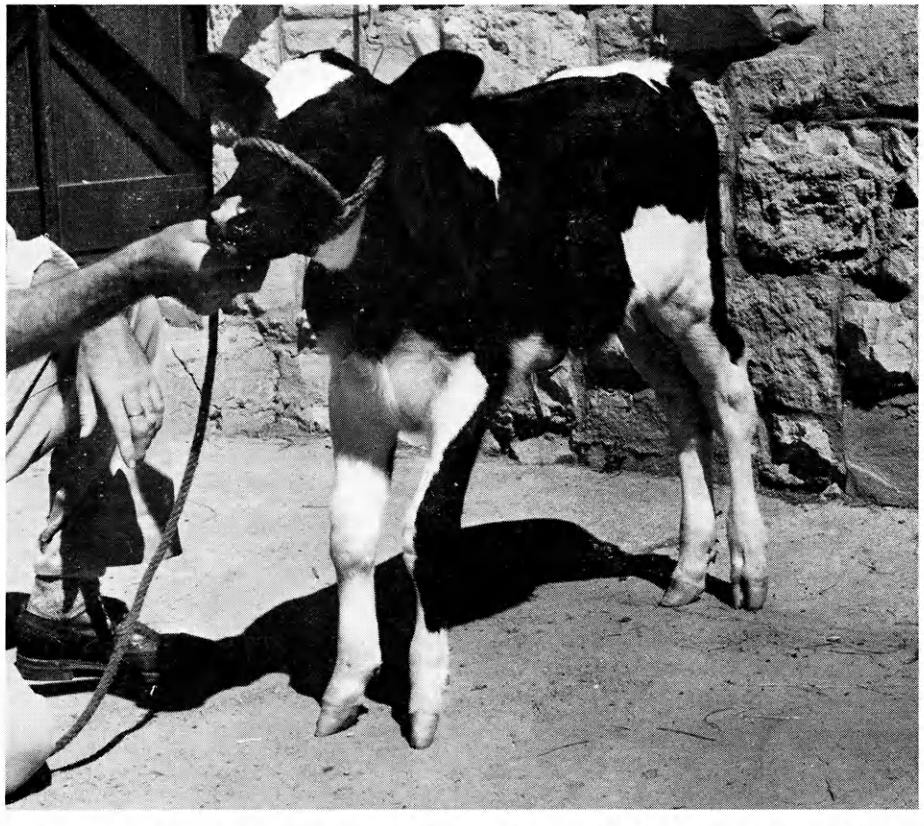
Previous tests at the Kansas Agricultural Experiment station proved that tankage or meat and bone scraps can be fed as a protein supplement with corn or other grains at a profit. However, these protein supplements are considered too expensive by many feeders.

Alfalfa meal has been used to a limited extent in mixtures as a protein supplement. It is an excellent source of protein and relatively cheap as compared to other vegetable protein sources, but it is more expensive than home grown alfalfa hay.

Feeders are quick to realize that if it were possible to use more alfalfa hay with protein supplement mixtures instead of the more expensive commercial alfalfa meal, it would cheapen the most expensive part of the fattening ration and help to reduce production costs.

Experiments were also conducted on feeding various sorghums to pigs on good pasture. Since alfalfa is the forage crop most commonly used in Kansas, the lots of pigs in this group of tests were each given free access to good stands of alfalfa. In addition, each lot was self-fed a 60 percent protein tankage, along with corn in shelled form and sorghum grains either whole or ground.

(Continued on page 20)



This animal was born with mule-feet or hoofs with no cleft. Only one bone extends down from the pastern instead of two. It is the result of linebreeding or the mating of two individuals of the family.

The honorary society for milling students, Alpha Mu, initiated nine new members this spring. They are Jim Libby, Fostoria, Ohio; Clinton Chapin, Emporia; Richard Bertrand, Oakley; Herb Young, Danville, Va.; Marshall Faith, Manhattan; Max Tetlow, Portis; Dick Sigman, Kansas City, Kan.; John Wingfield, Norton; and Bob Clark, Oakley.

Many Benefits Received

Windbreaks Provide Protection While Increasing Farm Value

By RALPH N. GERMANN

A good farmstead windbreak needs no justification for its worth in the eyes of those who have them. The increased value a farmer places on his farm, and the greater price a buyer will pay for a well-protected farm home are the real measures of their worth.

There are many ways in which the farmstead benefits from the windbreak. It stops snow from drifting into the farmyard, protects the feed lots and cuts down feed costs, protects the farmstead from cold winter winds and reduces the fuel bill, protects the garden and orchard from hot, dry winds, controls soil blowing in the farmyard, beautifies the farmstead, provides a wildlife refuge, and provides posts and fuelwood.

The prevailing winter winds over most of Kansas are from the north or northwest. The widest windbreaks must be planted on the north and west side of the farmstead to provide the maximum protection. A south windbreak is also necessary in the sections in which the prevailing winds are from the south and southwest.

The nearest row of trees should be from 50 to 100 feet from the buildings. This prevents snow from drifting into yards and drives. The windbreak should be located so that all farmstead buildings and other features are protected. The tree rows should be planted on the contour whenever possible.

There should be at least six rows in a good windbreak. Turning can be made easier on the northwest corner by planting curved rows instead of having the usual square corner. The spacing between the rows is determined, in most cases, by the cultivation equipment used. In western Kansas the spacing between rows should be at least sixteen feet. The space between the rows should be three to four feet wider than the equipment. Closer planting is recommended in the eastern sections of the state.

The kind of tree species planted has a varying effect on the spacing in the rows. Shrubs should not be planted over four feet apart. The hardwood can be planted from six to twelve feet apart and the evergreen six to eight feet apart. Trees planted close in the row provide earlier effectiveness of the young trees, but

(Continued on page 29)

Farmers Receive Info Dealing with Ag Situation Via College Assistance

By H. DALE JOHNSON

Many farmers have the "know how" for raising good quality crops and livestock, but these persons sometimes fail to realize a profit because they are not as efficient in marketing their products as they are in producing them.

To help Kansas farmers plan production and marketing, the Extension service and the Agricultural Economics department of the College publish weekly and monthly price and market information.

The KANSAS AGRICULTURAL SITUATION was first published in 1924 and has been released the first Monday of each month since that time. Ag economic specialists discuss trends in general business, and give information on price trends for beef cattle, hogs, poultry, dairy products, wheat and feed grains. The predictions relating to prices for beef cattle were 68 percent accurate during the period from 1925 to 1940. About 18,921 copies of this leaflet were distributed in February of 1949. It may be obtained by contacting the local county agent.

The Ag Economics staff members briefly discuss market trends in the KANSAS MARKET COMMENTS. This easily read sheet of information is printed and sent to members of the farm management association each week by the Extension service.

The OUTLOOK is a pamphlet that includes production figures, trends, and probable future prices for specific farm commodities. One month features beef cattle, the next hogs, then sheep, and thus all important farm commodities are included during the year. Farmers desiring this publication are placed on the mailing list after the county agent has been contacted.

The information contained in these publications is broadcast over radio station KSAC on the Farm Business program each Monday noon.

Kansas State was one of the first colleges to furnish such marketing aids to farmers. It has been proved that plans for the future pay dividends.

$1,300 a Pair

Chinchilla Ranch Booming in Midst of City of Manhattan

By MERRILL D. RAY

Chinchillas, a member of the rodent family, are the interesting and profitable hobby of Mr. Leonard Hoerman, owner of the Hoerman Chinchilla Ranch located at 415 South Manhattan, Manhattan, Kansas.

Mr. Hoerman obtained his first pair of chinchillas approximately a year ago at a cost of $1300, and through purchases and breeding has increased that number to twelve.

A full grown chinchilla is about half the size of a cottontail, weighs about 16-20 ounces, has a bushy tail like a squirrel, a rabbit nose, catlike whiskers and lustrous blue-gray pelt. The fur is very soft, the reason being that as many as 80 hairs are produced from one follicle.

Chinchillas mate two or three times a year, the gestation period being 111 days. Litters vary from one to four. Within a few hours after birth they are scampering about their pen. They may be bred when six months old and are considered mature at eight months of age. Chinchillas are monogamous and mate for life. They are very jealous of their mates. If one of a pair dies it is sometimes difficult to remate the survivor, said Mr. Hoerman.

Chinchillas are nocturnal, and don't show much activity till around sundown. "After sleeping all day, they really are busy fellows at night", said Mr. Hoerman. Exercise wheels are maintained for them to take rides on.

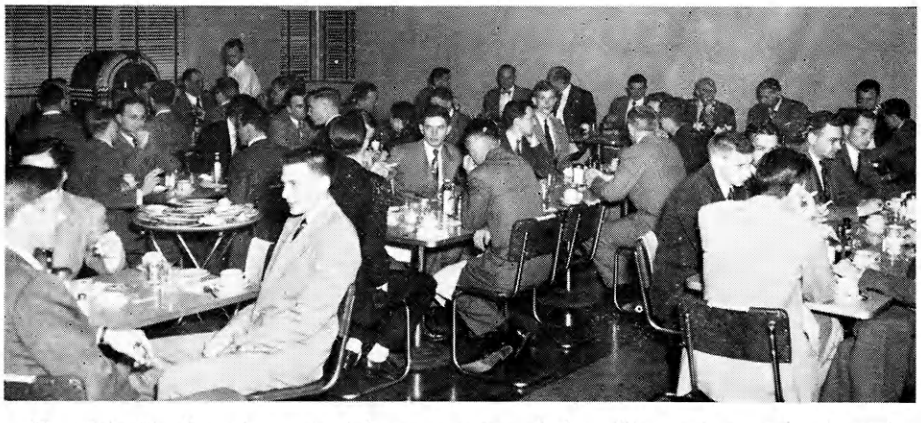
A wooden frame four feet long, 30 inches wide and 24 inches high covered with one-half inch hardware cloth will adequately care for a pair of adult animals and their young. A nesting box, one foot square, is usually hung on the outside with an entrance cut through the wire.

Chinchillas are vegetarian and a year's ration costs around $3. Commercial feeds are sold, but home raised feeds such as alfalfa and timothy hay, corn, bran, and many other grains are fed with good results. Very little food per day is required and they relish raisins and peanuts. They also like to chew on twigs of apple or pear, said Mr. Hoerman.

Chinchillas are fond of affection and have a well developed curiosity. They are pretty cautious before examining anything new. A chinchilla's bath consists of a mixture of sand and talc. They are so quick that a person has to be watching close, or he will miss seeing them turn over.

Chinchillas are natives of South America and were brought to this country in 1918, when nine of them were imported by Mr. Chapman. Mr. Hoerman said there are approximately 65,000 chinchillas in the United States, and only a very few of that number were being pelted. Most are sold for breeding purposes. At pres-

(Continued on page 28)



The Alpha Mu fraternity, national honorary society of the milling students, gathered together for their spring initiation ceremonies. Nine new members were taken in.

Green Bugs Cause Serious Damage

By DARWIN E. ASPER

The "green bug" is a common name among the vocabulary of the Kansas farmer these days. Many cereal crops are being affected by the insect this year. The green bug is an aphid and has been given this name because it is green; however, it does not happen to be the only species of the aphid that is green. The family includes the aphids which are generally spoken of as plant lice. Many other plants are affected by some species of this insect.

The green bug attacks barley, oats and wheat causing serious damage. The bugs live through the winter in northern Texas and move northward during favorable weather in the spring. Some seasons the insect lives through the winter on volunteer oats and barley and will cause much damage to cereal crops in early spring.

The green bug is a soft-bodied creature which sucks sap from the roots, stems, leaves, flowers, or fruits of most kinds of plants. Each plant has one or more species rather closely restricted to it so that recognition of the various species is possible by the host plant. Some species cause leaf curling and some cause plant galls.

Practically all aphids during crop-growing seasons are females which reach maturity in one to three weeks and give birth to living young at a rate of five to twenty-five a day. When the plant becomes weakened from an infestation, a large percentage of the aphids develop wings and fly to other plants. Consequently the artificial control methods must be applied promptly and a large percent of the aphids must be killed.

Fortunately, aphids have many enemies which help control them. Several species of lady beetles, syrphus or flower flies, aphis lions, and chalcoid parasites prey heavily on them. However, there are several good control measures which help to get rid of the pest. One measure is to heavily pasture the cereal crops that are infested and then plow them under. Plowing under the infested fields will prevent the spread to other fields.

Ain't Grand-dad's Way

Specialization Important in Modern-day Farming Methods

By Bill Hundley

The old "General Farm" is out of date in our world today. The trend toward specialization in industry and many other businesses the world over has now reached a large percentage of our nation's farms.

Oh yes, I suppose a lot of you won't agree with me, and there is no reason you should, as your idea may be as good as mine.

Back in grandfather's day it was important to be able to live entirely off the farm, from the products he could raise and the things he could make. It was necessary for him to have a little corn, oats and wheat. Then of course some cows, two or three pigs, and a few chickens, so as to have his own milk, butter and cheese, his beef and pork, his fried chicken and eggs.

All of these various enterprises were on every farm, whether forty or four hundred acres; it was all necessary for the life of the family. Grandfather had many and various chores and jobs to keep him busy the year around.

Even though he was busy from "dawn to dusk" every day, sometimes he barely managed to live from year to year. His labor was spread far and wide over various enterprises and he could not take time to be really efficient in any one of them. Usually no one enterprise was of large enough volume to really support grandfather and his family.

Let us look in on a present day farm and its enterprises. The farmers of today in general have specialized in one or two major enterprises on their farms.

Neighbor Brown has a herd of fifty dairy cows. He sells grade "A" raw milk since he remodeled his old barn, built a new milk house and purchased the necessary equipment, such as a milking machine, milk cooler, water heater, wash vat, etc. Neighbor Brown has, by remodeling his old barn, etc., developed his dairy enterprise to the size and

(Continued on page 28)

Farm Operators Consider Changing Over to LP-Gas

By Floyd Nighswonger

LP-gas is the newest, most disputed motor fuel of today. This gas has many advantages and many farm operators are converting their gasoline burning engines to LP-gas.

LP-gas is an abbreviated term for "Liquefied Petroleum Gas". This gas may be either butane, propane, or a combination of the two.

This gas upon entering the engine cylinder is in a dry form. Thus crankcase dilution is eliminated. LP-gas is a very simple hydro-carbon; consequently when ignition occurs in the combustion chamber very little carbonation takes place. This tends to keep the oil from becoming contaminated with carbon, hard carbon particles, and fuel. Experiments have shown that this fuel has a high anti-knock quality, the octane being rated as 100 plus. Due to this fuel's anti-knock quality, engine compression ratios of 7.0 to 9.0:1 are recommended. This results in higher total horsepower output with a lower fuel consumption.

LP-gas has a lower cost per gallon which is a great advantage to those

(Continued on page 34)

Ag Association officers for the '50-'51 school year will be: (left to right) Delmar Hatesohl, Ag Student editor; Virgil Bodine, assistant Barnwarmer manager; Miles McKee, treasurer; Professor R. J. Doll, faculty adviser; John Wilk president; William C. Brown, vice-president; Loren Goyen, secretary; Bill Collins, Barnwarmer manager.

The Kansas State poultry judging team won fourth place this year out of 17 teams competing in the 26th International Poultry judging contest at Chicago. Left to right, front row, they are Gerald Lawrence, Forest Smith, and Charles Smith, alternate. Back row, T. B. Avery, coach and Associate Professor in the poultry department, and Paul C. Barrett.

Income Dropping

Farmers Must Be Experts In More and More Fields

By Frank Overley

All possible evidence indicates that farmers will have to exercise more care in making their future production plans. Statistics from the Kansas Farm Management Associations show farm income is dropping quite rapidly. For illustrative purposes, type of farming areas 5, 6a, and 6b will be used. This area includes the Flint hills and the land in the two counties west of them. The trends of this area should be reliable because there are a large number of farms in the Association and they are well distributed throughout the area. Members of the Farm Management Associations are considered to be above average farmers, and these figures are not truly representative of all farmers. The average net income per farm was $5,401.33 for 1946, $7,336.66 for '47, $4,821.66 for '48, and $2,747.35 for '49. Farm income reached a peak in 1947 and has dropped since.

The decline in income has been caused by a number of factors. Unfavorable weather the past two years has greatly reduced yields compared to what they were in the years immediately after the war. The decline in prices of farm products is the big factor contributing to lower incomes. Loss of war demands and foreign trade has contributed to this rapid price reduction. Government price support programs have been an influencing factor in holding prices at the current high level.

With declining prices farm costs have been increasing. In a period of unstable prices there is always a lag between costs and farm prices. The prices that farmers receive are usually the first to rise and decline with costs doing the same but they are somewhat slower to react to the changing conditions. During 1947 production and prices reached a peak and costs were still rising. Since then prices have been declining while costs are still increasing. After costs have reached a peak and start to decline, farm income will tend to be stabilized over the long run. However, with more rigid production controls in sight and further reduction in demand for farm products along with a surplus, farm incomes will probably

(Continued on page 34)

Stomach Motion

(Continued from page 10)

as the process cannot proceed in a normal manner without proper motility.

The pressure operated unit used in the experiment consists of a piston-type air pump operating a tambour, which in turn is mechanically coupled to an ink writing kymograph. The piston is actuated by a plunger working against a spring tension adjustable for six to twelve pounds. The piston is machined with a free-running, no-play fit and with a medium-weight lubricant it is air-tight under the pressures developed. The pressure from the piston is carried through rubber tubing to the tambour and inkwriter, which records on an electrically operated long-paper kymograph. The piston-pneumatic system is held in position by a specially constructed clamp built into a broad web belt.

The experiment consists of 18 cows divided into three groups. They are kept in the stanchions except for two hours daily exercise when there is nice weather.

The first group is fed straight hay. The second group is fed 75 percent pellets and 25 percent hay. The third group is fed straight pellets. The three groups are rotated each month to a different roughage ration. Each group is observed once a week for 12 hours. The length of time they chew their cud is recorded along with their temperature, respiration, and pulse rate each time they are observed.

Accurate results as to the length of rumination were not possible until the new machine was brought into use. Attempts were first made, not at Kansas State, to record ruminal sounds by placing a microphone in the left paralumbar fossa and in various locations in the left lower flank region. The sound of movement of material in the rumen was picked up in the microphone, amplified in a vacuum tube amplifier, and recorded.

Schultz and Olsen went into a bar.

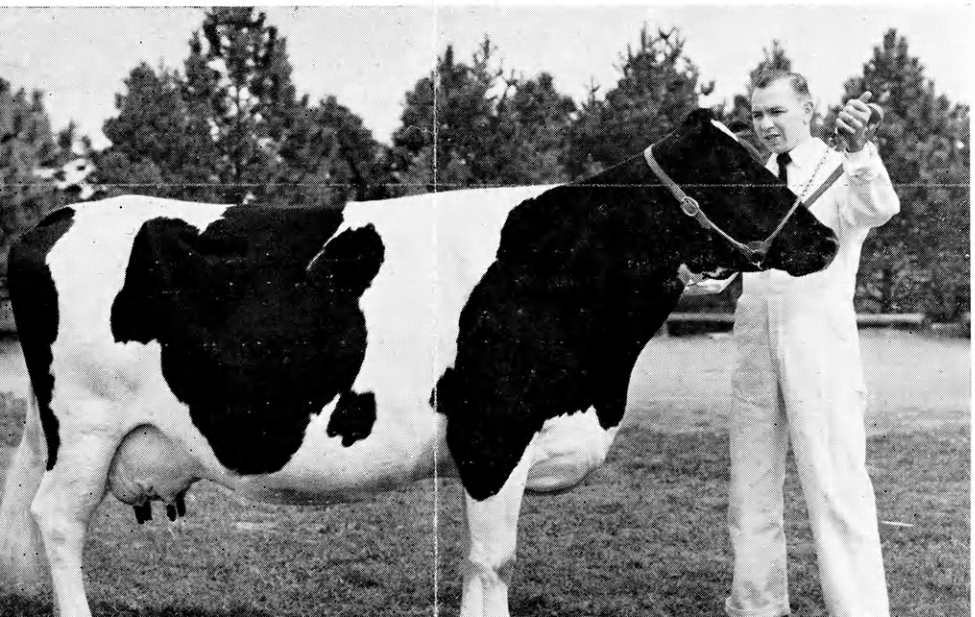
"What'll it be, boys?" the bartender asked.

"I dink I'll haf a leedle shin," said Schultz.

Quipped Olsen to the bartender: "What you tink of Schultz here—he's bane in dis country saventeen year now and can't even say yin yet."

Egg selection was another part of the judging contest. The boys worked for two days judging everything in the way of livestock, crops, seeds, weeds and poultry. Ronald McDonald, a Future Farmer from Iola, is ranking eggs according to their hatchability.

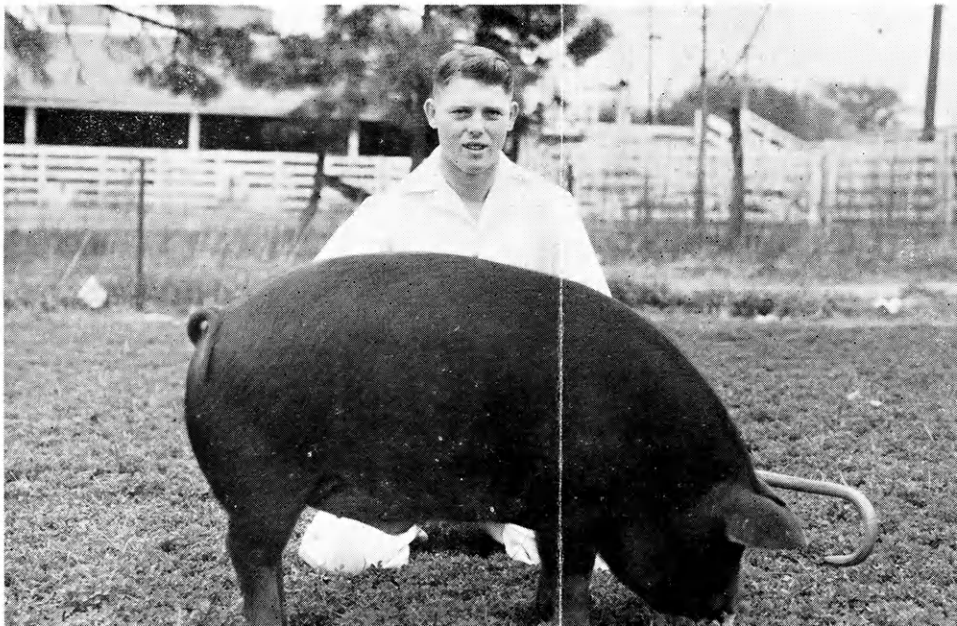
These are the newly elected officers of the Kansas Fu
office at the 27th annual state convention of the FFA h
are Charles Kinast, Haven, treasurer; Robert Ball, Garc
Duane Stoskopf, Great Bend, secretary; and Gary John



Donald Hopkins was grand-champion showman in the dairy division of the 1950 Little American Royal. The Little Royal again attracted a capacity crowd in the pavilion.

A worried frown creases the brow of a Shawnee Mission Future Farmer, Wayne Thies, as he puzzles over weed identification—a part of the judging contest May 1 and 2. A "weed" grown carefully in a flower pot just doesn't look natural, Wayne's expression seems to indicate.

ture Farmers of America association. They were put in eld on the campus May 1 and 2. From left to right, they en City, president; Hugh Schantz, Winfield, vice-president; ison, Highland Park, Topeka, reporter.



Bob King, freshman in Agriculture, was grand-champion of the Animal Husbandry division of the 1950 Little American Royal. It was the 22nd annual show to be held on the campus.

In the bakery lab, bread is scored according to texture, taste, and various other qualities. Assoc. Prof. John A. Johnson is showing John Meyer, Beardstown, Ill., left, and Wallace Champeny, Oxford, just how it's done.

Pavilion Is Packed

Hopkins, King Were Champion Showmen of 1950 Little Royal

By CHARLES SMITH

Many students, friends and parents squeezed their way into the pavilion between East and West Waters hall to watch the 22nd Annual Little American Royal. It was here they watched amateurs show the animals which they had so faithfully worked with. These boys and girls had made countless trips to the barn where they had spent hour after hour grooming, clipping, training their animals to show, and other tasks necessary to present properly a well-fitted animal. For what purpose? Not for the ribbons and competition, but primarily for the desire to learn how to show good livestock.

The men contributing much to the success of the show, but unseen to the visible audience, were the herdsmen of the college. They work continuously the year around, keeping the livestock in condition and ready for class work whenever needed. A show of this type requires a lot of extra work on the part of the herdsmen. They spend hours of time demonstrating, offering words of advice, and most of all picking up after thoughtless students. Probably the showmen appreciate the efforts of the herdsmen more than anyone else. These "men behind the scene" do their part well and do not complain.

The Little American Royal is a fitting and showing contest. College livestock are used and are judged 50 per cent on the appearance of the animal and 50 per cent on the ability to show the animal. Students are given their first and second choice as to the class of animal they desire to show, the individual animals being assigned by drawings of college owned animals in February.

Trophies for the show were donated by the American Royal, Kansas City Chamber of Commerce, Kansas City Stockyards Association and the Inter-Breed Dairy Council of Kansas. Ribbons were furnished by the Block and Bridle and Dairy Clubs with money received from ticket sales.

Entertainment during the show besides those participating with the showing of their animals were the introduction of guests, a greased pig contest, a bagpipe solo by Alex "Sandy" Meek, showing of a dwarf Angus bull and the presentation of the awards by President Milton S. Eisenhower.

Donald Hopkins and Bob King were selected as the grand-champion showmen of the Dairy and Animal Husbandry Divisions respectively of the 1950 Little American Royal. The show attracted nearly 900 people to watch the 130 participants go through their paces.

Soil Erosion

(Continued from page 8)

a good cover for a growing crop while stubble mulch farming is one of the best way to get crop land ready to stand a drought. Any type of farming that saves the crop residues and mixes them with the topsoil will help.

Should the drought last for months, the land should be covered with a quick-growing crop as soon as possible. Grain sorghums, cane, Sudan grass or broomcorn are good cover crops if the land has been blowing. Cereal grains should not be planted if the blowing is severe and the soil is dry since a cover crop is more important than a cash or feed crop if the land is blowing away.

Conservation practices will pay large dividends in the long run and increased yields can be had from contour farming, terracing, and stubble mulching. Poor soils reseeded to grass and native pastures will produce if they are not overgrazed and these practices will greatly reduce the hazards of another dust bowl.

Pork Profit

(Continued from page 13)

Results of the experiment showed that the sorghum grains seemed very palatable to the pigs, sorghums were consumed in greater amounts than corn and compared favorably. It was also shown that feeding ground sorghum is more efficient than feeding whole sorghum grain.

In order to produce swine profitably, farmers realize that a maximum use of forage crops is necessary, because it is economical and contributes to the general health of the swine.

During the war, grain was not always easy to obtain for livestock feeding. Hog feeders became interested in producing market pigs with a minimum of grain and a maximum of pasture.

Tests at the experiment station proved conclusively that hogs may be fattened on pasture more economically by a limited-feeding plan for the first part of their fattening period than by full-feeding throughout the entire period.

Limited-feeding forces a greater consumption of pasture. However, marketing is delayed by limited-feeding approximately 34 days and this may mean lower selling prices.

Ag Curriculums

(Continued from page 11)

become farmers or enter other general agricultural fields.

A total of 128 hours is required for graduation with a B.S. Degree in Soil Conservation. Eighteen hours of electives are included in this total. These electives must be approved by the head of the Department of Agronomy and the Dean of the School of Agriculture.

The soil conservation courses are offered in the agronomy department. Agronomy courses which are required of soil conservation majors include Pasture Improvement I, Soils, Farm Crops, Soil Conservation I and II, Development and Classification of Soils, Weed Control, Crop Ecology, Soil Fertility and others. Another important course for the soil conservation student is Drainage, Erosion Control and Irrigation which is taught in the agricultural engineering department.

AGRICULTURAL ECONOMICS

One of the newer departments in the agricultural school is the Agricultural Economics department.

There are two ways in which students at K-State may take ag econ work. He may pursue the Curriculum of Agricultural Administration or the Curriculum in Agriculture and major in agricultural economics. Either curriculum provides a well-balanced background for one interested in agricultural economics.

A student who is interested in the distribution and marketing of agricultural products of every character, or one who is interested in the economic and social problems of the urban population, will find the agricultural economics department at Kansas State can help him learn about these phases of agriculture.

Job openings which would be possible for an agricultural economics major include economics specialists for business concerns, farm mortgage companies, banks, the Federal Land Bank, land appraisers, managers of cooperative concerns, marketing specialists and many others.

By taking the courses offered by this department, the student has the opportunity to learn of the factors and economic forces involved in farm management, marketing, taxation, land utilization, agricultural finance, rural life and other sociological and economic problems.

The Agricultural Economics Club is the departmental club for this curriculum. Richard L. DeFord is the acting president of the club and J. A. Hodges is the faculty adviser.

CURRICULUM IN LANDSCAPE DESIGN

The beautification of landscape, both rural and urban, is not only pleasing to the eye but also is a practical way to increase the valuation of property. As new homes are being built in Kansas and other states they are creating a need for men and women who know the essence of a good landscape designing program.

The Curriculum in Landscape Design in a four year course in the Department of Horticulture. The number of hours required for graduation is 131 for women and 135 for men. Seventeen hours of electives provide the students in this curriculum with a chance to follow a more specific field.

Since there is only a small number of students enrolled in Landscape Design at Kansas State, the possibilities for job placement in this field are good. Students who have majored in Landscape Design may have job opportunities with city park departments, extension specialists in horticulture, fruit marketing specialists, supervisors of institutional gardens, nurserymen, landscape gardeners, and many other such specialized fields.

Pasture Burning

(Continued from page 6)

are burned. Each year they will be checked again. Anderson will study the specie composition of all species in the plots. This, he says, is one of the best criteria for the evaluation of pasture condition.

Each spring the stocking rates and the feeding effects will be checked and recorded by Prof. Smith.

Since authorities agree that it is vital that the industry know the effects of burning, it is hoped that this experiment will settle some of the controversy in this important phase of livestock production.

Three milling professors pause with the secretary of the National Association of Operative Millers, Don Eber, (right). They are Milling Technologist Eugene P. Farrell, left; Asst. Prof. Arlin B. Ward, and Dr. John A. Shellenberger, head of the milling department. Eber spoke at a spring seminar of the department.

Cream Grading

(Continued from page 3)

For practical field work, Claydon selected one shade of lavender that is right on the borderline between No. 1 and No. 2 grades of cream. The cream buyer tests a sample; if it's lighter than the borderline shade, that cream is No. 1 grade; if it's darker, it's No. 2 grade. Reject cream —No. 3—has an even deeper shade.

Now when anyone wants to argue about the grade of cream, the buyer or inspector can demonstrate visibly why that cream was graded one way or another. Besides settling arguments quickly, the colorimetric test should stimulate farmers and buyers to furnish a better grade of cream for the market.

Cream is big business in Kansas and throughout the country. This state ranks fifth in the amount of butterfat marketed as cream. Almost 60 percent of all the milk produced in Kansas goes to market as farm-separated cream. Practically every town has at least one cream buyer. Altogether, in 1948, these buyers handled 45 million pounds of butterfat worth $34 million. In 1949 they bought 46 million pounds, but the drop in butterfat price lowered the income from farm separated cream to $26 million. The average price in '48 was 75c; in '49, 57c.

But devising a grade test simple enough for every buyer to use is a long step from getting those buyers to use it. They have to be convinced. They have to be shown how . . . and why . . . with demonstrations that remove all doubts. Only then will a tradition like the flavor and odor grading be changed.

Right now the Claydon Colorimetric test is being tested and checked extensively. The Oklahoma State commissioner recently purchased a set for tests in that state; the University of Arkansas reported favorably on the new method; the American Butter Institute, responsible for the biblical book of laws in the butter and cream world, is conducting far-flung research over the entire country on the new method.

In a report of the Institute's research committee, issued November 8, 1949, the Claydon tests agreed with taste and smell tests in the majority of the cases; however the standard, as now established, does not give the same results universally.

Temperature, atmospheric conditions, differences in altitude—these all contribute to variation in the color that was adjusted for Kansas conditions. Dr. Claydon said that a standard can be prepared for each state or each region where weather conditions are essentially the same. What's involved is a little change in color of that borderline standard; but if it's possible to find one shade that will work universally, the Butter institute will find it. That's the problem they're studying now.

The only thing the research men have to check the colorimetric test against is the overall average of taste and smell grades. And this brings in that old problem of human variation again. When the Butter institute found that 50 percent of the cream graded No. 2 by taste came out No. 1 by the Claydon test, a question was posed. Were the human tasters wrong? Or did the color standard used in the Claydon test allow low quality cream to pass for No. 1? If that standard is too low, how much should it be raised?

When tested by the Kansas Experiment station throughout the state, more differences were found among human graders than with colorimetric test. Using 780 samples, the Experiment station had six expert commercial graders rank it according to taste and smell; they differed among themselves in approximately 20 percent of the cases. When the same cream was tested by the colorimetric method, grades differed in only 11 percent of the cases from those already established by the commercial tasters.

So with one test, simple and cheap enough to be used everywhere, Dr. Claydon has solved two problems that have plagued the creameries from the beginning—variability in results due to the personal factor, and a lack of visual evidence to support the basis of payment.

Sagebrush

(Continued from page 10)

off mowers designed especially for this use.

These mowers are equipped with snub nosed or rock guards for use in heavy or medium heavy brush. The cutter knife is fitted with heavy under serrated sections, and the cutter bar is equipped with a complete set of hold down clips.

When mowing is used as a means of control it must be done for two successive years to insure the eradication of the maximum number of sagebrush plants. The most desirable time for mowing is in June due to the condition of the plant at that time.

Livestock should not be allowed to graze on the mowed area from June until fall if satisfactory results are expected.

It has been found that after two years of successive mowing, many of the plants are killed, and many of the remaining plants are materially weakened. It also results in improved density of the native range grasses.

Other means of mechanical control that have been experimented with are discing and rolling. Neither of these has proven very efficient for removal of the surface brush growth. Some mechanical brush beaters have been tried and used rather effectively, but have proved undesirable due to the extensive maintenance necessary to keep them in good working condition.

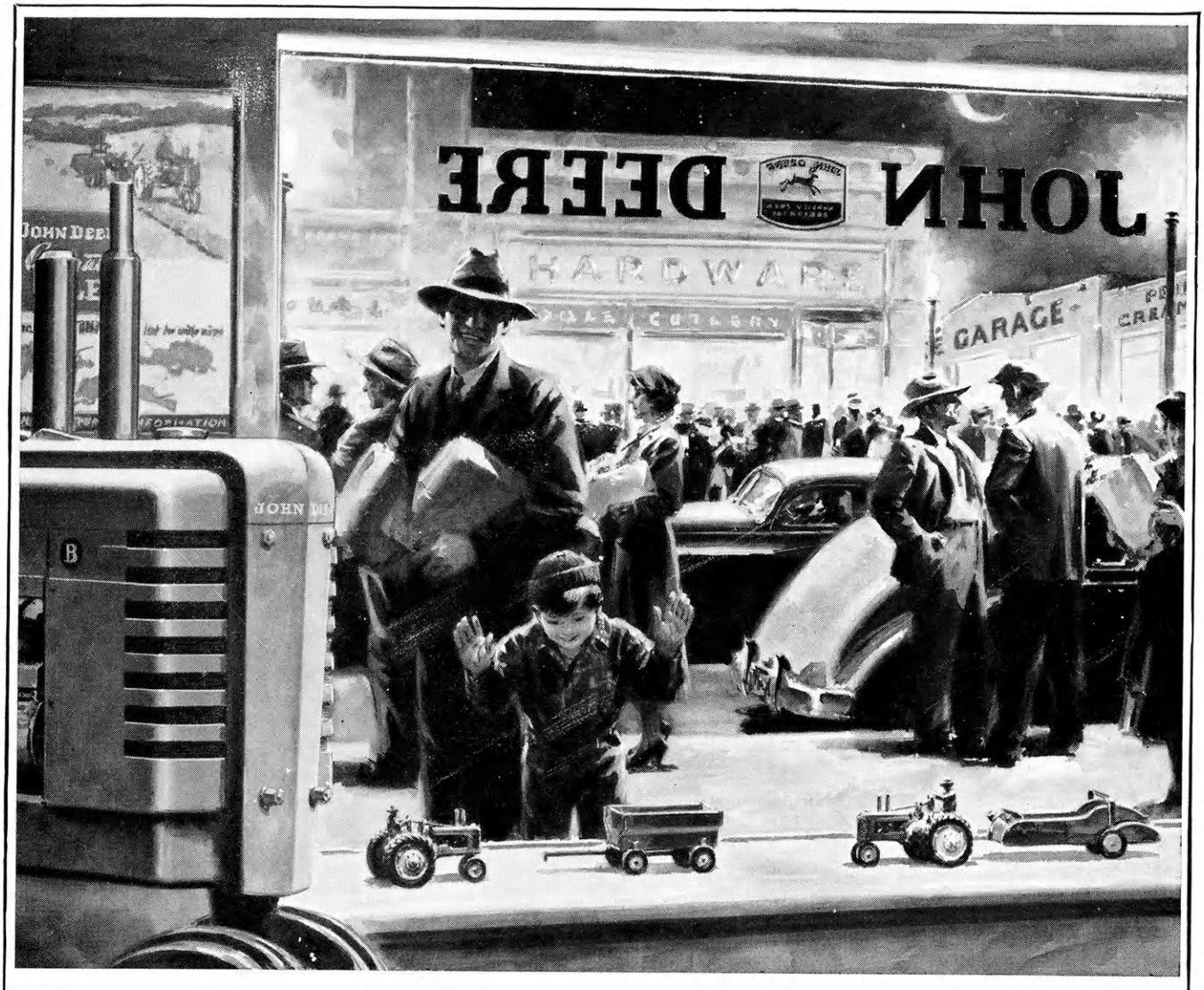
The latest trend for sagebrush eradication is toward chemical control by spraying. Both ground and airplane spraying has produced rather desirable results with few limitations. This means of control is still more or less in the experimental stage, but at the present time it appears to be very promising as an effective and desirable means of sagebrush eradication.

Spraying with 2,4-D and 2,4,5-T in various ester formulations mixed with diesel oil has resulted in nearly 90 percent brush kill for the sprayed areas. Various methods of applying the spray have been tried, and tentative results appear to be in favor of airplane spraying as having less limitations.

The spraying should be done in the spring, preferably May when growth of the plant is at its peak. The spray is best applied immediately after a good rain when available soil moisture is plentiful. This insures the continued rapid growth necessary for the spray to exercise the desired killing effect.

Large areas of rough terrain prove to be no problem for airplane spraying as it does for spraying from trailer or truck mounted equipment.

At the present time there are several commercial flying concerns in the state that specialize in weed and brush control spraying.



Saturday Night Is the BIGGEST NIGHT of the Week!

On Saturday night, the chores are finished a little earlier . . . second helpings go begging at the supper table . . . friendly yard lights wink out like sleepy stars as byroads and highways funnel farm families into main street until stores and sidewalks overflow.

The menfolk gather on street corners to speculate on the weather, to brag about their livestock, to swap experiences and trade advice. Farm women track down bargains, and talk over news that will be printed in the next edition of the Weekly Herald. Youngsters splurge their allowances at popcorn stands and ice cream parlors.

Folks use shopping as an excuse for coming to town, but the thing they really look forward to on Saturday night is the community reunion. They delight in meeting old friends and making new ones. They enjoy trading with storekeepers who know their needs as well as their names.

Saturday night in small-town America—with its friendliness, and neighborly helpfulness—is a breath of warmth in a cold, cynical world. No wonder a walk down Main Street renews one's faith in America and rekindles the hope that we may yet use this Saturday night spirit to bring peace and plenty to mankind.

JOHN DEERE

JOHN DEERE QUALITY FARM EQUIPMENT

MOLINE • ILLINOIS

Pollenization

(Continued from page 8)

Possibly the reason that the need of adequate insect pollination is not understood today is that there were at one time enough wild insects to complete this task. About 50 years ago legumes yielded about twice as much as they do normally today for this reason. This shows the need for planned pollination today.

Legumes appear to be the most important group of plants requiring insect pollination. They also make possible the conservation of our soil and aid in maintaining its fertility. Fertile land not only results in increased yields of crops and livestock, but produces foods that are more nourishing to mankind. Pollination contributes to our production of beef, pork, mutton, milk, butter, wool, leather, cheese, vegetables, fruits and other food crops. Thus pollination becomes the basis of our national prosperity.

Placing colonies of honey bees near the crop that requires cross pollination does not necessarily mean that increased yields will result. Many conditions such as weather, soil and competition of other plants attractive to the bees may tend to hinder increased yields of seed crops.

In the case of legume seed crops, late experiments show that one strong colony of bees is not enough to provide adequate pollination. The recommended number is from three to five colonies. Under normal conditions this amount will result in optimum seed set.

Observation shows that most growers find it advantageous to induce beekeepers to move colonies of honeybees to their crops for pollination purposes. Beekeeping is a specialized industry that requires several years to learn. Not everyone is suited to raising bees due to the poisonous effects of the bee sting. Some growers will find it desirable to own and operate their own colonies, however.

Some growers feels that it is to the advantage of the beekeeper to permit him to move his colonies near his crops. In some crops where the honey production is exceedingly great, this may be the case. However, in most cases the providing of a sufficient number of colonies of honeybees to pollinate the crop adequately will not favor a profitable move for the beekeeper through honey production. Therefore the grower should pay the beekeeper for moving the colonies in just before the blooming period starts. This moving requires labor and equipment from the beekeeper, and this moving is hard on the development of a colony.

The fees of beekeepers for pollination services on legumes average around $5 for one strong colony or 25 percent of the seed crop, depending upon the individual.

Pollination practices, properly planned and established, can well become one of the most beneficial, profitable, and popular agriculture practices in future farm programs.

Line Breeding

(Continued from page 12)

be devoid of skin. This character is best observed on the legs and in the mouth areas where there is little or no hair. Since these individuals do not live more than a few days, it is impossible to test a bull for the character. About all that can be done is to bring in an unrelated bull from outside stock, but this, of course, is defeating the purpose of linebreeding.

Poultry Movie

(Continued from page 9)

quality in lieu of low prices", and expressed by the consumer, "lower prices in lieu of low quality."

It is easy to see that there must be movements made to alter this prevailing situation if Kansas is to remain a high producing state. Thus our Kansas educators took it upon themselves to produce a movie, "The Good Egg".

"The Good Egg" is a story of the care and marketing of eggs from the time they are produced until they reach the ultimate consumer. It shows how it is possible to produce eggs in Kansas and reach market in such a fashion that they command a premium price of the consumer. The Story is depicted on a 16 m.m. sound kodachrome film.

The introductory scenes begin with the egg's origin, the hen at the nest. The egg is then followed to the egg storage room where it is cooled for 24 hours before it is packed in a case. On the way to market, (town), the case is protected by a canvas or blanket to prevent an excessive loss of moisture and also to protect it. Immediately after reaching the produce station the eggs are candled, that is, graded and cartoned before they are sent on to a refrigerated display case at a retail outlet. Several scenes of good pullet flocks receiving expert care and management are pictured including the newest methods of feeding, new equipment, and views of laying house arrangement.

Recommended methods of transporting the eggs to market are shown with a number of valuable hints and suggestions given in the narration. Every egg is graded automatically with a machine that accounts for both interior quality and size. A number of scenes and the remaining part of the film gives a very impressive appreciation of the many different ways the egg is utilized by the consuming public in such places as the home, college cafeteria, hospitals, hotels and bakeries.

The 15 minute film is a cooperative effort of the Kansas Poultry Industry Council, the Marketing Division of the State Board of Agriculture and the Department of Poultry Husbandry at Kansas State college.

Spraying

(Continued from page 7)

many tomato producing areas.

On one Texas farm the hormone was applied to fall-grown tomatoes in demineralized water at 25 parts per million. Two treatments were made approximately one week apart. It was reported that on 100 treated acres pickings were made at least one week ahead of any other plantings in the entire area. This early harvest is highly desirable since it enables growers to hit the early markets and it also removes the threat of early killing frosts that are common in the area. In this same test, the first two pickings from treated plants produced 5,500 pounds per acre compared to 2,000 pounds per acre for untreated plants.

In Massachusetts tests were conducted on trellis grown tomatoes. Treated plants not only produced earlier but produced larger fruit, giving a premium of about $12.00 per hundred plants over untreated plants. Hormone treated plants set fruit early even where night temperatures drop to 50 degrees F. or lower. This was the case at Logan, Utah, where treated plots produced 50 percent more than untreated plots. Fruits were larger and often free of seed. Some leaf distortion was observed but it did not reduce the yield. Similar tests were obtained in New York state where spring was late, cold, and wet. Hormone sprayed vines produced twice as many tomatoes in early pickings.

Dr. H. J. Carew of Cornell University, outstanding for his work in the chemical spraying field, reported, "On one typical farm (in Niagara County, New York) 200 sprayed plants produced as many ripe fruits as 2,000 untreated plants up to the fifth picking. On another, at the first picking, five times as many fruits were picked off the sprayed rows as from the regular rows." Dr. Carew cautioned that in this specific test, the hormone gave best results when sprayed on flower clusters and not on the whole plant.

Not all tests have produced such conclusive results as the previous mentioned. In Ohio, for example, treated plants out-produced untreated plants early in the season but lagged behind untreated plants later.

Don Good

(Continued from page 2)

tied for high man in sheep and was second high in all classes.

Here at Kansas State college, Don has produced winning teams that have topped Denver, Fort Worth and Oklahoma City shows. He also has had men winning top honors in sheep, cattle and horses at the International and at the American Royal.

In 1948, Don was elected Secretary-Treasurer of the Kansas Aberdeen Angus Breeders' Association and last January was placed in charge of the purebred cattle at Kansas State college.

One of the reasons for Don's popularity here at Kansas State and at the many shows he has judged, is practicing what he teaches. Don says, "to be a success in judging or any other field requires three things: Love the work, work at it yourself and have average intelligence". Building blocks such as these give Animal Husbandry majors the foundation they are seeking.

Ag Teachers

(Continued from page 7)

divided into sections to give the individual instructor the information that pertains to his area of the state. In this way a specific program for each area can be planned without considering problems that are entirely foreign to the area. Each of these area programs will be divided into two parts. First, the soils phase, which will include the building and maintenance of soils for the area. Second, the crops phase, the planning of a cropping program suitable to the area.

Of interest to many will be the phase on means and methods of increasing the capacity of land to support livestock. This is a combined presentation of the dairy husbandry, animal husbandry and agronomy departments to bring out the latest experimental data on pasture and grass management and utilization project experiments as carried on at Kansas State.

Approved cultural practices, irrigation and disease and insect control will be featured in the discussion of the family garden by members of the horticultural department. Attention will be focused on these items as they affect the growing of fruits, vegetables, vineyards, brambles and strawberries under farm conditions in Kansas.

Problems encountered in the efforts to control weed and insect pests will be presented by members of the entomology and agronomy staffs.

A new area for discussion is "Making the Farm Shop Pay". Under this heading the promotion of satisfactory types of low cost farm housing will be given major consideration. Problems in selecting projects to be made in the farm shop, their design and construction will be discussed as much as the limited amount of time will permit.

A series of three one-day arc welding schools will be featured by the agricultural engineering section. These schools will consist of demonstrations of approved welding techniques and supervised participation for the enrollees to gain practical experience in mastering these techniques. Each of these classes will be limited to 20 enrollees as facilities are limited.

Principles and methods of using LP (liquid petroleum) gas as a fuel for farm tractors will be discussed by members of the agricultural engineering faculty. Its practical use as a fuel will be demonstrated in the classroom laboratory to enable the enrollees to get first hand information on its range of uses and limitations.

Farm construction and the use of concrete and masonry work for farm buildings will come into consideration during the three-day school.

Types of equipment used in applying weed control sprays will be shown to those who are interested. Practical usage and application of these various types of sprayers will be demonstrated during the session.

Instructors from most of the vocational agriculture departments and veterans-on-the-farm training programs are expected to enroll for this three-day school of practical information to be held June 12-13-14 on the Kansas State college campus.

Tessie: "Do you know, that young farmer tried to kiss me? He told me that he had never kissed any girl before."

Bessie: "What did you tell him?"

Tessie: "I said I was no agricultural experiment station."

Artificial Breeding

(Continued from page 4)

breeds represented. Kansas has Ayrshire, Brown Swiss, Guernsey, Holstein, Jersey, and Milking Shorthorn of the major milk producing breeds.

The state wide artificial breeding program has been initiated on a larger scale than a similar program in any other state. Training the inseminators for the associations presented one of the major problems in getting the program under way. An inseminator must take a week of intensive schooling at the College before he can go out into the field and breed cattle.

Bull selection standards for Kansas are set as high as any stud in the country and much higher than the average. The primary objective of artificial breeding is to provide bulls with production and type that is better than that of the average cow. A committee composed of three Kansas Breeders representing each breed, and members of the Department of Dairy Husbandry from the college, is set up to sift the records of the bulls and pick the desirable animals. Eighty-five percent of the bulls considered by the committee have been rejected because either production or type was lacking.

At present twenty-five bulls have been selected for use in the stud, and 50 percent of these are meritoriously proven sires. The daughters of the bulls selected must have an average production in the upper 25 percent for that breed. The average for other states is only 25 percent proven bulls in their studs. The unproven bulls are also carefully screened for type and production. Both the sire and the maternal grandsire must be production average for the dam, and for the daughters of the sire and maternal grandsire must be in the upper 20 percent for the breed.

KABSU will be the first to use International Business Machine cards as breeding receipts in the field. These are processed by machine, eliminating a lot of labor and time consuming work. It will also make possible many observations of genetic and nutritional problems, and will aid in indicating the ability of the inseminators. The information will help in proving the bulls in the program at an earlier age.

The lab, under the supervision of Mr. Mudge, requires four full-time employees and one part-time student to do the work. These people are responsible for the care and management of the bulls, collecting and shipping the semen and keeping the records of KABSU.

Temporary quarters have been set up in the north wing of the college dairy barn. A new bull barn and lab will be ready for use about the first of June. It is being built on the site known as the old Horticulture Farm, also known as the site of Bluemont College, one mile west of the campus.

At the stud, semen is collected every other day, diluted in the lab with egg-yolk citrate diluter, and packed in ice ready for shipment. Most of the shipments go by bus while the rest are sent by express. In either case, the semen is in the hands of the inseminator by the time he is ready to go to work the next morning.

While breaking in the new inseminators, and instructing the farmers how to make the best use of KABSU, the conception rates will be low at first. Kansas may never have as high conception rates as some states, because using proven bulls will necessitate using older bulls. However it should be possible to get a conception rate as high as that obtained by natural service.

Artificial breeding will be an educational program as well as a breeding program. It is designed mainly for the use of the commercial grade dairyman who owns 97 percent of all dairy cattle. It is not intended to put the purebred breeder out of business but to stimulate the production of purebred cattle and increase the number of purebred breeders.

The purebred breeder will remain an important link in breeding dairy cattle. It will be necessary to breed bulls with better inheritance as the average cows also become increasingly better and it will be the job of the purebred dairyman to produce these bulls.

A local Kansan had this motto lettered on his car: "Some of the world's bravest women pass through these doors."

Eastern Ag

(Continued from page 11)

few days after crossing a river, as the water helps to clean the wool. The wool is baled and sent to market, much of it being exported to Europe.

"There is not a true dairy cow in the whole Middle East," states Joe. All the cattle are dual purpose, similar to our Milking Shorthorns.

Pastures are not fenced. Cowboys herd the cows during the day and bring them into the corrals at night.

Rations are not balanced as in our commercial dairy herds. Concentrates are mixed with straw and used as a winter feed along with alfalfa and clover. "The straw is moistened, making the ration more palatable," says Joe. Beets, carrots and mangoes are also used as feed for cattle.

Pork is produced on a small scale in northern Iran. Natives of Iran have not cultivated a taste for pork, so all pork produced is exported to Russia.

"Farm workers live in villages instead of living on individual farms, as here in America," Joe observes. A village usually consists of about 10,000 acres, and is usually owned by one man. About 400 people live in a village and work on shares for the owner. The men go out to the fields in the morning and return to the village at night, Joe explained. Most of the land is pasture and here some sheep and cattle are raised. Land in cultivation is used to produce alfalfa, clover, and wheat.

Joe explained that farming is handicapped to a large extent by lack of mechanization and believes there is a great future for agriculture in these countries when modern machinery becomes more widely used.

Chinchillas

(Continued from page 15)

ent there are about ten breeders in Kansas.

A fur coat requires between 150 to 200 pelts. Mr. Hoerman plans to enlarge his unit to around 100 or more animals. Good pelts sell for about $40 at present.

Mr. Hoerman says that chinchillas are sturdy, intelligent and quickly react to human kindness. He feels that almost any man or woman who is genuinely interested and who is willing to spend the time in studying their care should do well in raising chinchillas.

Specialized Farming

(Continued from page 16)

scope to where it is making him and his family a comfortable living. He has made efficient use of his labor by the arrangement of the remodeled barn and new milk house and by the use of modern machines and equipment.

The milk he produces is grade "A" raw milk which is fit for human consumption. When grandfather went out to milk he drove the cow into a fence corner or some place similar, sat down and milked her. He never washed the cow's udder or followed other measures of sanitation, yet his entire family was to use and consume the milk in this condition.

Neighbor Smith never liked to milk cows so he remodeled his old barn to feed beef cattle. Last year he sent two hundred head of good to choice fat steers to market. He feels quite proud of himself and rightly so, because he used to "dibble-dabble" around with a little bit of this and a little bit of that until his oldest son went off to college and got some "foolish book-learnin' ", so his "Pa" thought. But this son managed to get

his dad to remodel the old barn and fix up to feed cattle. After neighbor Smith tried his son's plan for only one year he didn't make fun of that "book learnin' " anymore.

Many other farmers who aren't interested in livestock have worked out crop rotations, by which they can grow better crops and improve soil fertility at the same time. Others have tested their soils for need of commercial fertilizers. Farmers have terraced the sloping fields and farm on the contour. They are practicing a system of seeding to grass and grass-legume mixtures, fields that are too steep to farm, to prevent erosion and the loss of a great amount of top soil.

These present day farmers are living a comfortable and satisfying, yet challenging way of life on the same farms their fathers and grandfathers before them struggled to eke out a bare existence. Possibly because they didn't know about specialization and how to put it to work.

Political Orator: All that I am or ever will be, I owe to my mother.

Heckler: Why don't you send her 30 cents and square the account?

Windbreaks

(Continued from page 14)

require thinning after ten to twenty years of growth. Trees planted farther apart in the row do not get as much height and provide less protection in the first ten years of growth.

It is not advisable to plant a windbreak of only one kind of tree. The windbreak is more susceptible to a complete loss from various causes. A windbreak of one species can not give complete protection as satisfactorily as one of mixed species. The shrub row serves as a snow fence allowing the snow to settle in the windbreak. The snow provides an added supply of moisture to the trees. Fast growing hardwoods need to be planted to provide early protection. These trees will not last the life-time of the windbreak. The intermediate hardwoods and the evergreens provide the long life and the year around protection features of the windbreak.

In planting the windbreak the first row is planted to shrubs, the second row is an intermediate evergreen, the third row a tall evergreen, the fourth row is an intermediate hardwood, the fifth row consists of a tall, fast grower, and the sixth or inside row is an intermediate hardwood.

The area to be planted should be plowed and cultivated a year prior to planting. If the ground is sod it should be worked two or more years before planting. Prepare the soil as you would a seedbed for planting wheat.

Trees may be obtained at the state nursery at the Fort Hays Experiment station, from the Soil Conservation Service in the districts in which they operate, or private nurseries. The trees should be removed from the bundle and heeled in a protected location if they cannot be planted within a day or two after arrival. Extra care should be taken with evergreens as they are especially sensitive to drying out.

One of the most important things to remember in the survival and growth of the windbreak is clean cultivation. The trees cannot obtain fast growth if they are competing with weeds and grass for moisture. Cultivation should be practiced until the weeds are shaded out by the tree crowns.

Feeders' Day

(Continued from page 4)

gave it such a good start that "Feeders Day" has become the important annual event for the livestock men of Kansas.

Cattle feeding results only were reported at this first meeting, but now reports on the current year's experiments with cattle, swine and sheep are the style and have been for several years.

Feeders Day programs now consist of four major features:

1. Inspection of the livestock used in the current year's experiments.
2. Reports on the current year's experiments.
3. An address by a well-known authority connected either directly or indirectly with the livestock and meat industries.
4. The question box which gives anyone present an opportunity to secure information about practically any matter relating to the livestock industry in which he is particularly interested.

Feeders Day from 1913 to 1918 was under the supervision of Professor W. A. Cochel, now consulting editor of the Weekly Kansas City Star; from 1918 to 1944 under Dr. C. W. McCampbell, at that time head of the department of Animal Husbandry; and from 1945 to 1948 under Dr. A. D. Weber, now Associate Dean of Agriculture. Since Dr. R. F. Cox did not become head of the department of Animal Husbandry until January 1950, the results reported this year were planned by Dr. Weber; however, Dr. Cox is responsible for this year's Feeders Day program.

Providing a broad background of publicity for the experimental work conducted at the college and bringing together the more progressive livestock men to study the current year's experiments are a few of the many values received from Feeders Day meetings.

He who expects much will be often disappointed; yet disappointment seldom cures us of expectation, or has any other effect than that of producing a moral sentence or peevish exclamation.—JOHNSON.

Wayne King, "The Waltz King", is one of America's most popular entertainers. His weekly Standard Oil television show is a delight to see and hear—and it makes him one of Standard Oil's best salesmen.

More than sweet music comes from this horn

Let's assume that Standard Oil researchers and engineers have fully developed and tested a new, outstandingly improved petroleum product. Let's assume that the product has been made and distributed to Standard Oil dealer stations.

What happens then?

That's where Wayne King and all our other salesmen take over. They inform the public about this new product. And when the public buys, there's work for people to do all down the line: work for the service station man, for the refiner, the pipeline man, the driller. The more we sell, the more people we need to make new products. Our present employees become more secure in their jobs, and new jobs open up.

Good salesmanship, you see, is vital to all of us. But good salesmen must have good products to sell —and that is why research and product engineering, as carried on at Standard Oil and other progressive companies, is also vital.

Good products *plus* good salesmanship are an unbeatable combination that helps make our country great and the American standard of living the highest in the world.

Standard Oil Company

(INDIANA)

STANDARD

Experiment Station

(Continued from page 13)

mental work for 15 years, which makes him well acquainted with the problems of Eastern Kansas farming.

Remodeling of a barn on the purchased farm is almost complete. When completed 30 dairy cows will be kept for a nutritional study of feeds raised for dairy cows.

The cows will be divided into three groups of 10 cows each. One group will be fed feed grown outside of the area of known mineral deficiency. They will be the control group. The other two groups will be fed locally grown feeds. To one group's ration will be added mineral supplements that are thought to be lacking in local feed.

Construction of a laboratory and office building, machine shed, and house is planned in the near future.

Various crops are being tested with different types of soil treatment. Winter oats, spring oats, wheat, hybrid corn, native pasture grasses, clover, and buffalo alfalfa are being tested at the present time.

In cooperation with U. S. D. A. uniform tests of rock phosphate on Red clover and Brome grass are being conducted. These same tests are being carried on in all parts of the United States.

Major emphasis at the present time is on native pasture grasses and legumes. This is in line with the policy of doing first that which is needed most. Eastern Kansas, the Southeast in particular, has a problem in raising legumes and of restoring the native grass pastures, many of which are in a run down condition.

Plans are being made for additional tests on different types of soil in the locality. These tests will be on a cooperative basis with different farmers. The Experiment station is handicapped by having a uniform soil.

Testing of grasses and legumes, under actual farming conditions, for rebuilding the soil and controlling erosion are also planned.

Personnel of the Experiment station when completed will be Mr. Davidson, administration and soil specialist; Mr. Jones, crops specialist; and a dairyman who has not been named. Mr. Jack Irwin has been named station foreman. There also will be three men for general farm work.

Grape Varieties

(Continued from page 9)

ing under Kansas conditions. Several are selections produced by the USDA, such as, the numbers 4005-10, 4019-12m and 4023-10. Another group has been obtained from the N. Y. experiment station. These are the Schuyler, Interlaken Seedless, Hector, N. Y. 16829, and the Missouri selection Roubidoux.

The largest groups are selections of French bred hybrids grown by Emmett H. Schroeder, Hutchinson, Kansas. Mr. Schroeder has over 800 different varieties of grapes that have been developed by the French breeders and the experiment stations here in the U. S. Of these, selections from Seibel varieties, such as S4643, S14596 and S14664, were set out. Other selections are from Seyve-Villard varieties, Couderc varieties, Baco No. 1 and a Lucile X Rib cross.

These grapes have been set in groups according to their required system of pruning. Some have to be pruned with long canes, with 10 to 15 buds per cane. Others need to be pruned with short cane or spur pruned. Certain varieties will do very well under one type of training and pruning while others need a different pruning system.

This test will require a number of years to complete. The testing will include checks for hardiness, climatic adaptability, soil adaptability, resistance to disease and insects which are prevalent here, and also their ability to sell well on the market. Grapes require about three years to come into bearing. After that, records must be kept for a number of years before accurate conclusions can be made.

Some of these grapes are adapted for wine or juice making. Others are strictly table grapes. At the conclusion of this experiment, the officials hope to have better grapes with more of the vinifera or California grape qualities. This should enable growers in this region to compete more successfully with California grapes.

There is no readier way for a man to bring his own worth into question than by endeavoring to detract from the worth of other men.

—TILLOTSON.

proved way to have "FEED SECURITY"

A year's supply of high quality feed in reserve is good insurance in any livestock operation.

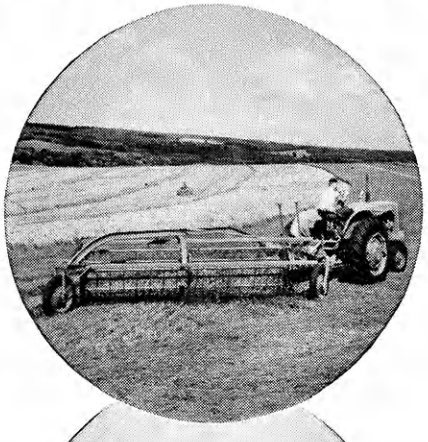
You might feed out some of that reserve each year... use it to carry you over a period of poor range condition . . . take advantage of it to expand your herd at a specially opportune time. Whatever the outlook, you could plan your entire livestock operation with greater confidence.

That's Feed Security. And here is the machine that can make it possible at lowest cost.

ROTO-BALER

Turns hay or range grasses into rolled bales that seal IN the leaves . . . seal OUT rain and snow like a thatched roof. Rolled bales are securely twine-wrapped (no hazardous, expensive wire ties)—will not buckle or come apart. They stack compactly for long-time storage of high-feed-value hay—ready to feed whole on the range with almost no waste.

The ONE-MAN ROTO-BALER is big-capacity... it's years ahead. And priced so low that savings in one season on hay-handling labor can pay for it!



- The POWER-DRIVEN A-C Rake steers true, makes ideal wide windrows for Roto-Baling.

- The new Allis-Chalmers Bale Loader picks up bales lying at any angle.

Often there is a generous surplus of lush hay and forage growing on the ranch. Too often much of it just goes to waste. The Roto-Baler can save that surplus at the exact time of highest feed value. It is a proved way to have Feed Security.

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

LP-Gas

(Continued from page 16)

farmers operating on a large scale farming program. Due to the lack of carbon deposits when using this fuel the estimated life of the engine is increased from one-third to three times longer. Savings in engine maintenance are made each year, and the operator can go longer between oil changes. Som trucks which are using LP-gas go 5,000 to 7,000 miles before having an oil change. This fuel is thought to contain enough mineral oil or absorption oil to lubricate the valves. Top cylinder lubrication may be entirely eliminated. Butane-propane is a slower burning fuel than gasoline resulting in a longer impulse on each power stroke. This gives a more uniform bearing pressure and provides for a smoother engine performance with less vibration.

Tractors operated with L-P gas require specially constructed fuel tanks and carburetion equipment. Due to the need of high compression ratios, high compression cylinder heads or pistons should be installed. The manifold should be of a cold inlet type and cold type spark plugs are preferred. Ignition should be timed to take place from five to ten degrees earlier for the best performance.

Your old tractor may be converted to LP-gas or you may purchase an LP-gas tractor from a manufacturer. If you convert your tractor, both gasoline and LP-gas tanks may be installed so that either may be used if desired. The average cost of a conversion unit is approximately $215. Once installed butane-propane units will result in lower fuel costs, increased engine power, longer lube oil life, greater engine torque (more lugging power), less engine maintenance (fewer overhauls), and a smoother running engine with less vibration.

Foreman: "Why is it you only carry one plank and all the other men carry two?"

Worker: "They are just too lazy to make two trips like I do."

Clothes make the man . . . scarcity of clothes makes the woman . . . and often makes the man make the woman.

Farmers Are Experts

(Continued from page 17)

continue to drop for some time.

While demand was not being met little or no discrimination on the market was made on goods of inferior quality. Quantity was the all important objective. Now that production has surpassed demand, quality is beginning to enter in and command a premium. The production of superior goods requires careful planning and the use of the best possible combinations of resources. Farming is now becoming so competitive that one will have to become an efficient producer to stay in production.

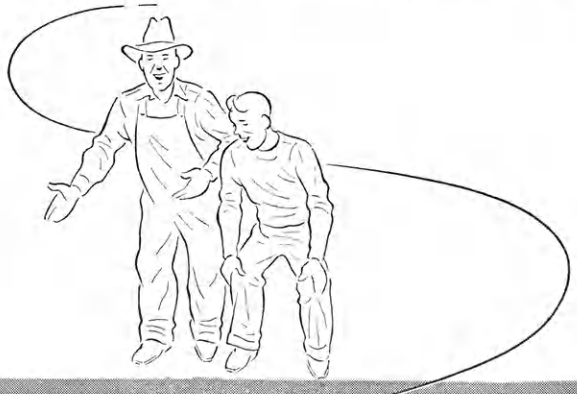
Farmers expanding production and especially those entering production for the first time should do so with caution as they are on "thin ice." The cost of obtaining the necessary land, machinery, livestock, and tools is high. After prices have reached a stabilized level these costs will soon adjust themselves accordingly. For the present it is possible that entrance into agricultural production with little capital may result in disappointment and discouragement.

ANOTHER CHALLENGE to Farming in the 1950's

● How many farmers realize that conservation practices not only save soil but also increase yields and reduce crop production costs? A majority of farm paper editors . . . regional and national . . . answering this question said that nearly 100 percent realize it but, for various reasons, most *do not yet practice it.*

Here is your challenge as farm leaders of the dawning decade: To transform this apathetic acceptance of soil conservation—wherever you find it—into dynamic guidance of prevailing farm practice. It calls for the fire of youth, the energy of persistent purpose, to overcome habits and wasteful ways.

In this service to agriculture and to America, the farm machinery industry is your ally. For example, Case has consistently promoted the principle that conservation is not something to be done for the farmer but rather to be his own way of farming with his own farm power and implements, at his own discretion and responsibility.



CASE

With its 15-foot working width, the Case wide-cut disk harrow gives great capacity with tractors of medium size, such as the Case full 2-plow "SC" shown here with adjustable front axle. Outer sections of this harrow swing on inclined pivots. They can be carried above the middle gangs to go through 12-foot gates, or to gain extra penetration when used as 10½-foot harrow. Angling and straightening "on the go"—by hydraulic control or by rope control powered by its own gangs—makes it easy to cross grassed waterways without cutting and without loss of time. J. I. Case Co., Racine, Wis.

The Last Word

Agriculture Will Demand More Education, Training in Future

By DEAN R. I. THROCKMORTON

It has often been said that farming is an art. It is, and also it has become a science, a complicated business and a way of life. The time has passed when it is sufficient merely to have acquired the art of good tillage, seeding, cultivating, harvesting, and livestock feeding and management to be successful on the farm.

The successful farmer of today needs to know why certain methods are more economical on his farm. He needs to know crop varieties, to be able to identify different kinds of grasses and weeds, to interpret fertilizer and feed analysis, to know the effects of various combinations of feed in feeding livestock and to be able to interpret world conditions and market trends as they influence his operations. He needs to know how to control weeds, plant diseases, and insects by use of the most modern methods.

Since one segment of our complex society cannot, for any appreciable period of time, prosper at the expense of other segments, the farmer needs to understand labor and industry and their problems as well as the problems of agriculture. This is important because the problems and responsibilities of these three great segments of society are closely interwoven.

One crop farming, as corn, wheat, or cotton production, is rapidly passing out of the picture and is being replaced by a combination of cash crop and livestock type of agriculture. This type of agriculture demands more scientific training than does a cash crop agriculture, but there is a strong compensating factor for the increased effort in a more stable, and in general more profitable, agriculture.

Agricultural programs established by acts of Congress influence farm income, the agricultural pattern, the thinking of farm folks and, to some extent, the trend of farm life. It is important that farm people fully understand these programs and their implications in order to assist intelligently in guiding them for the greatest good. Scientifically trained, farm-reared men, with a broad understanding of agricultural problems and their implications and relationships, must be available and must take an active part in the planning of agricultural programs at the national level.

These needs and demands of agriculture can be met only through more and more of the farmers of the future receiving scientific training in agriculture. A college course in agriculture will pay huge dividends in increased economic returns, in a fuller life, in a better understanding of people and of nature, and in increased opportunities for service.

In view of these facts, it is not surprising that so many of the graduates in agriculture at Kansas State college are returning to the land rather than seeking employment in towns and cities. They know that the farm offers opportunities for profit, service, and a satisfying way of life that few salaried jobs can match.

Graduate's Prayer

(Continued from page 12)

'twere my lord.
It is for this little document so pure and fair,
That I have constructed the following prayer.

As I lay me down to rest
With my B. S. Degree shining at its best
I pray I'll awaken in the lord's good grace,
And find a million dollars there in its place.

—H. E. COBLE

Wheat Varieties

(Continued from page 6)

connected with the college. Credit is therefore due Earl G. Clark, Sedgwick, Kansas, for his selection of Blackhull and Super-hard Blackhull. These two wheats were distributed to the farmers and were widely accepted. Good test weight and high yield per acre were the outstanding features of the Blackhulls. Later crosses made by Mr. Clark resulted in Chiefkan and a selection from a third variety was called Red Chief. These wheats became very important in recent years. Some sections of Kansas planted over 80 percent of their acreage to these two varieties. Their outstanding characteristics are high yield, good test weight, stiff straw, and high protein. They are, however, wheats of poor baking quality. They are also susceptible to rusts and smuts.

Red Chief and Chiefkan do have some value in breeding work. Some day their good qualities may be brought out in an offspring with the good qualities of some of the other varieties now used in breeding better wheats.

As We Part

Before we write the traditional '30' to the last issue of the Ag Student for 1949-50, I would like to express my appreciation to those who have a part in making it possible.

A lot of credit goes to the departmental reporters who through their resourcefulness and initiative have helped to keep the contents balanced. It is impossible for the editorial staff alone to keep track of all clubs and activities. Their interest has made much new material possible. To the staff—it would be impossible to have a better group to work with.

Thanks also to Mr. Macy and his Ag Journalism classes. Though Mr. Macy has had many other activities he was always available during the hour of need. It has been he who has had much to do with making the magazine possible.

Finally, my congratulations to next year's staff to be headed by Delmar Hatesohl. They have new ideas for a bigger and better magazine. To me it has been fun, full of new experiences and I assure you, never to be forgotten. Thanks—DW.