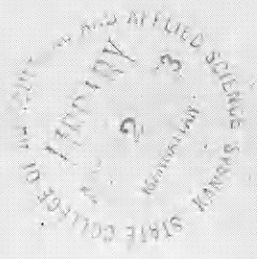


THE KANSAS

# Agricultural Student

MAY, 195

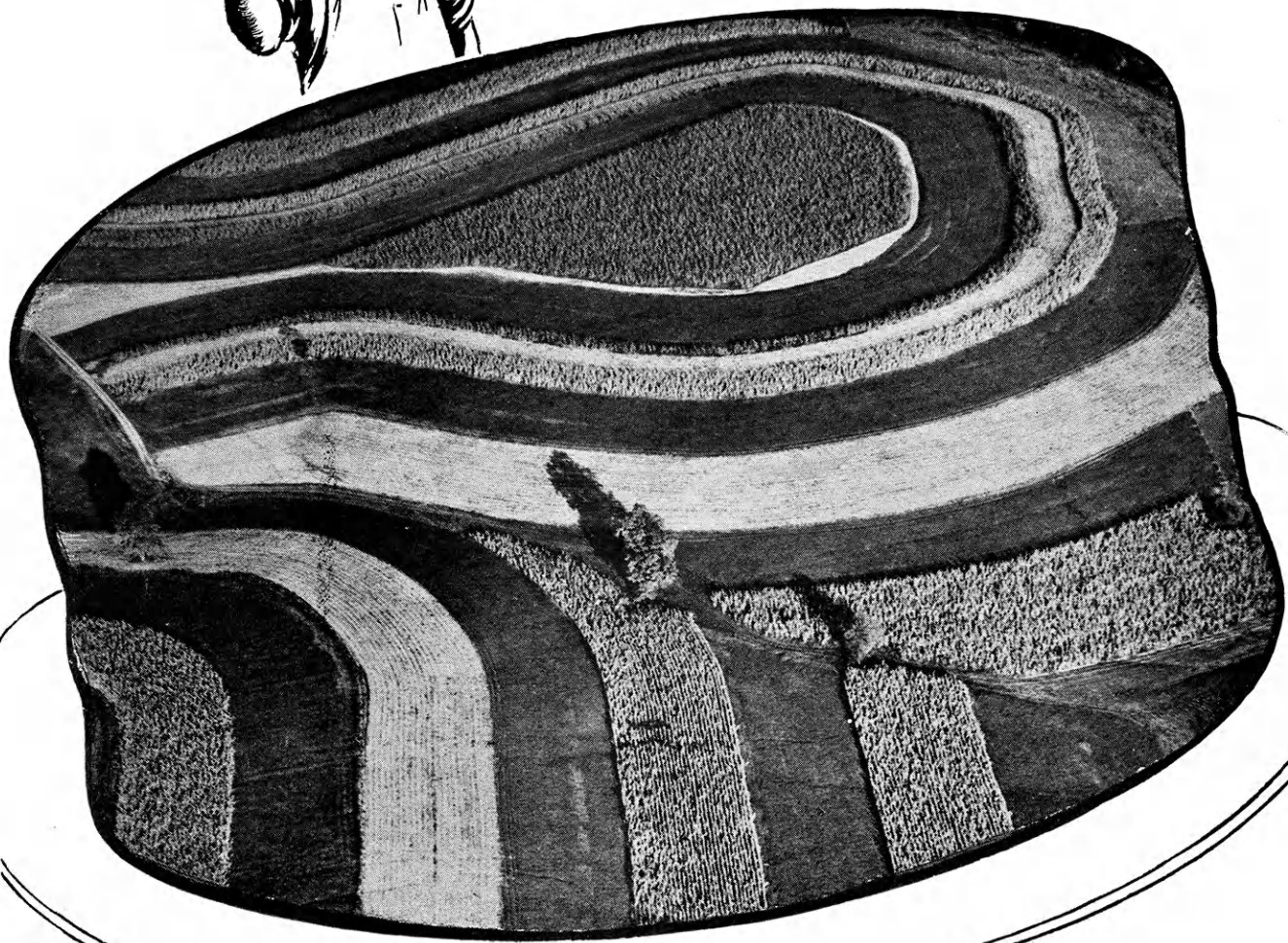
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## In This Issue:

You Don't Say 'Whoa' in Finland  
Houseboy Answers the Big Question

# Farmers can eat their cake



***...and have it, too!***

Yes, modern conservation practices soon begin to repay their cost—enable farmers to eat their cake and have it, too. Controlling erosion helps to hold precious topsoil on the land and, at the same time, hoists farming profits.

Contouring, terracing, strip-cropping, and other soil-saving operations, which can be practiced with regular John Deere farm equipment, mend mismanaged or erosion-scarred land. Grasses and legumes, together with agricultural limestone and commercial fertilizers, rebuild soil productivity

in a hurry. This double-barreled program, recommended by agricultural authorities, enables soil conservation farmers to improve their places and, at the same time, raise bigger yields and enjoy better incomes than ever before.

Soil conservation, however, is more than a remedy for ailing acres or a recipe for bigger profits. It's a gilt-edged investment in America. By making our agriculture more stable and productive, modern soil conservation practices help to maintain our economic well-being and safeguard our national security.

**J O H N D E E R E**



**M O L I N E , I L L .**

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

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No. 4

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# On the Cover...

These gentle animals peacefully grazing in front of the beef barn at Kansas State college look as if they haven't a care in the world. But cattle now are the center of one of the hottest pieces of administrative action ever to rile a livestockman's blood.

The price roll-back, which put a ceiling price on beef, just plain made the farmers mad. They organized for the sole purpose of fighting Mr. DiSalle's little plan. Mr. DiSalle says that the price of beef is adding to inflation; the livestockmen say that they don't mind taking a cut in the price they receive for beef, but that the plan as it now exists will not help the individual consumer.

They say that the reduction in price that they get for their animals is over ten times as much as the reduction in cost to the housewife who buys the beef. They want to know where the other nine-tenths is going.

Before consigned to bachelor land,  
I met a girl I'd wed;  
I asked her father for her hand,  
And got his boot instead!

Two utterly dejected looking Aggies were draped over adjoining stools at the corner drug store soda fountain. After a long period of silence one turned to the other and snorted: "Helen's the most despicable, overbearing, sloppy hag I ever knew!"

"Yeh, I know," sympathized the other. "I can't get a date with her either."

Dear Sir:

It was a great race last Saturday. There was a gigantic crowd and a wonderful field of horses. "Harassed" was without equal. She jumped into the lead immediately and held it three-quarters of the way. She blazed down the stretch fifteen lengths ahead of the field. Her head was high, and she was simply prancing. It was really a sight to see!

However, she lived up to her unique name. As "Harassed" raced toward the finish line, she became harassed beyond words. She forgot which way she was supposed to run and she turned and ran the wrong way.

*Like Old Soldiers*

# Kaw Valley Potatoes

THE ANNUAL potato crop in Kansas totaled 3.5 million bushels during the 1920's, but after 1932 production reached the 3 million mark only once; this was in 1938. Now it is less than a million.

What happened to potato production in Kansas? To find the answer let's look at the area where most of the potatoes were produced.

The production of potatoes in Kansas is centered in the section of the rich Kansas river valley commonly called the Kaw valley. This region extends from Manhattan to Kansas City. Counties in this area are Douglas, Jefferson, Johnson, and Leavenworth.

Farms in this region are the typical bottom land farms with the main crops being alfalfa, corn, soybeans, wheat, and potatoes. As far as livestock is concerned, the Kaw valley handles its share of dairy and beef

herds due to its close location to Kansas City markets.

The drop in potato production has caused several problems to the people of this region. Since the decline in production has meant a drop of some 7 to 8 million dollars in state income, the problem has now become state wide and not just the Kaw valley's.

First, however, just what does it take to raise potatoes on a commercial basis? The author of this article received these data recently from Alfred Heck and Sons, potato growers in the Kaw valley, so we may accept them as being present day prices.

The land is worth from \$450 to \$700 an acre, the type potatoes are grown on. In order to harvest this crop one must have a two-row potato digger at \$600 to \$700, and a washer and grader at \$4,500 to \$5,000 for four- to five-car production.

Seed is worth \$3 to \$3.50 per 100

pounds, fertilizer is \$75 a ton, and spray which is used at least three times a season costs \$8 per acre for each spraying—not to mention the special equipment necessary such as sacks at 10 cents apiece, sprayers at \$350, tractors, trailers, special buildings, and other necessities on the selling end. Thus we can see the potato grower is quite heavily invested when he has planted a crop.

Another important factor is adequate hand labor to pick the crop when harvested, and just how this labor is rated for a certain season. Oftentimes the grower finds himself with a bumper crop and a poor labor supply or labor which is too costly for the grower to pay for profitable production.

Now with this type of investment, and problems of management the grower has in recent years found himself without a market once his

## Oh My Aching Back . . .



THIS POTATO digging scene is fast becoming a thing of the past as potato production in Kansas continues to decline. One reason for this is the poor quality of some potatoes produced in the Kaw valley. A factor contributing to poor quality is sun scald, and this is prevented by picking the potatoes up as soon as they are dug and placing them in a cool dry place. Careful handling of potatoes in the field and in storage is important in maintaining good quality.

# Just Fade Away

By Bob Wulfkuhle

crop is produced. Primarily, this is due to competition from the California growers who can get their product on the market earlier and in better condition than can Kansas growers.

This has resulted from two main factors: Kansas climate and a lack of uniform grading and marketing system.

The Irish potato is essentially a northern crop and is most successfully produced in the northern states. The state of Kansas, by virtue of geographical location and climate, is, therefore, not an ideal section of the country for potato production. A case in point is the extreme dry years following 1933, which caused many crop failures, and forced a number of growers into financial difficulties.

The large cash outlay necessary for the operations of plowing, planting, and cultivation of commercial crop of potatoes combined with Kansas weather has eliminated many desirable growers from the field. Since irrigation is not practiced to any extent in the Kaw valley, the uncertainty of good crop yields, and the poor market reputation of present potato varieties under Kansas climatic conditions provides small incentive for the high investment per acre for this crop.

The second problem is that of grading and marketing. It has been stated: "Quality products always command a premium." A few Kansas potato producers in the past, unfortunately, have failed to realize the importance of grading their potatoes for a quality product, or any effort to grade out inferior stock has been carelessly done.

The reputation of a producing area influences the price that will be bid at the terminal market for products from other areas. Particularly is this true if competition is keen as is the case with potatoes. Therefore, it is

to the advantage of the farmer to have his product well graded and conditioned before it is sent to market. If producers in Kansas successfully compete with growers in other potato-producing areas they must improve the quality to receive better prices.

In contrast to this generalization, however, it is known that a number of commercial Kaw valley potato growers produce and market a good quality crop year after year.

The unfortunate aspect of this situation from the standpoint of Kansas growers who do produce and

market a quality product is that those uninspected, dirty, and many times inferior potatoes were finally sold to consumers in and out of Kansas, and the reputation of Kansas potatoes was not benefited.

Thus we have three reasons or arguments on just what caused the drop in our potato production: the climate, the unstable grading throughout the industry, and the poor quality stock reaching the market which has set a poor reputation for Kansas potatoes.

These problems have been answered

(Continued on page 32)

## Sack Time . . .



AFTER POTATOES have been dug, they should be carefully graded before being marketed. Poor quality potatoes should be separated from good potatoes. Careful storage and transportation methods are necessary to maintain quality. Quality control is the only way Kansas growers can meet competition from other areas.

*A. H. Continues To Study*

# Use of Bluestem Pasture

*By Don Flory*

"KANSAS BLUESTEM" is recognized by stockmen and range management workers as tops among native pasture regions in the world. Proper grazing practices, with an eye on the future, have allowed millions of tons of beef to be produced on this area which today shows few signs of depletion.

Since the bluestem region was first settled, proper utilization of this valuable natural resource has been a major problem of cattlemen. When to start grazing in the spring? Should pastures be burned? These and other problems were discussed in hundreds of their meetings.

There seemed to be only one way to discover practices that gave the greatest yield from these acres—experimentation. In 1946 K-State purchased a 1,135-acre tract with hopes of finding the best way to manage bluestem pastures. With this idea in mind the Grass Utilization project was organized.

Three hundred steers and heifers are being used for the project which is 4½ miles northwest of the campus on Donaldsons' pasture. It is sponsored by the animal husbandry department with assistance from the agronomy department on some phases. Prof. Ed Smith is in charge for

animal husbandry and Prof. Kling Anderson for agronomy.

This year, five phases of profitable grass utilization and sound pasture management are being studied. The pasture has been divided into 14 smaller plots for these projects.

One experiment is designed to determine effects of different wintering rations on subsequent pasture gains. Five lots of ten steer calves each are being wintered on five feed combinations, then grazed on bluestem a full season. Results so far have not indicated any superior feed but they have shown steer calves can be wintered satisfactorily on dry bluestem pasture.

Another portion of the experiment deals with the wintering, grazing, and fattening of heifers. Three objectives are being considered. One is to develop methods of utilizing bluestem grass with heifers. The second is to compare different wintering rations for heifers that are to be grazed on bluestem grass, and last, various methods of finishing heifers which have been wintered on home-grown feeds and grazed on bluestem grass are being studied.

Stockmen would like to know if there is any method of increasing the safe stocking load and maintaining

gains without damaging grass. An answer to this problem may come from another phase of the project. Six pastures containing 60 acres each are being used to study the effects of time and intensity of grazing bluestem on livestock gains and condition. Results of the utilization, population, and vigor of pasture vegetation are also expected from this work.

Another sub-project deals with problems of wintering and grazing steers. Four lots, of 10 steers, are being wintered on bluestem grass and fed in the following manner: lot one receives six pounds of alfalfa per head daily, lot two, two pounds of soybean pellets daily per head, number three gets four pounds of soybean pellets per head every other day, and number four receives soybean meal and salt self-fed. An attempt is being made to develop a system of feeding bluestem grass during the winter. Results so far indicate steers fed two pounds of soybean pellets daily while on dry bluestem are outgaining the other lots.

In 1950 an additional sub-project was started. Its purpose is to study effects of burning bluestem pastures on cattle gains, condition, and their utilization of vegetation. Any changes in the soil and safe stocking rate produced by burning will also be studied. Work over a number of years has indicated that burning should be practiced only when absolutely necessary. It has been proven that pasture burning is followed by decreased forage yields, but its effect on grass utilization has not been determined.

Life isn't fair to men. When they are born, their mothers get the flowers and compliments. When they get married their brides get the presents and publicity. When they die, their widows get the insurance and winters in Florida.

Our circulation manager calls his landlady Lifebuoy—everybody odor.

## Donaldson Tract . . .



ENTRANCE to the Grass Utilization Project tract. Purchase was in March 1946, and contains over 1,100 acres.

# Pickled in Plastic

*By Everett Browning*

“NEITHER THE SCHOOLS of physicians or Aristotle’s discerning brain have yet disclosed how the hen and its seed doth mint and coin the chicken out of the egg,” as Harvey put it back in the sixteenth century, is still true for poultry in general, but research conducted at the Kansas Agricultural experiment station by Fred Moultrie has thrown more light on what goes on inside the turkey egg.

Moultrie, a graduate student in poultry husbandry, who has been doing research on the mortality of turkey embryos, has embedded 28 embryos in plastic, each representing a day of growth within the egg, from the first day of setting to the 28th

day when the poults normally hatch.

A standard against which the dead embryos could be checked had to be set up and since specimens contained in a jar of alcohol are neither permanent nor pleasing to the eye, the modern science of plastics was put to use.

Four or five eggs were taken from the incubator each day and the embryos broken into a dish. From each daily group of embryos, the most representative of the lot was prepared for embedding in plastic.

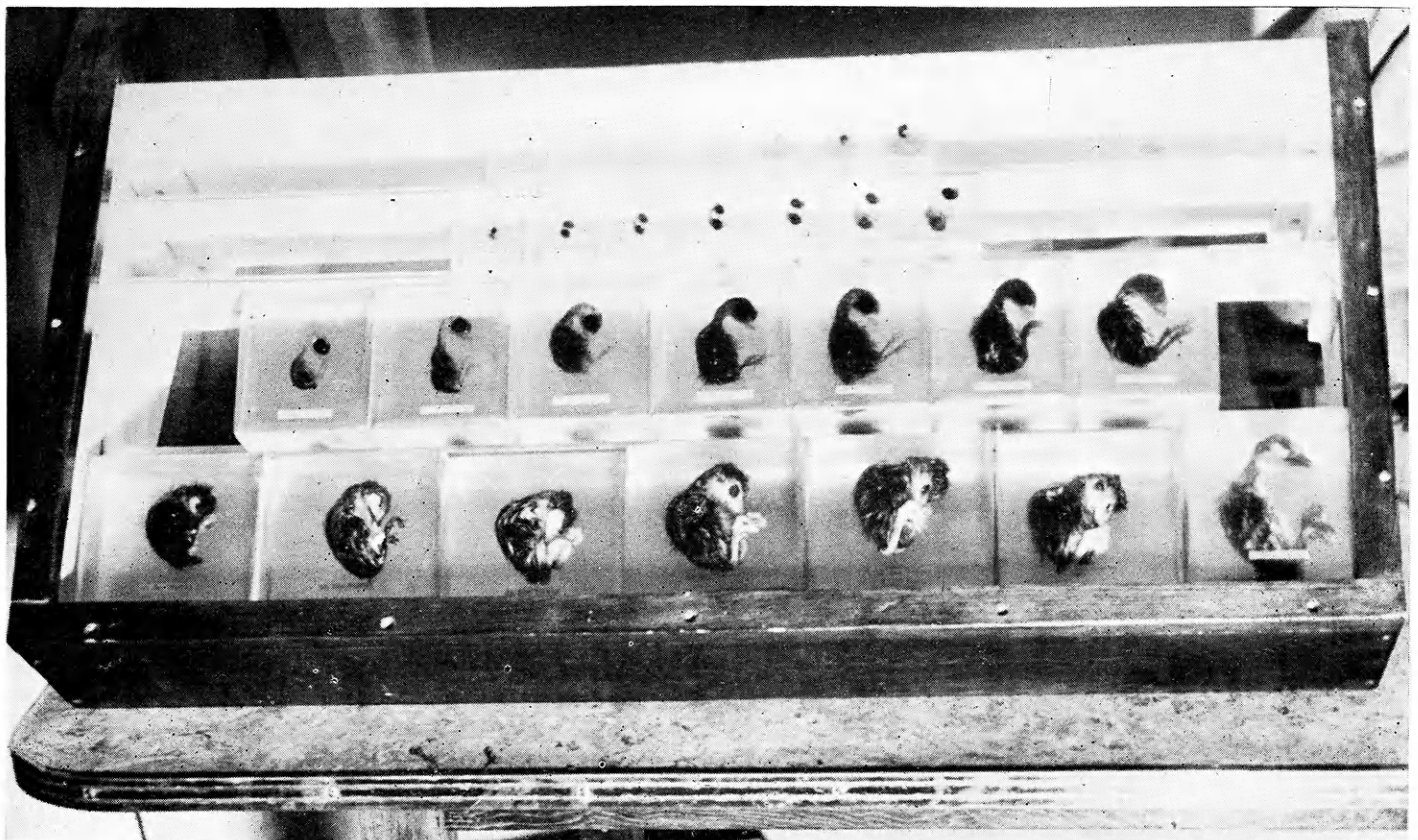
This plasticizing process which replaces most of the organic material of the embryo with plastic is a complex and time consuming operation. The specimens were placed in con-

secutive baths of “fixing” solution, water, alcohols of various grades, ether, and finally a solution of plastic. After this, the specimens were embedded in plastic which was allowed to harden and then shaped into blocks and smoothed and polished.

The set of standards is currently being used to check the peak mortalities of turkey eggs. On the seventh day of incubation, all of the eggs are candled, and the infertiles and dead embryos are taken out. Those with dead embryos are broken and checked against the standard to determine the day on which they died. On the 29th day, the remaining eggs that didn’t hatch are broken and the

(Continued on page 33)

## Embryonic Development . . .



TURKEY EMBRYOS preserved in plastic illustrate each day’s growth from fertilization to hatching. Fred Moultrie, graduate student, prepared the plastics in order to find out the peak periods of embryonic death and why. By comparing embryos that have died with those in the plastic cubes, he can determine on which day they died.

# You Don't Say

*H. Dale Johnson was an exchange student to Finland the past year. He returned earlier this year and plans to be back in K-State again next fall.*

**Y**OU CAN'T "WHOA" a horse to a stop in Finland; you must say "Brrrt." I learned this and many other things while living in Finland last summer.

Finland is the size of Montana. Only nine per cent of the area is cultivated, yet half of the population is engaged in farming. The growing season is from six to eight weeks shorter than that of Kansas. Spring is the dry season while the summers are wet. All of these conditions affect the Finnish manner of farming.

Livestock raising is the farmer's mainstay. Dairy cattle are numerous. Some are Ayrshires, but most are a native Finnish breed. The native Finnish cow is a small, light brown cow, which produces a medium quantity of good-quality milk. On smaller farms the women do the milking while the larger farms use milking machines. Most of the milk is sold to co-operative dairies, where milk not consumed as fluid milk is manufactured into export products.

Pork is the important meat in the Finn diet; therefore, most farmers keep a few fattening hogs. Many large farms are now specializing in hog-raising. Originally, their breed was the white English Yorkshire; that has developed into a medium-

type hog whose ration consists mainly of grain, scraps, and skim milk. We visited a creamery where the excess whey was being used to fatten 829 weanling pigs.

I showed some colored pictures of Durocs and Poland Chinas to my Finnish friends. It was difficult for them to believe that our pigs are colored as they had seen only white ones.

Northern sheep of Finland are a long-wooled breed and are sheared twice a year. Twin lambs are a common occurrence. Many times the sheep are pastured on the islands of the lakes, thus eliminating the need for fences and danger from animals. There are, however, sheep rustlers. Finnish women still clean the wool produced on their farms, then spin yarn and knit stockings from it.

Small farm flocks of hens are kept to provide eggs for the home. There are also a few ducks and geese. One farm near Helsinki raised turkeys and found the November business, from the American Embassy, profitable.

Finnish horses are a small, hardy, light-colored, native breed. Horse-drawn, two-wheeled carts are used for hauling on all farms. Finns are extremely fond of trotting horses; after a week of field work, these horses trot very well in Sunday races. Many communities have their own race track.

Although the work horse still provides most of the power, Ford, Fordson, and International Harvester tractors are appearing on the larger farms.

Cultivated fields often have a clay or a peat-like soil. Farmers carefully fertilize with manure or commercial fertilizers. Excess summer rains make it necessary to cut up the fields with small drainage ditches. Much under-

## Haytime Over There . . .



MUCH OF THE FARM WORK in Finland is done with horses, although some farms are equipped with tractors. Because of weather conditions, hay is cured on pointed five-foot stakes. When dry, it is hauled to the barn in two-wheeled carts. Common hay plants are timothy and red clover.

# 'Whoa' in Finland

By H. Dale Johnson

ground drainage tile is being installed.

Red clover and timothy are grown for hay. After hay has been cut and windrowed, workers hang it on 5-foot pointed stakes to dry; later the dry hay is stored in the barn. To make silage, clover and timothy are cut at an earlier stage, and while green hauled to the silo. There a pre-mixed solution containing sulphuric acid is diluted with water and sprinkled on the greens. This silage is excellent winter dairy feed.

One good cutting for hay is all that can be expected. However, depending on rainfall, two crops for ensilage or late pasture for dairy cattle is taken from the earlier-cut fields.

Rye, spring and winter wheats, oats, and barley are the principal grain crops of Finland. After the grain has been bound, the bundles are also hung on pointed stakes to await threshing. Each farmer threshes his own grain, either with a small machine or by hand. Lucky is the farmer whose threshed grain has less than a 24 per cent moisture content. Therefore, each farmer has some method of heating and drying his crop. Surplus grain is sold from large farms, dried, cleaned, graded, and sacked. Straw is saved for livestock feed.

A variety of vegetables, including cabbage, peas, carrots, onions, beets, and potatoes, is produced for each home.

During the winter months, farmers carefully cut and saw timber to sell to paper mills. Forests are well managed and yield a good income.

Farmsteads are built in a square. The buildings are usually frame, painted red, and trimmed with white.

In Lapland, herds of reindeer feed on summer pasture. During the winter months, they are corralled and owners then butcher them, clean the

hides and make souvenirs for summer tourists from them.

Since the war, the total agricultural production has been reduced by the lack of imported fertilizer. However, pre-war Finland produced 80 per cent of her food supply from

farms of which 74 per cent were independent farmers, 6 per cent were tenants, and 20 per cent were laborers.

Finnish agriculture supports a determined, progressive, and independent group of fine people.

## Old Line Method . . .



BAKING BREAD in an old-fashioned oven, this Finnish housewife turns out products that are the envy of more up-to-date bakers . . . bread that just melts in your mouth. Many farms in Finland are equipped with ovens such as this one. Dale Johnson took this picture while he was an exchange student in Finland last summer.

*Oliver Russ Is*

# Digging To Learn

*By Don Jacobson*

**J**OHNSON GRASS may eventually be eradicated as the result of a study being made at Kansas State college.

Oliver Russ, graduate student in agronomy, has undertaken an exhaustive study of the underground growth habits of this grass pest. His findings will be the subject of his master's thesis which he plans to finish this summer.

About a year ago, Russ planted half of his laboratory plot on the agronomy farm with Johnson Grass seed and the other half with rhizomes, underground runners, of the same species. He wanted to compare the growth of plants from these two types of beginnings.

He was especially interested in determining the period of time required for the plants to reach a stage when

they could be regarded as perennials. At the perennial stage, the plants may be cut off two inches below the ground and still grow back.

This spring, "excavator Russ," as he might well be called, is watching very closely the early growth of his grass. To date, this observation has required Russ to dig a space 30 inches deep, 4 feet wide, and about 8 feet long.

His technique requires him to cut back into the bank a little farther each day to contact new plants to record such facts as first growth, depth and length of the rhizomes, number of dormant plants, and such other information as might be of value in his report.

Russ has recorded rhizomes 30 inches deep and with a lateral spread of as much as 5 feet. He stated that at the end of one year, the plants started from rhizomes had much more development than those started from seed. So far, his total findings are not complete enough for release.

Prof. James W. Zahnley, Oliver's major instructor, said that "there is no question but what Johnson grass is a serious pest everywhere in Kansas, particularly in the Southeast and in the irrigated sections in the Western part of the state." In Western Kansas, he continued, it is a continuous fight to keep the grass out of roadside drainage ditches and irrigation canals from where the seed may be spread over entire fields. He commented that the pest can choke out a field of alfalfa in as little time as one year.

Professor Zahnley estimated that there are between 10,000 and 20,000 acres of the weed in Kansas already. The Legislature has put into effect a provision whereby each county may, by resolution, declare the pest to be noxious if it so desires. Several counties have already exercised that authority. Then the law requires

(Continued on page 35)

## Digging by Inches . . .



OLIVER RUSS inspects the snake-like rhizomes of a Johnson grass plant which he planted last year. So far, Russ has found rhizomes 2½ feet deep with a lateral spread of 5 feet. Each day he digs away an inch or so to uncover new roots. He has a hole 2½ feet deep, 4 feet wide, and 8 feet long. It's still growing.



CHOW DOWN! CHIEF barbecuer Tom Avery puts on the salt as his crew of cooks get things ready for a tasty meal. Left to right are John Kingan, Professor Avery, Al Adams, Al Strafuss, Herman Smith, and Amos Kahrs. This picture was taken at a Poultry club picnic. Al Adams is president of the Poultry club.

*Tantalizing Aroma... Saucey, Crunchy Servings...*

# Barbecued Chicken

*By Dale Evans*

"IT'S THE TASTIEST WAY to prepare chicken, and the atmosphere is always pleasant." This was Prof. Thomas B. Avery's reply when asked about the advantages of barbecuing chicken.

Professor Avery of the poultry department is Kansas State's "official" barbecuer. He has been barbecuing since 1938, and estimates since that time he has directed 60 barbecues plus numerous ones in his own backyard pit.

Professor Avery started to master the art of barbecuing under Professor Warren, formerly of the poultry department, because of his love of the outdoors, and his firm belief that it is the most delicious form of chicken.

"To be a successful barbecuer, you must prepare in advance and follow a few simple rules," Avery says.

Young chickens are best for barbecuing. The most desirable age is between 9 and 12 weeks. The bird should weigh between two and three-quarters and three and one-half pounds alive. Chickens are prepared by dressing, then splitting the bird in half by cutting up the backbone and through the center of the breast at the breastbone. The backbone and neck are removed.

Two types of barbecue pits may be used, the above or below ground pit. The below ground pit is cheaper to build, but has several disadvantages. It cannot be moved, it is low so that

the barbecuer must stoop, and it does not maintain an equal distribution of heat.

The above ground pit is built from pumice blocks, and is easily moved. Furthermore, Professor Avery states, the blocks are not harmed by the fire and may be used later for building purposes. The pit may be made longer or shorter as the size of the barbecue varies.

The fire may be built from wood, briquettes, or charcoal. When wood is used, it should not be green or rotted. Briquettes are the most convenient, but the most expensive to use. The cooking should not start until the fuel is burned and only hot

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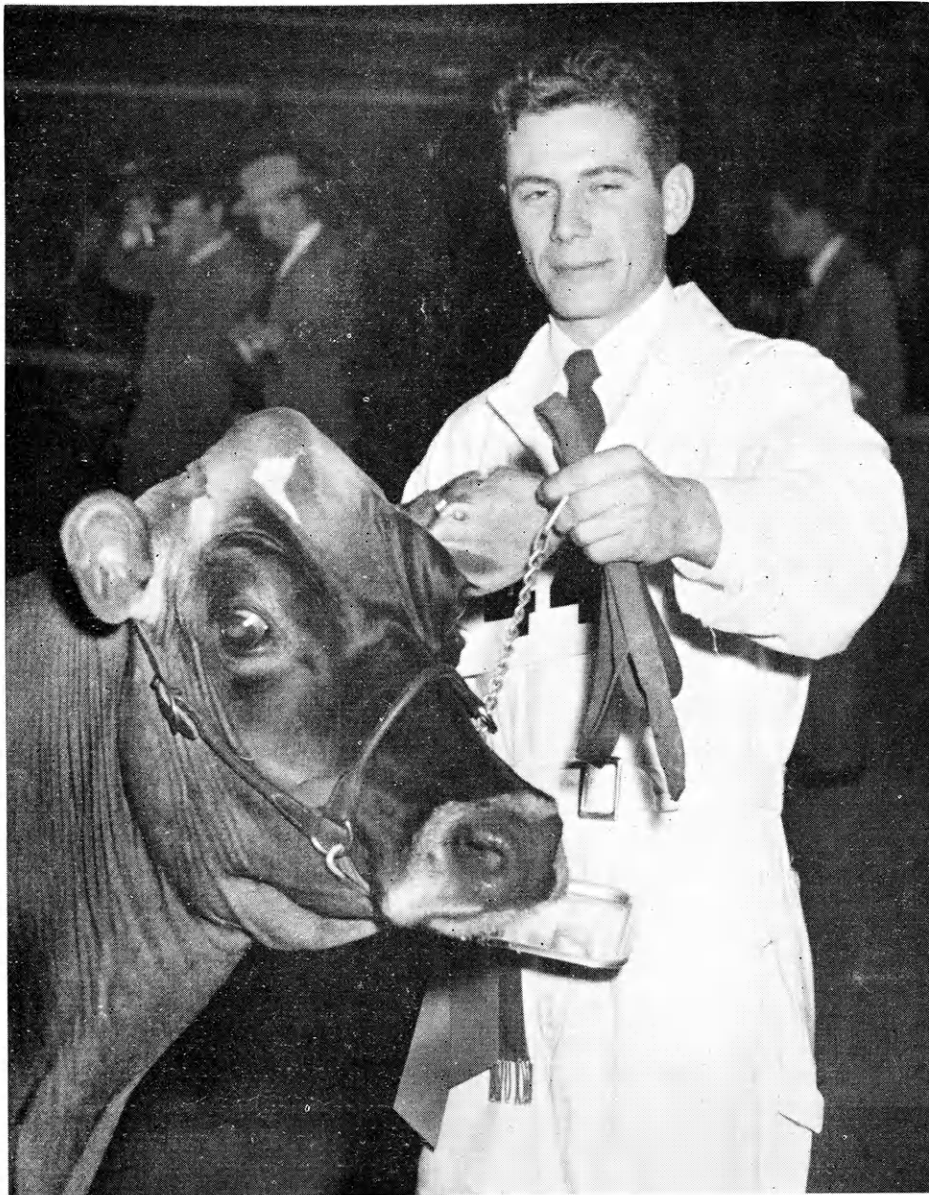
Alex Meek

## Bagpipes Highlight

# The

By John Krell

### Dairy Tops . . .



RALPH RECTOR won first place in the dairy division by showing a Jersey cow. Winners are chosen on the fitting and showing of their animals, and not upon the quality of the animals themselves.

RALPH RECTOR, junior in dairy husbandry, and Maurice McClure, sophomore in agriculture, won top honors at the 23rd annual Little American Royal. The show was held in the Fieldhouse for the first time in its history.

McClure, showing Hampshire sheep, was grand champion showman of the animal husbandry division. Showing a Jersey cow, Rector won grand champion honors in dairy husbandry.

The new Fieldhouse provided ample seating space for a crowd estimated at 3,000 people. There were 170 contestants.

Reserve champions of the show were Raymond Sis, sophomore in agriculture, showing an Angus steer, and Marvin Garber, pre-vet freshman showing a Holstein cow.

Trophies for the show were donated by the Kansas City American Royal, the Kansas City, Mo., Chamber of Commerce, and the Kansas City Stockyards Co.

Dr. A. D. Weber, associate dean of agriculture, presented the awards in the animal husbandry division. Prof. F. W. Atkeson, head of the dairy department, awarded prizes in the dairy division.

Miles McKee was master of ceremonies. Warren Nettleton and John Schlender were ring masters.

The first event of the Royal was a livestock parade, led by Alex Meek, a Scottish bagpiper. He piped the parade around a traditional centerpiece designed by Bill Collins.

Entertainment during intermission was supplied by John Collister of Manhattan, and his well-trained sheep dog. The six-year-old dog was

# Royal Parade

sired by a Scottish champion. Collister's dog won all sheep trials entered last year.

The dog first penned a flock, then after releasing them drove them to a marked spot, and held the sheep until his master gave a signal for him to drive them to another circle to repeat his performance. Doing his duties following his master's sounds, the dog drove the sheep out of the arena.

Asked about how he trained his dog, Mr. Collister said: "One must teach a dog fundamentals up to about six months of age. Be firm, but not rough. Don't force the dog, but make him like to do it."

The top three winners in each class of livestock entered in the Little American Royal are:

**MIXED CATTLE No. 1**—Phil Lu-kert, Leonard Robbins, and Don Jensen.

**MIXED CATTLE No. 2**—Ed Horstick, Ken Albright, and Dan Pherigo.

**ANGUS CATTLE**—Ray Sis, Raymond Burns, and Clyde Waylan.

**LIGHT HORSES**—Jay Dooley, Jane McKee, and Marlene Falley.

**DRAFT HORSES**—Dick Pringle, Thomas Johnson, and Hollis Decker.

**DUROC HOGS**—Alvin Wendland, Harold Reed, and David Schoneweis.

**POLAND CHINA HOGS**—E. A. Gorman Jr., Harold Ward, and Llano Thelin.

**SOUTHDOWN SHEEP**—Don Love, Jake Ubel, and Wayne Zimmerman.

**MIXED SHEEP**—Maurice McClure, Max Deets, and Bob Sayre.

**HOLSTEIN COWS**—Marvin Garber, John Sackett, Mark Alley.

**HOLSTEIN HEIFERS**—John Speicher, Bill Collins, Francis Bennett.

(Continued on page 26)

## Royal A. H. Winner . . .



PRESIDENT MCCAIN presents a silver platter to Maurice McClure, animal husbandry division winner of the Little American Royal. The show was held in the Fieldhouse April 21. In the background, Tommy Dean, K-State shepherd, holds the Hampshire ewe that McClure fitted for the show.

# Country Life

By John Schlender

**B**ECAUSE of an extremely high regard for rural institutions, F. D. Farrell, president emeritus of Kansas State, began studying Kansas rural life eight years ago.

Now the seventh in a series of circulars, entitled "Kansas Master Farmers," is being printed for release in July. Plans are already well under way for the eighth study.

In 1943, when he left the President's office, Dr. Farrell started Agricultural Experiment station project No. 234, "Case Studies of Kansas Rural Institutions." But he began accumulating ideas for such a study many years before that.

Some 40 years ago, Dr. Farrell was introduced to the vital role the church plays in agriculture by Woodrow Wilson, then governor of New Jersey. Farrell, a young USDA worker back east just out of Utah State college, met Wilson through a farmer friend quite by chance.

Wilson told young Farrell that the rural church was one of the most influential organizations in agriculture. Since preachers supposedly know very little about agriculture, Farrell questioned the man destined later to lead the nation through World War I to make a strong bid for peace with the League of Nations.

Wilson told Farrell it was the point of view produced by the church that was so important. With the correct attitude, which the church helped create, the American farmer would advance in other fields of agriculture.

With this in mind, Dr. Farrell made one study entitled "Three Effective Rural Churches." The kind of start people get in rural communities determines what they will become later when they spread to other parts of the world, Dr. Farrell said. He pointed out that cities do not reproduce themselves nor could con-

tinue long without surrounding rural life.

Other subjects Dr. Farrell has considered in his eight-year study are the Fort Hays Branch Experiment station, an early REA electric system, Rice county Agricultural Center, a



F. D. Farrell

mutual insurance company and a consolidated school.

Dr. Farrell has been making approximately one study each year. He travels all over the state to study records, make interviews, and analyze the data before organizing the material into manuscript form. He plans to make 12 to 15 studies of rural institutions to end with an over-all consolidated bulletin.

Tentative plans call for the next circular to be a study of rural community sales. Such sales have become a social function as well as a place for trade.

Judge: Will you tell the court what passed between you and your wife during the quarrel?

Defendant: A flat iron, a rolling pin, six plates and a tea kettle.

## No-tail Sheep

By Ed Boyd

**Y**ES, THOSE SHEEP have no tails, said Bob Jordan, of the animal husbandry department of the University of South Dakota at Brookings. He is now doing graduate work at Kansas State college.

"No-tail sheep were my pet project at Brookings for three years," Jordan continued. "Breeders from many states and several foreign countries want them and we may release a few next year."

The first "no-tails" were brought to this country from Siberia in 1913 by the late Dr. N. E. Hanson, prominent South Dakota horticulturalist, Jordan said. These sheep were wild, relatively large animals covered with brown or black hair six to eight inches long, and carrying a patch of fat on either side of where the tail should have been, which reached the size of a football when the sheep were in good condition. These sheep stored food in these patches of fat just as the camel stores food in its hump. Siberians use this fat for butter.

South Dakota's Prof. J. W. Wilson, former head of the animal husbandry department at Brookings, has crossed these Siberian sheep with the Rambouillet and other "long-tail" breeds with good results, Jordan declared. The crosses do not possess the hair and patches of fat of their ancestors and now resemble the Corriedale breed.

The ewes weigh from 135 to 150 pounds and shear eight to nine pounds of three-eighths to quarter-blood wool. They are free from wool about the face and are light boned. They are good rustlers, give an ample supply of milk, and make excellent mothers.

"No-tail" lambs exhibit typical hybrid vigor. They weigh more at birth, gain faster and more efficiently, and produce a better carcass than many other breeds, Jordan said.

However, they do leave something to be desired as they tend to be wild and hard to handle, Jordan admitted.

(Continued on page 28)

*Over 1400 at*

# FFA Contests

*By Gordon Nelson*

**K**ANSAS STATE College was host to 1400 FFA members April 30 and May 1, while they were attending the 23rd annual meeting of the Kansas Association, Future Farmers of America and the 28th annual vocational high school judging contest.

Nichols gym became the biggest dormitory on the campus housing hundreds of boys and their advisers.

The hotels in Manhattan were swollen to capacity.

The Fieldhouse received its second initiation to an agricultural show. While outside, everything was falling from the sky except the sun, the livestock and FFA boys entered in the judging contest were inside warm and dry. It rained over two inches during the convention.

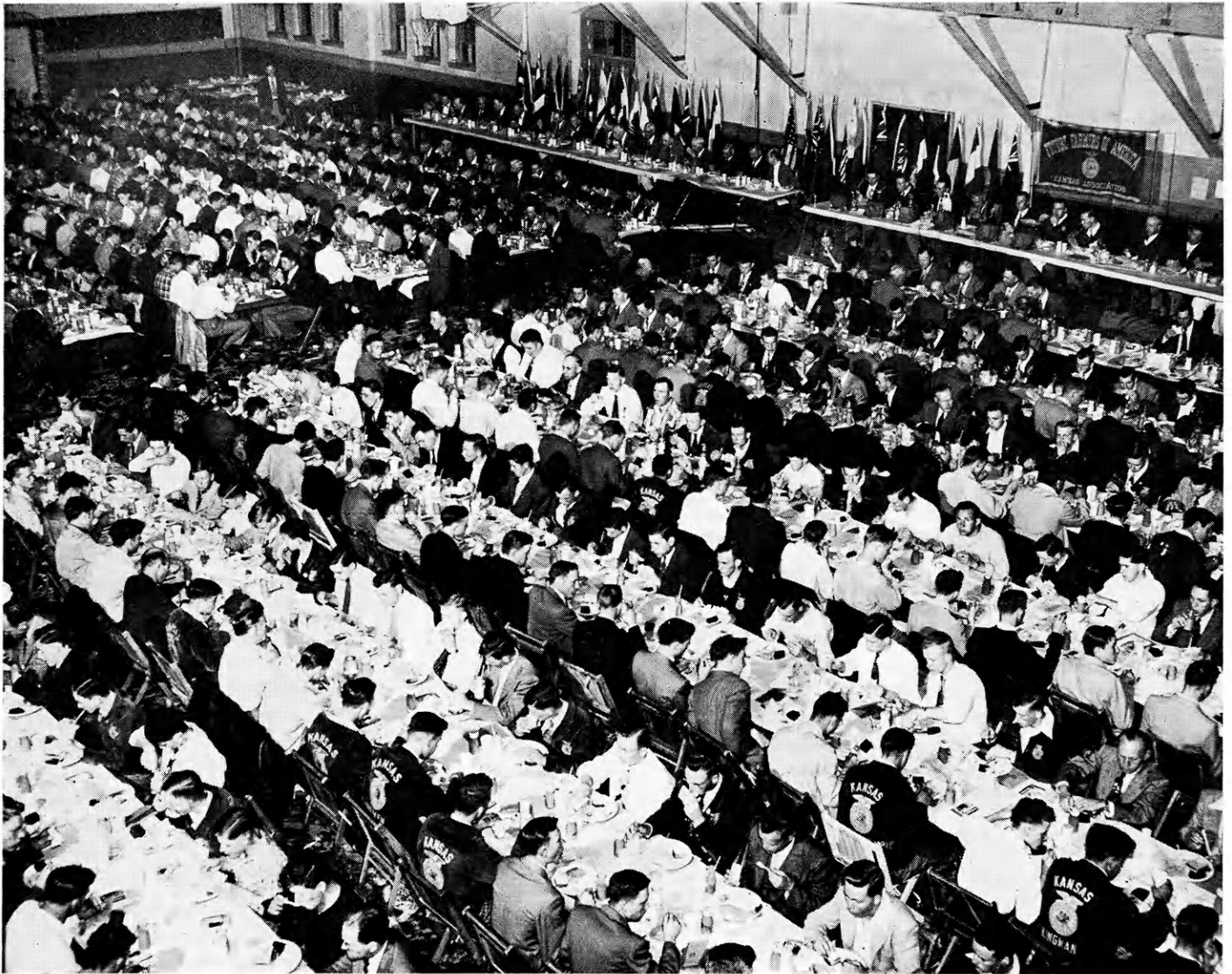
During the two days, the boys

were kept busy with judging and shop contests, public speaking contests, meetings, elections, banquets; and touring the College campus.

New state officers elected at the House of Delegates meeting on Monday night are: president, Marvin Decker, Holton; vice-president, Wayne Thies, Shawnee Mission; secretary, Francis Reichart, Valley Falls;

(Continued on page 30)

## FFA Mealtime . . .



NICHOLS GYM is almost as crowded with an annual FFA convention banquet as it used to be with a Big Seven basketball game. The banquet climaxes the annual convention at which FFA judging teams from all over the state compete with each other for recognition as tops. More than 1,400 FFA members attended the convention this year.

## Winner at Valley Forge . . .



ARMIN SAMUELSON, right, winner of the Freedoms Foundation, Inc., award for contributing to a better understanding of freedom, receives congratulations from Gen. Omar Bradley at Valley Forge, Pennsylvania. Samuelson won this award for writing an article in the American Magazine, "I Want To Be My Own Boss."

*Armin Samuelson*

# Grassroots Leader

*By Ed Boyd*

IT IS NOT uncommon to hear of the travels and accomplishments of white-thatched men with canes and ulcers, but when a youngster just one year out of college speaks of his voluntary visits to foreign lands, his lengthy list of accomplishments at home, and his aspirations for the future, it is unusual.

Armin Samuelson was born on a small farm near Topeka. When he was 10 years old, his father died, leaving the farm and the dairy herd to the care of Armin and his mother. By applying much work, the place put Armin through school.

During this early period, the blonde Swede began to show the marks of a leader as well as a worker. He became a member of the local Benham

4-H club and served it for 10 years—three years as president. He was also president of the Shawnee County 4-H council, an FFA State Farmer, and president of the Kansas Christian Youth Council.

Following his graduation from Highland Park high school in Topeka, Samuelson got in a semester's work at Washburn college and served a year as Shawnee county's 4-H agent.

In 1947, he enrolled in Ag Economics at Kansas State college to prepare himself further for 4-H work. After one year of College, Sam was chosen by the U. S. Department of Agriculture as a representative to Europe in a good-will youth-exchange program. He traveled extensively in 10 countries and worked on seven

different farms making friends for himself and his country.

After five months, Samuelson returned to Kansas and devoted much of his time to telling of his experiences. He gave 150 lectures before 27,000 people explaining that there is no such thing as a foreigner, that learned people have the same basic ideas and aims the world over, and that much international distress could be avoided if people of all nations could get to know one another through further youth exchanges and a universal language.

The next summer, Staffan Tesch, a Swedish boy with whom Samuelson had lived and traveled, came to visit him. The two set out to see America. In three months, the boys had covered 15,000 miles in 25 different states. Staffan fell in love with America's hamburgers and freedom but returned to his country to help his people understand Americans.

Besides lecturing, Sam wrote several articles, one of which appeared in the April, 1950 issue of the American Magazine and was entitled, "I Want To Be My Own Boss." In the meantime, the college career was continued. Sam became president of the Collegiate 4-H club and was active in UNESCO, the Dairy Club, the Ag Econ club, and the Extension club as well as his fraternity. Hardly a moment was wasted unless playing pinochle is a waste of time.

In May of 1950, Samuelson received his sheep-skin and went back to 4-H work—this time as the Dickinson county agent. February 12, 1951, Samuelson received word that his American Magazine story had won recognition from Freedoms Foundation, Inc., a non-profit, non-political, non-sectarian organization chartered in 1949, supported by unsolicited contributions, for the purpose of making awards for contributions to a better understanding of freedom. Samuelson boarded a train for Valley Forge, Pa., and on Washington's Birthday, received a \$300 award from Gen. Omar Bradley, chairman of the U. S. Joint-Chiefs-of-Staff, in a ceremony during which \$100,000 worth of awards were made in 19 categories including movies, addresses, editorials, and cartoons.

In the future Samuelson wants to farm in central Kansas as soon as he

(Continued on page 32)

*African Violets Add to*

# Greenhouse Color

*By Nicholas Kominus*

OVER 200 VARIETIES of African Violets are being grown by the horticulture department. By the end of the semester the department plans to have 150 varieties of this popular house plant in bloom.

Richard Lovejoy, a floriculture and ornamental horticulture major, is the student in charge of the African Violets. Overseeing the handling of the plants are professors John S. Coryell and Wayne W. Willis.

The African Violet, referred to botanically as *Saintpaulia*, has been grown in campus greenhouses for several years. The horticulture de-

partment plans to display the plants at a few of the flower shows in the nation next year.

The first *Saintpaulias* were found in the tropics of Africa. The plants did not attract public attention in the United States until a few years ago. The flowers may be purple, blue, pink, white, or a shade in between.

Until recently only two species and a few varieties of the plant were recognized. Over 1000 varieties are on the market now.

African Violets may easily be propagated by division, leaf cuttings, and seeds. In propagating by division,

a rosette of leaves, or crown, with some roots attached is broken off and repotted.

Leaf cuttings will give a new blooming plant in several months. The leaf is broken off at the crown with a stem attached and repotted. Although superior plants may be obtained from seed, this method is the most difficult means of propagating African Violets.

Care should be taken not to propagate a patented variety without the grower's permission.

The *Saintpaulia* should be kept

(Continued on page 35)

## Flowery Display . . .



AFRICAN VIOLETS are not the only flowers that give color to K-State greenhouses. Many impressive floral displays, featuring flowers of all varieties, are prepared by floriculture students each year. Flower shows are scheduled, and the Hort club frequently has flowers to sell.

# Egg-size Kernels

By Ed Boyd

**A**N IDEA and a pocket-knife—not very impressive tools, but Eugene Dade has put them to use in making something that may have a profound effect in the buying and selling of hard, red, winter wheat in this country.

The varieties of wheat grown in this country are changing constantly because of the introduction of new wheats and changes in the relative popularity of established varieties. Wheat breeders, agronomists, plant pathologists, entomologists, and cereal technologists all contribute in developing varieties of wheat which make

the best use of soil moisture and fertility, are best at combating diseases and insects, and which produce satisfactory yields of wheat of good milling and baking qualities.

Experts agree that there is no permanent standard of good or bad wheat. Wheats which mill into flours having characteristics other than those considered desirable at the present time may become those of choice in the future. However, there are a few varieties being grown now which lack the qualities desired by millers and bakers. Among other things, these varieties require too

much power to grind, and the gluten is of inferior quality.

To select desirable varieties, grain buyers must be familiar with characteristics such as size, color, and general outline of the kernel; size and shape of the germ; and the nature of the crease and brush. This is a mean job since the wheat kernel is only about one-fourth inch long and since there is no such thing as a typical kernel of any variety.

For several years, the agronomy department at Kansas State college has held a kernel analysis school between semesters for wheat men from Kansas and adjoining states in an effort to enable them to identify the several varieties of wheat grown in this area.

During the fall of 1950, Assoc. Prof. Ernest L. Mader of the agronomy department hit upon the idea of reproducing kernels of several varieties in some medium or other on a scale large enough to facilitate accurate analysis of their characteristics.

Eugene Dade, senior in agronomy from Hutchinson, immediately began to experiment. The first trials with clay and several other materials were fruitless. Then, Dade decided to try whittling. He obtained a few blocks of balsa wood and began.

After several weeks of tedious trial and error, he submitted his first model to members of the agronomy department. Professor Mader enthusiastically approved the product, made a few suggestions, and Dade got out his knife and began on the next variety. Each model required about six hours of whittling, and soon models of four varieties were completed. The models, from 3½ to 4 inches long, were submitted to the kernel analysis school for suggestions and were heartily accepted.

Dade then had his balsa models painted with rubber and cast in a

(Continued on page 33)

## Whittling Wheat . . .



THESE ARE EGG-SIZED model wheat kernels which are being whittled out of balsa wood by Eugene Dade, senior in agronomy. The need for model kernels of wheat has been realized for several years. Up to now there has been no set standard for different wheats. Prof. Ernest Mader originated the idea of making the giant kernels as a study guide, both for students and grain buyers.

## Steak on the Wing . . .



TURKEY ON THE HOOFF!! Experiments at the Garden City experiment station show that it is more profitable for turkey growers to raise bigger birds.

bill was animal protein in the form of meat scraps and fish meal. Eliminating these expensive factors, in whole or in part, with cheaper, but equally as good nutrients, was one of the objectives of the experiment.

Milo, which is grown in the turkey-raising district, was substituted for corn, and was found suitable for 75 percent of the ration. This alone made a marked difference in the cost per pound of raising a turkey. Cost per pound gain was four and one-half cents cheaper on birds fed milo, grass, and water than on birds fed corn, wheat, and oats with other ingredients to balance the diet.

In the mind of the turkey grower is the question, "Shall I grow a large or small market bird?" The answer, experimenters found, was the larger turkey was more profitable to the

(Continued on page 35)

## *Big Birds? Little Birds? . . .*

# Turkey Talk

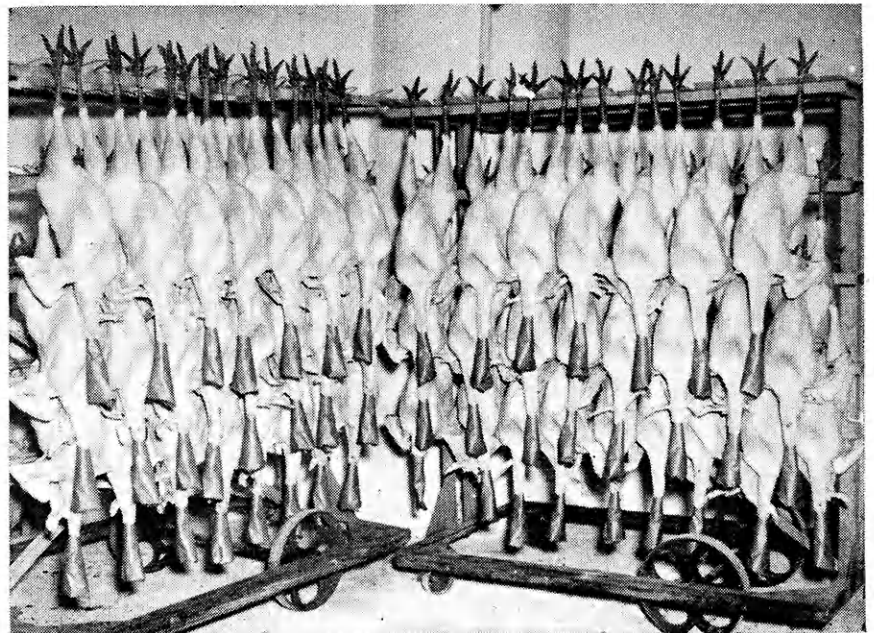
*By Dale Evans*

"PASS THE TURKEY" may become a more common word in Kansas homes as a result of extensive study at the Garden City Branch Agricultural Experiment Station. These experiments, supervised by L. F. Payne, head of poultry husbandry, and A. B. Erhart, superintendent of the station at Garden City, are paving the way to more efficient turkey production. It will make turkey a more frequent meal at the dinner table.

Purposes of the feeding trials were to compare high and low efficient rations, economic production of large and small turkeys, and the efficiency of a plant protein ration instead of the commonly used animal protein. Farmers in Kansas have long believed that corn was an essential part of the turkey ration. This was usually a high item on the feed cost, because most turkey raising is done in areas where corn is scarce.

Another expensive item on the feed

## All Set for the Cooler . . .



SPECIALLY designed racks hold the birds as they are wheeled into the cooler. Turkey studies indicate that more economical production of the birds will make them a more popular food in the future.

# For Cheaper Terracing

*By Robert Dean*

A PATENT has been granted for a disc terracer invented by Jay H. Payne, work unit conservationist for the Saline county soil conservation district.

Payne graduated from Kansas State in 1939 as an agricultural engineer. He immediately went to work for the soil conservation service in Central Kansas and became interested in the problem of constructing terraces at a price all farmers could afford to pay.

In 1943 he got the idea of a disc which would run in front of the left rear wheel, throwing the dirt the opposite way the plow or one way does. With the help of a blacksmith, the first model was built and used by a farmer in Saline county to construct his terraces. This model was bolted to the drawbar and raised and lowered by means of a hydraulic pump from a cultivator.

By using a disc terracer the dirt plowed up on one trip can be thrown up on the terrace on the return trip, thus cutting the number of trips necessary to construct the terrace. The machine would also help when there is a lot of trash on the ground.

In 1946 drawings were sent to the patent office in Washington, D. C. A year later Payne was notified that a patent could not be awarded for the machine as it was covered by other patents.

No other work was done on the terracer until 1950 when the patent office notified Payne that the case had been reviewed and a patent had been awarded for the terracer. Payne immediately contacted the Wyatt Manufacturing company in Salina, and they began working with him to make it out of standard parts.

The present model bolts directly behind the front wheels on the frame of any row-crop tractor. A standard

26-inch disc is used and a two-way hydraulic pump is used to regulate the cutting depth like those used on cultivators, plows, and other equipment.

The company believes the terracer will be ready for sale by early next fall at a price of about \$100, without the pump, which many farmers already have. This compares with terracers already on the market which cost \$600 to \$3000.

Payne believes that with this terracer farmers will have more incentive to build terraces, especially on steeper land, as they can be constructed all from the upper side. He also believes that farmers will maintain their terraces better and in less time with this machine.

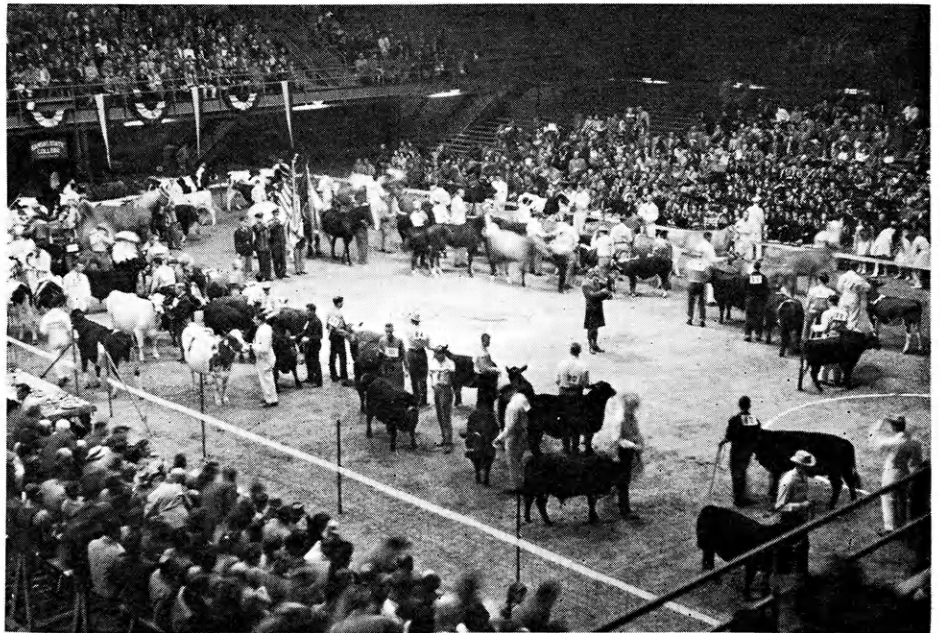
According to Payne a farmer can build from one-fourth to one-half

of a mile of terraces a day with this terracer. At the present contract price this would mean the farmer would receive around \$60 a day for his tractor and labor.

Another advantage for the terracer is that in the wheat country most of the terracing is done in a two month period after harvest and before fall seeding time. It would take several contractors to accomplish the same amount of terracing as 1,000 farmers, each building one mile of terrace a day.

She's the kind of girl  
this like at look a you

## This One's Ours . . .



FOR THE PAST TWO ISSUES, the Ag Student has carried pictures of a collegiate livestock show taken at another university. At last we have a picture of our own show ring in the Fieldhouse. More than 3,000 people watched the contest in which 170 animals were exhibited.

# The Big Question

By Fred Lowell

DO NOT be downhearted, fellows, just because of that campus poll concerning girls marrying farmers (March, Ag Student). The situation is not as bad as it appears.

Some girls seemed reluctant to marry a farmer, I know. Others seemed reluctant to marry. Still others just seemed reluctant.

But you don't know the half of it, yet!

For the past three years houseboys have been hired at a local sorority. The majority of them are Ag school men. Brother! You ought to see life at a sorority house through the crack in the kitchen door!

A houseboy is concerned mostly with kitchen work. Some of us have to wait on tables. During the last three years 14 out of the 18 boys have come from the farm and have

been enrolled in Ag school. Five of the six hired now are Aggies.

Purely out of loyal support for my fellow farmers, I rise in defense of the masculine sex. The question, instead of being "Would you marry a farmer?" might better be "Would you marry a farmer's daughter?"

If you could see the way some of these . . . of these 'things' come straggling in early in the morning or after hours, you might well question whether you'd marry anybody's daughter. The contrast between a girl ready for a 7 p.m. date with one ready for a 7 a.m. breakfast is startling.

And the way they talk, particularly about boys! Yakety, yak yak yak! All the time! To a boy from the farm, it is like stepping back inside the pullet house. They have a

peck order just as definite as any young layers ever had.

The girl whose boy drives the longest, slickest convertible has a definite advantage. But the one with the most men on her "string"—Man! You ought to see the way she preens.

The skill these girls develop in manipulating that "string" is somewhat astounding. The really funny part comes when there's a slip-up. Like the night Fanny had three men come to pick her up, all at the same time.

Then there was Cathy, a precision operator. She managed her dinner date home in time for the movie date, just a minute's difference between the departure of one and the arrival of the next. It worked fine until she went out with a boy who took the long way home.

But enough. I must cease before I reveal too much. We houseboys are bound by a code of sorts—a semi-secrecy. We can never reveal the best stories we learn around a sorority house. In fact, we soon reach a point where we more or less adopt the girls, watch out for them, and check on their dates for dependability—and how many acres of wheat are back of them.

In short, the girls become like kid sisters; distracting at times, but we're fond of them.

Co-ed: "I want you to tattoo a cat on my knee."

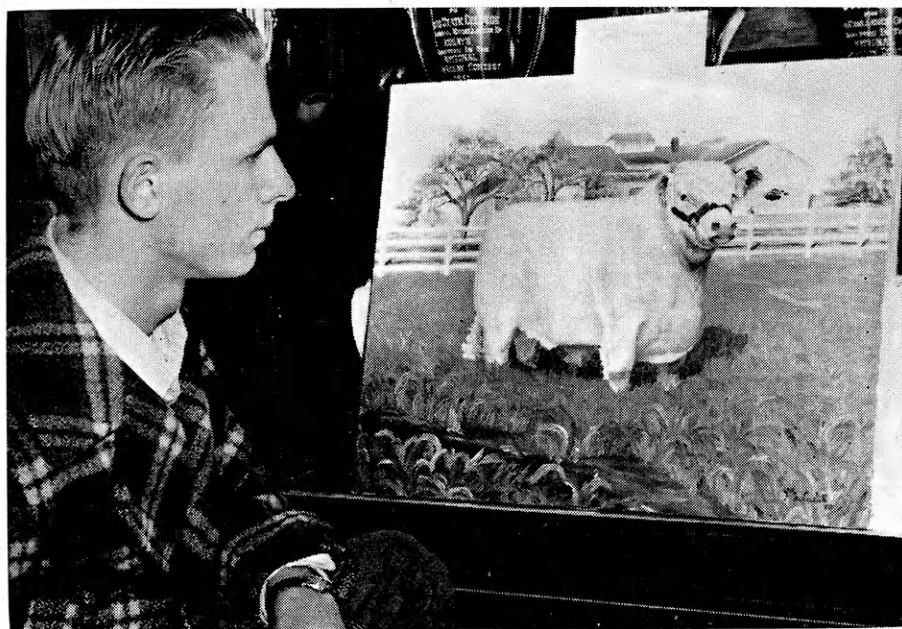
Tattooer: "Nope. A giraffe or nothing."

What's so rare  
As a day in June?  
—A landlady  
Forgetting a payday!

"Did you take her home in a taxi?"

"I sure did, and she was so pretty I could hardly keep my eyes on the meter."

## Frosty by Mary . . .



FROSTY, SHORTHORN bull owned by KSC, is the subject of this painting presented to the Block and Bridle club by Mary MacCaskill, who graduated from Kansas State last spring. Mary was active in Block and Bridle, Chaparajos, and participated in the Little American Royals. Admiring the picture is Bill Tilgner, freshman in agriculture.

# It's Good Business To Give

*By Don Gramly*

**P**RACTICALLY the entire program of fertilizer research conducted in recent years by the Kansas Agricultural Experiment station has been financed through funds granted by the fertilizer industry.

This year is no exception, Dr. F. W. Smith, in charge of fertility studies, reported. Commercial grants for 1951 total \$12,600. Most of the fertility work on the Agronomy farm

(permanent soil fertility work is the only exception) is being financed from commercial funds just like the many projects on farmers' fields in the state. Four graduate research assistants—Michael Graznak, Joe R. Gingrich, John E. Braun, and Boyce Williams—have been employed to assist with projects, paid by the commercial grants.

It is not enough to say that com-

mercial funds are important at this time; they are indispensable. Only since 1946 have funds come from that source. The American Potash Institute in '46 granted money to the Experiment station for a study of the available potassium content of Eastern Kansas soils. That firm has made annual grants ever since the initial one and the same is true of eight firms which established grants in subsequent years. More knowledge makes better business, they realize.

In 1947, Middle West Soil Improvement committee and Spencer Chemical company joined the list of contributors. The American Plant Food council made its first grant in 1949. The Middle West Soil Improvement committee increased the amount of its grant last spring.

Five new contributors—Mathieson Chemical corporation, NaChurs Plant Food company, E. I. du Pont de Nemours & company, Phillips Chemical company, and Thurston Chemical company—appear on the list of grants in effect for 1951.

A grant, received from the Mathieson Chemical corporation last fall, is being used to study the effects of various phosphatic fertilizer carriers on small grain production. Michael Graznak is assisting on this project.

From the Thurston Chemical company has come money to be used in studying the effects of fertilizing native pastures, both in Southeast Kansas and at Manhattan.

NaChurs Plant Food company has made a grant used to investigate liquid fertilizer seed treatments on germination and yield of crops.

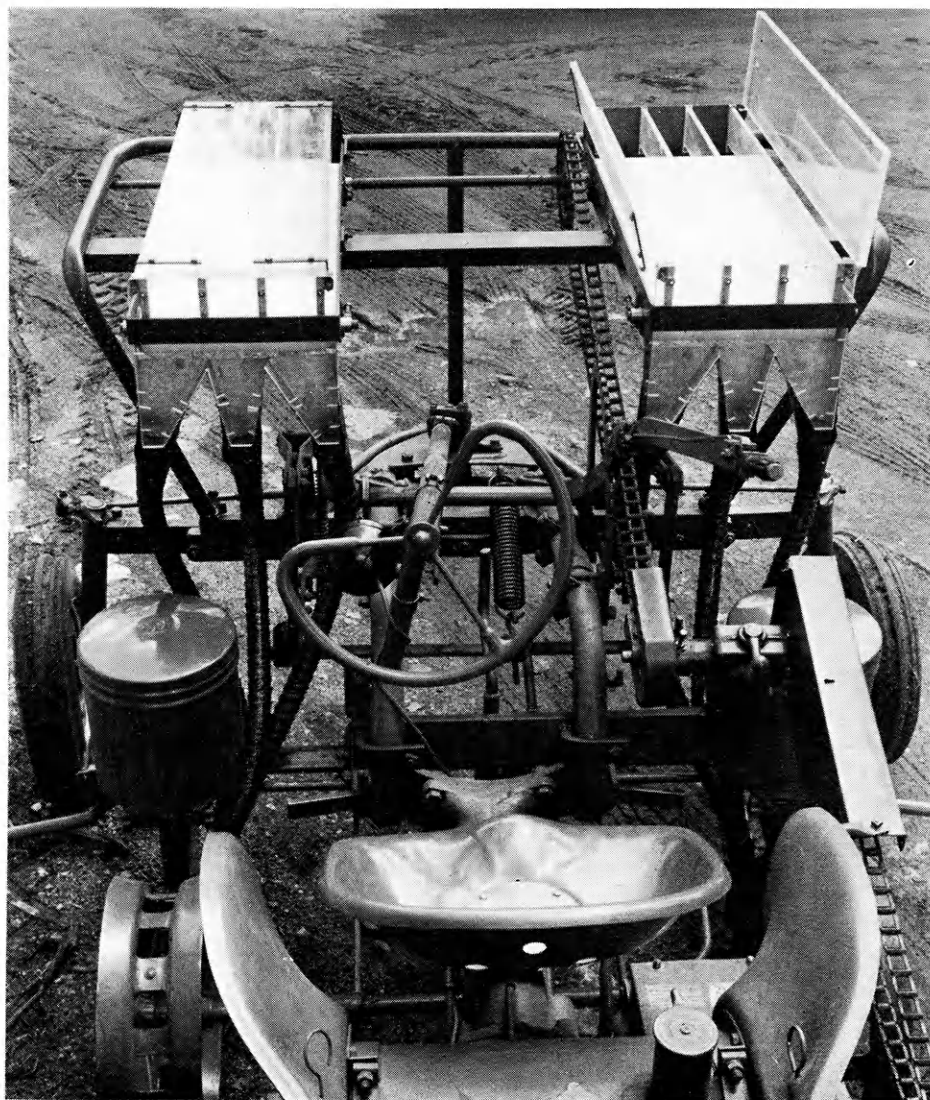
Results of spraying wheat and other crops with nitrogen fertilizers in comparison to the application of dry fertilizer to the soil will come up for study under the duPont fund.

This spring a grant is to be made by the Phillips Chemical company for fertilizer tests with sorghums in Kansas.

Among the firms granting money previous to the fall of 1950, the

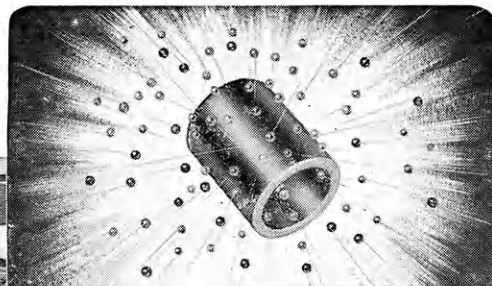
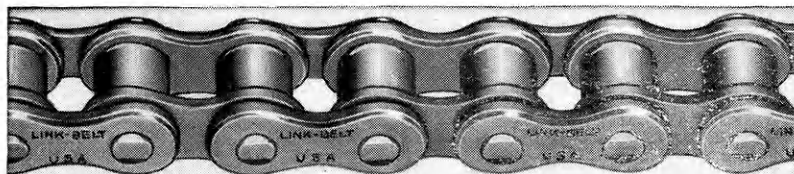
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## Fertilizer Contraption . . .

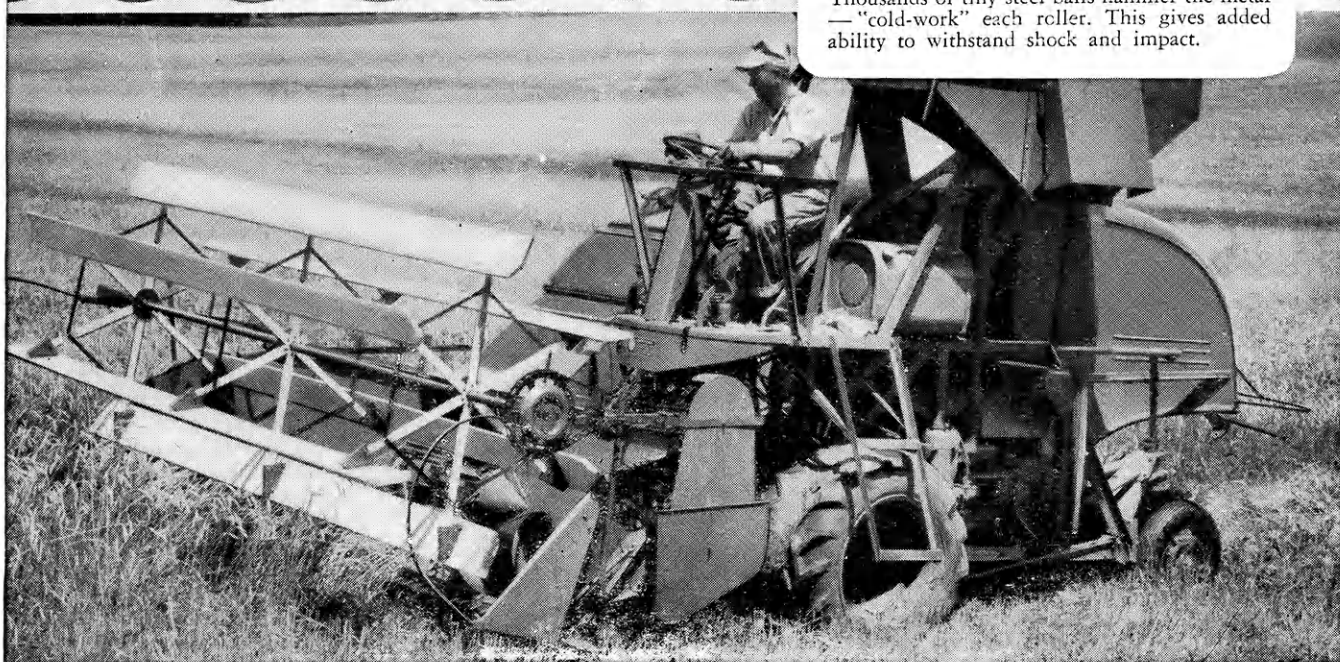


THIS SPECIALLY-constructed fertilizer spreader will be used in test plot studies over Kansas this summer. The spreader, constructed in K-State shops, permits more careful regulation of fertilizer flow. Last year, 432 experimental plots were grown over Kansas. The experiments are financed by private companies which donate money and materials for the tests.

# LINK-BELT builds extra fatigue life into roller chain . . .



Thousands of tiny steel balls hammer the metal — "cold-work" each roller. This gives added ability to withstand shock and impact.



Famous manufacturer selected Link-Belt Roller Chain for high-speed, heavy-duty cylinder drive. This modern harvester also utilizes Link-Belt Detachable Chain for both power transmission and elevating.

## . . . to reduce farm machinery maintenance

**LINK-BELT has worked hand-in-hand with America's farm machinery manufacturers since 1875 to step up farm production**

WHEN a farmer stops his combine to dig out a cylinder that's become "slugged" with grain, it's a waste of precious harvesting time. To clear the cylinder under the machine's power requires a drive with enough resilience to withstand heavy shock loads repeatedly.

Link-Belt Precision Steel Roller Chain can and does take it — season after season.

Naturally the chain that handles this tough service can successfully meet other severe requirements. For continuous Link-Belt research has developed — in addition to shot-peened rollers — other extra-strength features. For example, a special process, of value on a

range of sizes, eliminates a common cause of stiff chain. And the chain receives a dramatic increase in fatigue life, thanks to special metallurgical factors and manufacturing steps.

That's why you see so many farm machines equipped with Link-Belt Roller Chain. A positive drive — resistant to all kinds of weather — it's tops for efficient, long-life power transmission.



**PRECISION STEEL ROLLER CHAIN**

*World's Largest Manufacturer of  
Power Transmission and Conveying Machinery*

Agronomists Say

# New Kafir Okay

By Armin Grosse

COMBINE WHITE KAFIR 44-14 is a new sorghum variety which was developed in Oklahoma and released by the Oklahoma Experiment Station in 1948. This new variety was developed from a cross of Sharon kafir and Dwarf Feterita x Kaoling, according to A. L. Clapp, agronomist at Kansas State college.

This new combine kafir can be

adequately described by saying that it is very similar to Western Blackhull in most of its characteristics except height. The new kafir is short enough for combine harvesting.

Combine kafir 44-14 matures about the same time as Western Blackhull. It is white, with a good test weight, and a rather hard seed. The heads are shorter and slightly

more compact than the heads of Western Blackhull. A rather distinguishing characteristic of this variety is its somewhat wrinkled leaves.

In four years of testing at Kansas State's sorghum nursery at Manhattan, combine white kafir 44-14 headed out 1 to 4 days later than Martin, Midland, and Westland kafirs. It grew slightly taller than Midland and had a test weight equal to Martin. The test weight of Martin is usually one or more pounds heavier than Midland or Westland. In tests conducted in Eastern Kansas in 1950, yields of 44-14 were slightly higher than those of Midland, Westland, and Martin. Central Kansas tests for the same year showed that the average yield of 44-14 was slightly below the yields of the three milo varieties.

The new kafir lodged badly in many locations in 1950. Pathologists have two explanations for this problem, namely: charcoal rot, and rapid drying of the stem due to the extremely hot, dry weather in October.

Charcoal rot has become a serious problem in the sorghum producing areas in recent years, according to E. D. Hansing, pathologist at Kansas State. It is a fungus which is soil-borne and attacks other crops such as corn and soybeans, especially in Central Kansas. Dry periods following wet conditions during the latter part of the growing season provide this fungus with ideal environmental conditions for development. Milos are especially susceptible to this fungus.

"Plants infected with this fungus do not as a rule show up until the plants are in the heading stage or until the grain is almost developed," states Hansing. "A weakened condition occurs at the base of the plant and then it falls over. During wet weather the stalks become soft in the infected area and break over easily. An examination of the diseased tissue will show the stalks more or less hollow, the pith having disappeared, leaving only the vascular strands. The little black fruiting bodies of the fungus are found abundantly on the vascular strands."

At the present time there is no known control for this major sorghum disease. Lack of personnel to do work in this field has held back the development of a control for it.

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## New Kafir . . .



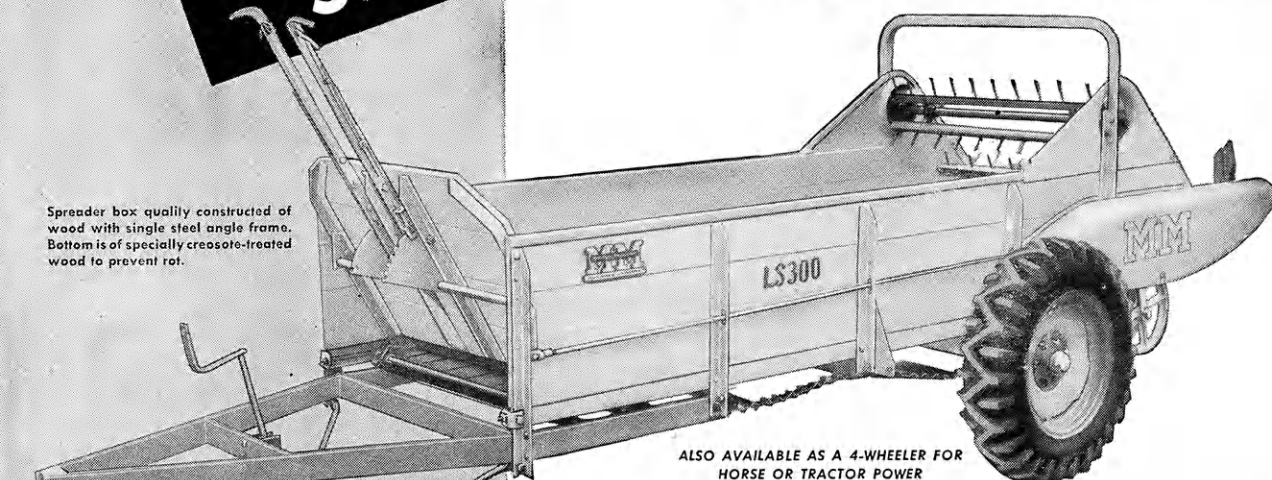
THIS NEW KAFIR, called Combine White Kafir 44-14, was developed at Oklahoma in 1948. It is much like Western Blackhull, but has the added advantage of being short enough for combining. It matures about the same time as Western Blackhull, is white in color, and has a good test weight. Although not fully tested yet, the new kafir seems to have good chinch bug resistance.



# LS 300 SPREADER

**Larger Capacity**  
**75-80 BUSHEL BOX**  
**IS REINFORCED WITH STEEL**

Spreader box quality constructed of wood with single steel angle frame. Bottom is of specially creosote-treated wood to prevent rot.



ALSO AVAILABLE AS A 4-WHEELER FOR HORSE OR TRACTOR POWER

## MANURE IS VALUABLE... USE IT WISELY WITH THE LS 300

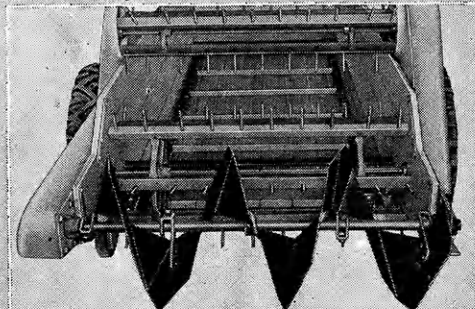
The New Minneapolis-Moline LS 300 Spreader, a two-wheel tractor model, offers the modern farmer many advantages of the now famous Moline LS 200 plus these additional soil-saving, cost-reducing features:

Larger capacity of 75-80 bushels . . . Handi-Quick hitch screw jack for quick, easy hitching of spreader . . . jack also serves as a stand when the spreader is not in use . . . heavy-duty steel axle, 2 inches in diameter . . . dynamically designed three-lobed feed cam with large roller for smoother operation . . . five settings for regulating distribution of manure for approximately 3, 6, 9, 12, and 15 loads per acre . . . control levers are easily reached from the tractor seat . . . larger main beater for more thorough shredding action . . . flanged steel shields on the upper beater prevent wrapping of long manure . . . beater shafts are of 1 1/8 inch diameter to as-

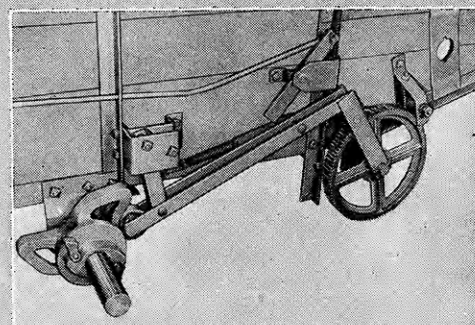
sure long life . . . spreader box constructed of wood on a heavy-duty frame, large steel angles for greater strength and for durable service in rough fields . . . balanced weight and disc wheels with 7.50 x 18 pneumatic tires for easier handling . . . smooth-acting, trouble-free roller chain to drive the distributor . . . box reinforced with heavy gusset plates . . . heavy-duty steel angles protect top of box from damage when using mechanical loader . . . headboard shield prevents corn cobs from getting under conveyor. Also available in 4-wheel tractor-drawn and horse-drawn models.

A new patented Handi-Quick hitch screw jack enables you to hitch the LS 300 safely, easily, and quickly. The jack folds under the hitch when the spreader is in use and serves as a stand when the spreader is not in use, or is being loaded.

A new patented Handi-Quick hitch screw jack enables you to hitch the LS 300 safely, easily, and quickly. The jack folds under the hitch when the spreader is in use and serves as a stand when the spreader is not in use, or is being loaded.



The LS 300 does a thorough job of shredding the manure to bits as there is no horizontal clearance between the upper and main beaters.

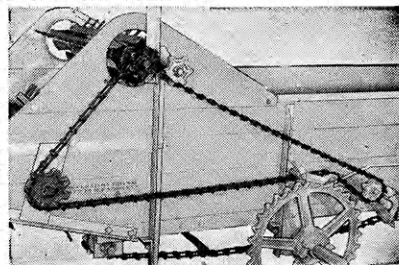


The dynamically designed feed cam of the LS 300 enables you to spread 3, 6, 9, 12, or 15 loads per acre. You get more value from the manure through more even distribution.

## Quality Control IN MM FACTORIES ASSURES DEPENDABLE PERFORMANCE IN THE FIELD!

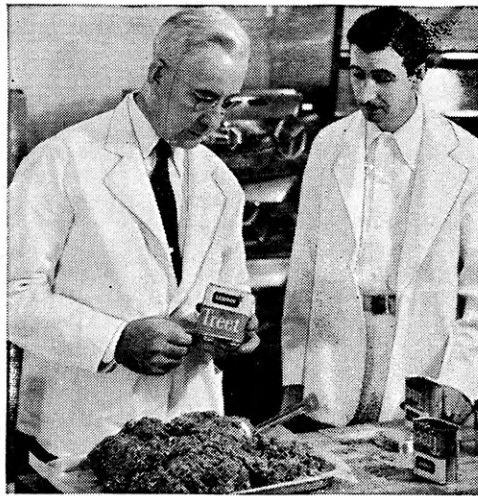
### SIMPLE POSITIVE DRIVE

One heavy-duty steel chain drives both beaters, assuring positive action with fewer wearing parts. Sturdy steel shields completely cover driving gears and steel chain. Any looseness of main drive chain is taken up automatically. Roller chain is used on the distributor drive to insure smooth operation at higher speeds.



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of your farming, too. You'll find that Armour is a good company to do business with.

Or, as a graduate of an agricultural school, you may be interested in the many job opportunities Armour has to offer. Should you wish specific job information write to: Armour and Company, Personnel Division, Union Stock Yards, Chicago 9, Illinois.

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## Farm Class Tours State

By John Schlender

TRAVELING over 500 miles, the Advanced Farm Organization class took a three-day swing out over the state recently. Farms in seven counties located in four different types-of-farming areas were visited.

Each year the class, taught by Dr. J. A. Hodges of the Agricultural Economics department, takes a field trip to observe farming practices and organizations in use. Seniors and graduate students make up most of the class.

The state is divided into type-of-farming regions. The trip is planned to visit farms representative of as many different areas as possible.

Farms visited were the Adolphus Thomas farm in Shawnee county, Area 3; the H. B. and Robert Dubois farm and the Wallace Anderson farm in Osage county, Area 2; and the C. G. Stutzman farm in Marion county, Area 5. Moving west, farms operated by Ailiff Neel and Carl W. Oberst were visited in McPherson county and LeRoy Fry and C. O. Heinly in Rice county, all in Area 6b. B. C. Unruh and Sons and James J. Holmolka operate the farms visited in Barton county of Area 9.

Each of the farms visited had some special feature of interest. Efficiency of labor by mechanization was practiced by Ailiff Neel. A mechanical silo unloader and a complete farm shop were some of his labor savers.

Milk flows directly from the cow to the coolers on the Unruh dairy farm. A new system was being installed that will pump milk directly from the milker into an overhead pipe that carries the milk out into the cooling room. The operations are done from a pit, eliminating the back-breaking chore of stooping over to milk.

After the trip the students analyzed the farms, ranking them in the different departments of efficiency and organization.

Woman Patient: "Will my false teeth look natural?"

Dentist: "Yes, indeed, madam. I make them so natural they ache."

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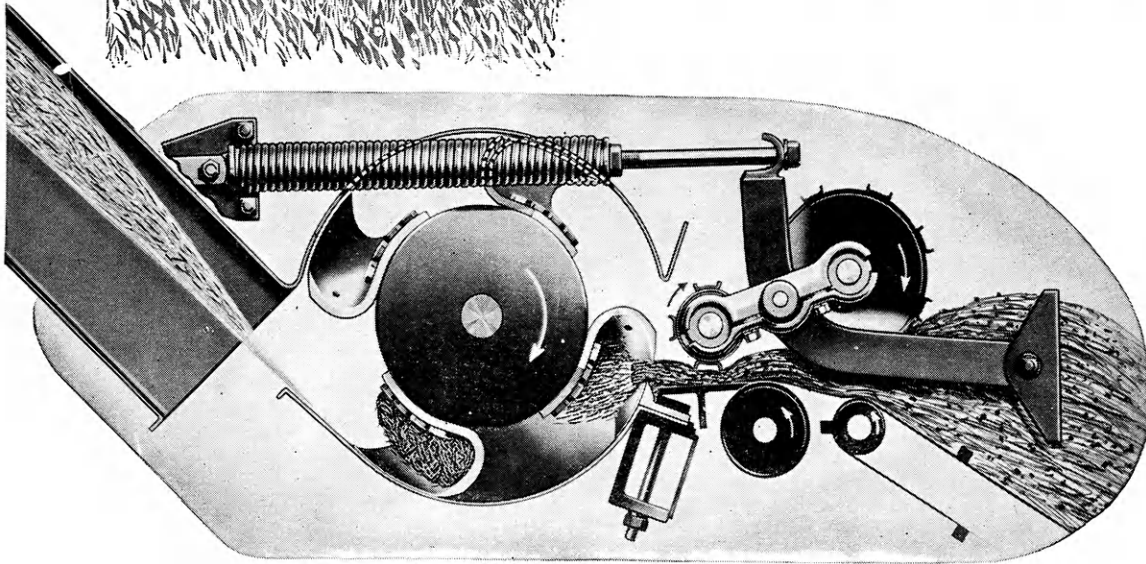
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it began with  
grass and a cow



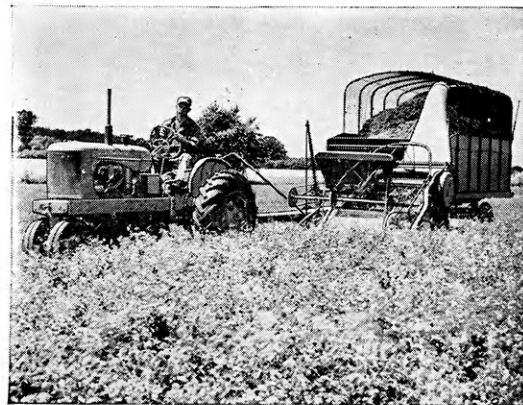
**G**REEN feed the year 'round — like the grass a cow harvests for herself — that was the need which Allis-Chalmers set out to meet with this Forage Harvester.

Engineering started in the field and *stayed* in the field until many problems were answered — big capacity without big power demands . . . adaptability to standing hay crops, row crops, and windrows . . . protection against rocks . . . and easy, uniform sharpening of all cutting knives.

A critical inspection of the A-C Forage Harvester will disclose an outstanding example of the way agricultural engineering finds better answers—with design which begins in the field with basic needs and ends with agricultural machines of outstanding performance.

"Inside Story." Side view of A-C Forage Harvester's feeding and chopping system. Feed rolls (right) control incoming material to within two inches of shear-bar. Spiraled, cup-shaped knives of chopping cylinder shear and chop cleanly across full 36-inch width.

The Allis-Chalmers Forage Harvester is a 3-in-1 machine, for standing grass crops, row crops and windrows.



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

## Don't Whack 'em On the Rump To Get Them Up the Ramp

Animals prefer to climb stairs rather than walk up an inclined ramp. In the Chicago stockyards stairs have replaced the ramps because someone found out that animals would walk up the stairs more readily than they would climb the ramps. Hogs, cattle, and sheep now clamber cheerfully up steps where formerly they had to be whacked along the rumps to get them up the ramps. This has saved time in the handling of the stock and has reduced the bruises. Looks like an animal had rather sacrifice a few minutes from his life span than to climb a ramp.

Every year enough livestock die or are crippled in transit to supply a city the size of Indianapolis.

The stockhandlers are now using canvas flaps instead of canes and prods. In the hog building in the Chicago yards is a sign, "If you've got to kick 'em, take off your shoes."

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## Royal Parade

(Continued from page 11)

BREED CHAMPIONS—Marvin Garber, John Speicher.

GUERNSEY Cows—Gene Nace, Dick Hartkopf, Carl Pethtel.

GUERNSEY HEIFERS—Lewis Eggenberger, Max Zahner, Allan Watts.

BREED CHAMPIONS—Gene Nace, Dick Hartkopf.

## Royal Trophy Table . . .



RINGMASTERS seated at the table of trophies at the Little American Royal are Warren Nettleton, left, and John Schlender. These trophies were provided by the American Royal, the Chamber of Commerce, and the Stockyards association, all of Kansas City, Mo. Standing ready to read the placings of the next class is Miles McKee, master of ceremonies.

## THE Kansas Poultry Improvement Association

MANHATTAN, KANSAS

"Working to Improve Kansas Poultry"

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Authorized by the Bureau of Animal Industry, U. S. D. A. to supervise Poultry Improvement work in Kansas under the NATIONAL POULTRY IMPROVEMENT PLAN.

Ask Your County Agent

U. S. D. A. Miscellaneous Publication No. 300  
Gives the Plan in Detail.



Thomas Potter

# Latest Portrait In A. H. Gallery

By Dale Handlin

A PORTRAIT of the late Thomas Mitchell Potter was unveiled at the annual Block and Bridle Club banquet. He was one of Kansas' most successful livestockmen and a leading citizen of the state.

It is interesting to note that a son, George P. Potter, and a grandson, Tom Potter, both graduated from Kansas State college, majoring in animal husbandry; also that Tom Potter was an active member of Block and Bridle and a member of the Kansas State college livestock judging team that won the Bronze bull at the International Intercollegiate judging contest at Chicago in 1936.

Thomas Mitchell Potter was born near Chelsea, Mich., April 16, 1840, and grew up on a farm in that vicinity. In 1863 while a student at the University of Michigan, he enlisted in Company F, 134th Illinois Infantry, in which he served until the end of the Civil War. The war over, he returned to Michigan where he farmed until he came to Kansas in the fall of 1869.

He traded a pair of ponies for a yoke of oxen the following winter (1869-70) and started farming the next spring. During his earlier days in Kansas, he combined other activities with farming. The first of these

activities was that of Superintendent of Schools in Marion in 1870. Another was laying out the town of Peabody in 1871. Still another was organizing a high school in Marion in 1873 and for a few years, he was in the real estate business.

He began early to accumulate both farm and pasture land near Florence and Peabody and eventually owned some 3,500 acres. He also soon became engaged in the livestock business, especially feeding cattle for market, and it was not many years before his farming and livestock business required all his time and attention. Eventually he marketed around 2,000 cattle annually.

Despite the demands his extensive business operations made upon his time, he became one of Kansas' outstanding pioneer leaders in agricultural and livestock organizations. In 1894 he was one of the organizers of what is now known as the Kansas Livestock association and he served as its vice-president from 1894 to 1909 and its president from 1909 to 1913 inclusive.

Mr. Potter was elected to the State Board of Agriculture in 1885 where he remained for 33 years. He was made president three successive terms and upon being urged to accept a



Thomas Potter

fourth successive term he stepped down from the chair, declined the nomination, stating that there were others in the organization as worthy of the honor as he, and placed ex-governor George W. Glick in nomination.

Mr. Potter died at Piedmont, California, December 3, 1929.

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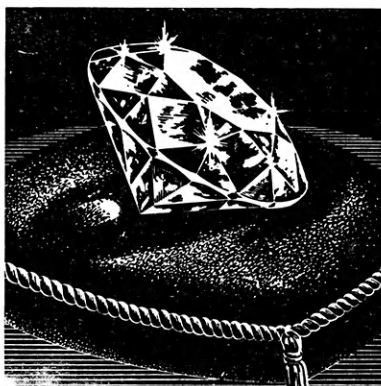
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## No-Tail Sheep

(Continued from page 12)

They also lack the desirable blocky, short-legged mutton form.

Jordan stated that breeders can never expect to eliminate the tails completely on first crosses, since the tailless condition is due to recessive factors. Thus, a second generation cross of a "no-tail" ram on "long-tail" ewes produces about 50 percent "no-tails," about 60 percent of which have tails shorter than two inches and about 40 percent with tails longer than two inches. Further crosses decrease the percentage of tails to the no-tail condition.

The tailless sheep is especially desirable in the South where screw worms are a problem, Jordan asserted. Many lambs are lost due to screw worm infestation of the dock wound.

According to Jordan, the future of the "no-tail" is uncertain, but it will probably find a place in the mutton and wool industries. "When it does," Bob said, "they should name it the 'Wilbrook' for Professor Wilson and Brookings, S. D."

## New Kafir

(Continued from page 22)

A breeding program using a few sorghums that are resistant as parents in crosses will be the only satisfactory method of control. There is no immediate hope for such resistant varieties, warns Hansing.

According to Prof. R. H. Painter, entomologist at Kansas State college, the chinch bug resistance of 44-14 has not been definitely determined. Since 44-14 has been developed there has been no serious outbreak of chinch bugs.

As near as can be observed, this variety has almost as good a resistance to chinch bugs as does Western Black-hull. A quick return to the drought years and an increase in the chinch bug population might run combine kafirs out of Kansas, since milos are so highly susceptible to chinch bugs. In Western Kansas chinch bugs do not present the problem they do in Eastern Kansas. In Central Kansas, we have a narrow belt where chinch bug resistance fluctuates from year to year. It is in this area where 44-14 might fill the bill.

"What will you give me for these jokes?" asked the contributor.

Editor: "Ten yards start."

## Hey FELLOWS

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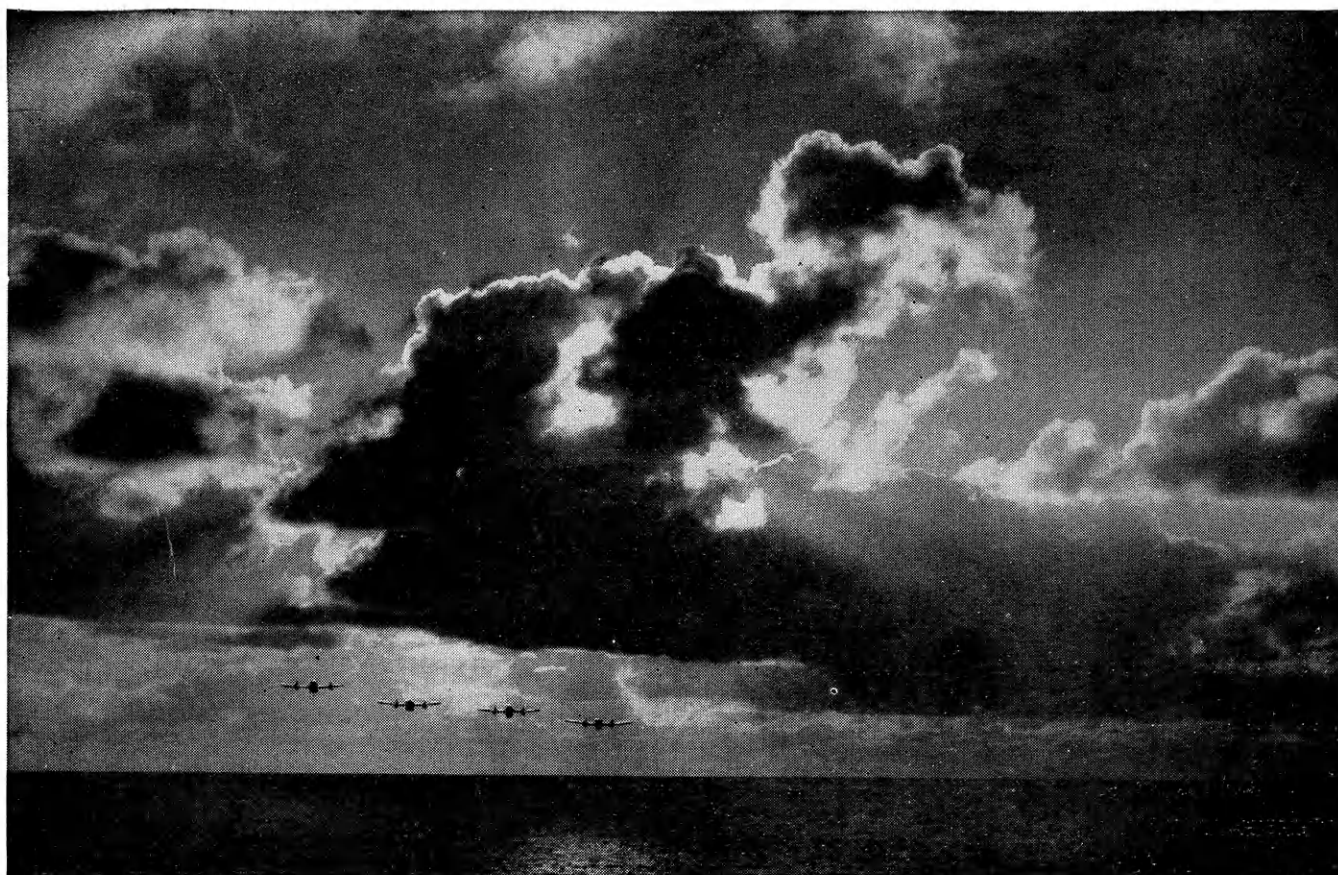
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## *From "California 73"* **—to 20,000 lbs. over Korea**

"CALIFORNIA 73" was the popular name of the best aviation gasoline ever produced before the day of synthetic additives. It was the best fuel obtainable for the pre-World War I planes that used it. But today it couldn't get one of the Army's newest heavy transport planes off the ground.

These new monsters wing westward across the Sea of Japan, carrying cargoes of 20,000 lbs., or 64 infantry troops, and at 18,000 feet fly at over 200 m.p.h. Quite a lift! And their engines demand fuel with performance ratings far beyond the properties of any gasoline that can be separated directly from crude.

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"California 73" and the gasolines in use today is synthetics of one kind or another. These man-made petroleum synthetics blended into modern gasolines have yielded performance ratings undreamed of little more than two decades ago. We have them now thanks to research—in which Standard Oil has been a leader.

The technically trained men who work in Standard Oil's research laboratories and pilot plants cannot foretell future developments in gasoline. But of one thing they are certain: it is synthetics that will make possible tomorrow's even better aviation gasolines. And when better gasolines are made, research men will help make them.

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## FFA Contests

(Continued from page 13)

reporter, Richard Reinhardt, Chanute; and treasurer, Darrel Gartrell, Stockton.

State Farmer Degrees were given to 130 boys, the largest class ever to receive this degree in Kansas. The selections for this degree are based on a boy's scholarship, leadership, and his farming program in Vocational Agriculture.

Winners of the different divisions were announced at the banquet held in Nichols gym Tuesday night. The main speaker at the dinner was Edward Arn, governor of Kansas.

Beloit chapter, H. R. Bradley, adviser, was awarded the KSC Agriculture Education club plaque. The plaque is given to the chapter making

the highest total score in all contests open to FFA members.

In the Better Chapter contest, 16 groups received the gold emblem award. They were Beloit, adviser, H. R. Bradley; Buehler, adviser, J. A. Johnson; Chanute, C. O. Carter; Clay Center, Ray Morrison; Colby, Ronald King; Coldwater, L. E. Melia; Effingham, Roy Eck; Haven, Glenn Schultheff; Hoxie, Willard Berry; Lawrence, W. R. Essick; Little River, Milton Kohrs; Shawnee Mission, H. D. Garver; Olathe, A. G. Jensen; Stockton, F. A. Blauer; Highland Park, F. E. Carpenter; Winfield, Ira Plank and John Lowe.

Clay Center competed against 103 other teams to win the farm mechanics division. The coach is Ray Morrison, and members of his team are Max Mack and Jim Debenham.

## New FFA Officers . . .



NEW FFA OFFICERS for the 1951-52 year. Left to right, Marvin Decker, Holton, president; Wayne Thies, Shawnee Mission, vice-president; Richard Reinhart, Chanute, reporter; Francis Reichart, Valley Falls, secretary; and Darrel Gartrell, Stockton, treasurer.

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## Education for Protection

Kansas State Agricultural Students know that farming is a business, and as a business it contains the hazards of an industrial occupation. The influence of K-State students is great throughout the Midwest where  $\frac{3}{4}$  of the extra food it took to win the last war was produced.

Accidents cut down farm production and the Kansas Agricultural student can learn while still in college to make the most of farm safety practices and prevent accidents.

It is well to remember that: "As prevention of disease is better than its cure, and prevention of war is better than victory, so prevention of accidents is better than attempted compensation for them. . . . Teaching the world to be careful is a constructive service worthy of God's great gift of life to man."

## FARM BUREAU MUTUAL INSURANCE COMPANY

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## Potatoes

(Continued from page 3)

somewhat, but not enough to restore the production of the 1920's. As to climate, new varieties have been developed to produce better quality crops. Also growing procedures have been improved for better production, quantity, and quality.

The growers are organized now to try to eliminate the poor procedures of grading potatoes. Kansas growers were the first in the nation to see the value of shipping point inspection and grading of their product in improving the standing of the commercial potato industry in Kansas. However, a potato inspection act was repealed by the legislature because of objections to the compulsory feature of the act. Since that time inspection has been on a voluntary basis.

The drop in production then has been due largely to these factors mentioned. Some of the bigger growers, however, are still in the business and have found other markets in which they can find a suitable price for their high quality stock. Also they have done a lot of work with the red potato, and have found a "seller" in red warbas, and certain types of red potato varieties adapted to the Kaw valley. The production, however, may never attain earlier heights because of so many growers going out of the business.

These growers who have dropped out completely have found the Kaw valley profitable in other agricultural industries. Some growers have switched to purebred beef, dairy cattle, or strictly crop farming with much success.

The Kaw valley potato is now a supplement industry due to numerous changes brought about by the development of other potato growing regions, and the problems within this area. What will happen in the next few years is hard to say.

## Grassroots Leader

(Continued from page 14)

is financially able. Sure, he will have a hard time getting started but hard times have not stopped him yet. In Sam's words, "The American idea that free individuals, working with the knowledge that responsible action will be rewarded, can produce miracles."

## Barbecued Chicken

(Continued from page 9)

coals are left. There is a strong tendency for beginners to start cooking too early, Professor Avery says, and it definitely is not a good practice.

During cooking, and especially at the start, the chicken should be turned frequently. Before cooking, the birds should be dipped in barbecue sauce. Almost everyone uses a different type of barbecue sauce, but the basic contents are condiments, such as chili powder, pepper, paprika, vinegar, and garlic.

Each person is served one-half a chicken. "Some people eat one and one-half, though, including myself," Avery said laughingly.

The biggest group fed by Professor Avery was 2,000 people at the Kansas Poultry exposition at Emporia in December last year. "It took two pits 120 feet long and 30 inches wide to accommodate that crowd," he recalled.

Two barbecues coming soon are Broilers day at Kansas State June 1, where Professor Avery expects to feed 500 persons, and the Kansas Flying Farmers convention which will be held June 8. The farmers will fly here that day, and Professor Avery expects to feed between 300 and 400 of them at the Municipal airport at noon.

## Egg-size

(Continued from page 16)

plaster case. The wood model was removed and a molding-powder mixture poured into the rubber-lined mold. The resulting plaster models were carefully painted and the job was done.

Wheat buyers, from the country elevators to the big terminals, want models like these, as do vocational ag teachers and college agronomy departments. They would even make attractive salt and pepper shakers or paper weights.

## Pickled in Plastic

(Continued from page 5)

embryos checked to determine the days of death.

At present, results show the critical periods, times of highest mortality, to be the 3rd and 29th days. Moultrie feels, however, that these results are not conclusive.

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*Have a coke!*

*Got a date?*

*Have a coke!*

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eventuality.

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## It's Good Business

(Continued from page 20)

Spencer Chemical company grant will be used to continue studies of fertilizer on wheat and corn. Oats is a new crop on the list for this year.

Two practices never investigated before by the experiment station come under the project now estab-

lished as a part of the Soil Improvement committee grant. Application of excessively large amounts of phosphorus and potassium to the soil at Thayer in Southeast Kansas, is being practiced in an attempt to establish the same high level of fertility found on soils in Northeast Kansas. Also, the fertilization of such crops as

birdsfoot trefoil and Ladino clover is being tried.

At Mound Valley and Hutchinson branch stations, the benefits of rock phosphate and superphosphate are being compared. In the greenhouses, red clover fertility problems are being studied. These are the current investigations financed by the yearly American Plant Food council grant.

The American Potash Institute, first to contribute to fertility studies, has just recently increased its annual grant. Soybean fertility tests at both Thayer and Columbus will be conducted later this year.

In addition to money, 12 to 15 tons of chemical fertilizers are contributed each year by the same companies.

The grants make the experiments possible. But no stipulation as to how a grant is to be used enters into the dealings with the commercial firms. Head of the agronomy department, Dr. H. E. Myers, and Dr. Smith decide what money goes for what.

Dr. Smith said some 10,000 miles were traveled over the state last year attending to 432 experimental plots. He said he and his assistants had 14 corn projects under way in 1950. The projects consisted of about 60 experimental plots of three acres each.

For wheat, there were 100 plots on four projects while for legumes, there were 22 farms with about 18 plots of half an acre each on them.

For 1951, a program of 15 corn projects, 14 wheat, 3 oats, 2 soybeans, and 5 grain sorghums, is planned.

Funds in the study grants are spent for machinery, truckage, and personnel salary primarily. Especially built fertilizer spreaders have been constructed in the K-State shops to give a more carefully controlled flow of fertilizer. The same machines are used for all parts of Kansas. Hauling the stuff back and forth amounts to no small item in the budget.

On private farms, where a big part of the work is done, owners take care of much of the work. Were it not for this, many more assistants would be required than the four now employed.

Dr. Smith said fertility experiments simply could not be performed now if it were not for the commercial grants donated to the station.

An amusing sight is an absent-minded nudist striking a match.



Walter Latham, Ohio, proved how NITRAGIN inoculation prevents wasteful land use. Area not inoculated was a failure . . . inoculated section, a lush success. Second cutting exceeded the first.



Elmer Cheatwood, Georgia, made this two acre test. One acre's corn followed inoculated cover crop—on other acre no cover crop was used. 56.3 extra bushels of corn came from acre where inoculated cover crop had grown.

Sure, it takes a few minutes to inoculate legume seed properly. But successful crops save a lot of time and money. Seed that doesn't grow has been thrown away. Lost crops ruin rotation programs . . . waste valuable time. Don't speculate with soil and seed . . . inoculate with NITRAGIN. It boosts the stand . . . helps the land. Most agricultural authorities agree—and wise farmers insist on the regular practice of legume inoculation.

The farmers pictured at left are just a few of the thousands who know from experience the full value of inoculated legumes . . . the results they get with NITRAGIN. They think nothing of the few cents . . . the few minutes it takes to inoculate. They're after results and they get them with NITRAGIN, the inoculant in the orange-colored can. Your seedsman has it.

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## Digging To Learn

(Continued from page 8)

that steps be taken to control and eradicate the weed.

Johnson grass may be eradicated by continuous cultivation for one season. In small plots, the chemical weed killer TCA (trichloroacetate) in a water solution applied as a spray at the rate of one pound per gallon of water for each square rod will eliminate it.

## Greenhouse Color

(Continued from page 15)

moist, but never saturated for more than a few minutes at a time, with water of room temperature. Cold water on the leaves will cause them to become spotted and white.

African Violets will grow and bloom in a minimum of sunlight. If the plants grow well, but do not bloom they are not getting enough sun. Too much sun will burn their foliage.

As the days get longer and warmer the plants should get more shade, but as the days get shorter and colder the plants should have the shade decreased.

The mealy bug, one of the most troublesome household pests, is the African Violet's main offender. A weekly spray of nicotine will control these pests.

## Turkey Talk

(Continued from page 17)

grower. A premium is necessary to put the small turkey on a profit-making basis with the larger one, and this premium is not easily obtainable.

Plant protein and Vitamin B<sub>12</sub> were supplemented to the ration while fish meal and meat scraps were deleted, with quite satisfactory results. Until further results are obtained, animal protein should not be completely removed from the turkey diet, but might well be reduced to one-half the usual amount, when plant protein, Vitamin B<sub>12</sub>, and antibiotics are used in adequate amounts. Experiments of a similar nature are being continued this year using Vitamin B<sub>12</sub> and antibiotics to replace a portion or all of the plant protein.

She: "This car is certainly doing a lot of stalling."

He: "So are you, honey."

There go a cute pair. He's a weight lifter and she's a dumb belle!

# *Shop in the Store Where Brand Names Mean More*

The New  
**BOBART**

The MAN'S Store

in Aggieville

## Build for Your Future

The hours you spend in study are laying the groundwork for your future. It's part of your plan.

The deposits you make with life insurance lay the groundwork for future security. Make life insurance part of your future plan.

## KANSAS FARM LIFE INSURANCE COMPANY

Farm Bureau Building

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Manhattan, Kansas

## Tri-K Winners . . .



RICHARD GOLLADAY, left, top, receives a \$20 check from L. L. Compton. Wayne David and Raymond Sis, standing, talk things over with Klod and Kernel president Gene Dade. Golladay, David and Sis were the winners this spring in the KKK crops contest.

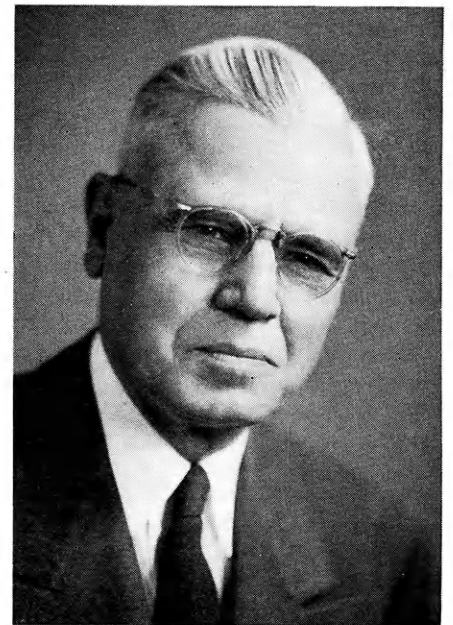
## Penn State Cites Throck

*By Everette Browning*

DEAN R. I. Throckmorton of the School of Agriculture was honored by his alma mater, Penn State college, for "professional eminence."

He is one of five native Pennsylvanians to be handed scrolls and medallions by Penn State president Milton S. Eisenhower.

The other four received their recognition at a Penn State student honor assembly May 2. Dean Throckmorton, unable to attend the ceremonies



### Dean Throckmorton

at State College, Pa., will receive his in a special program May 26 here at K-State.

Eisenhower, former president of K-State, will return to deliver the commencement address at graduation ceremonies May 27. Bringing the scroll and medallion with him, he will present them to Throckmorton Saturday morning, May 26. The ceremony will probably be in Rec Center.

Penn State bestows no honorary degrees. Citation for "professional eminence" is the highest award given by the college. The five were nominated by the Pennsylvania Board of Trustees because their "personal lives, professional achievements, and community service best exemplify the objectives" of Penn State.

- CLUB OFFICERS!
- INSTRUCTORS!

# 52 AIDS

TO INTERESTING PROGRAMS  
AND LIVELY LECTURES ...

**NO CHARGE!**



Work some of these 52 interesting, authoritative and instructive helps into your club programs and lecture schedules. Read below how to get full use of them.

**12 MOVIES**—all 16 mm., in full color and sound! "Soil and Life" is on soil conservation. "Win Against Water" tells about terrace building. Ten others.

**13 BOOKLETS**—based on above films, with same or similar titles. Several additional booklets, independent of movies. All profusely illustrated, clear, interesting.

**7 SLIDE FILMS**—with accompanying phonograph record or narrator's script—teach safety, conservation farming, proper use and care of machinery.

**17 POSTERS**—and charts, 24 by 36 in., easily read on classroom wall. Include machinery cross-sections, conservation farming methods, farm safety, etc.

**3 OUTLINES**—help teach class or club the essentials of building a pond, of contour farming, of grassland farming. Each member can have his own copy.

**MORE COMING UP!** Other movies, booklets, and additional teaching aids are now in production. Look to Case for visual education materials on advancing farm practices.

Send for free catalog. It lists and describes all Case visual education materials, tells how to schedule films, how to order booklets and posters. A real help in planning your program or lecture schedules. Address nearest branch or Racine office.

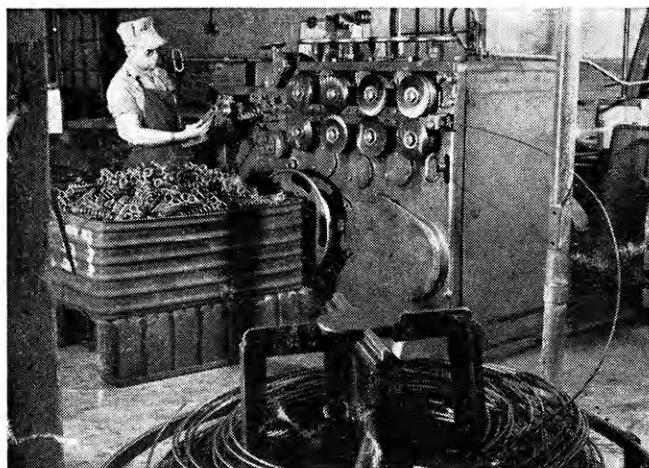


# CASE

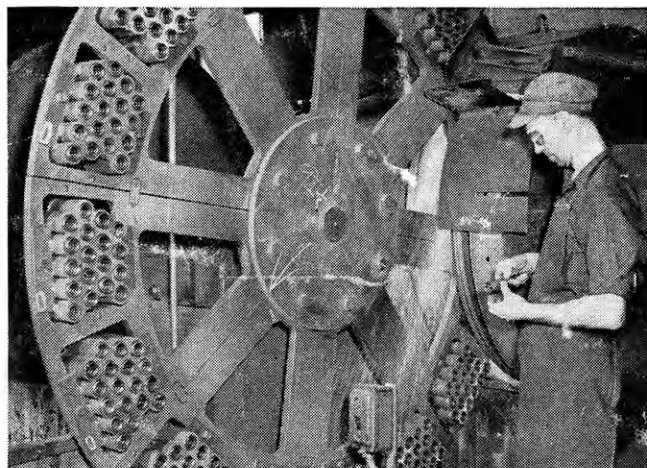
**Films are loaned** and printed matter provided without charge to agricultural colleges, student clubs, extension workers, county agents, vocational agriculture teachers, etc. Schedule movies through your nearest Case dealer or branch, or write to Educational Div., J. I. Case Co., Racine, Wis.

# Why IH springs stay lively longer

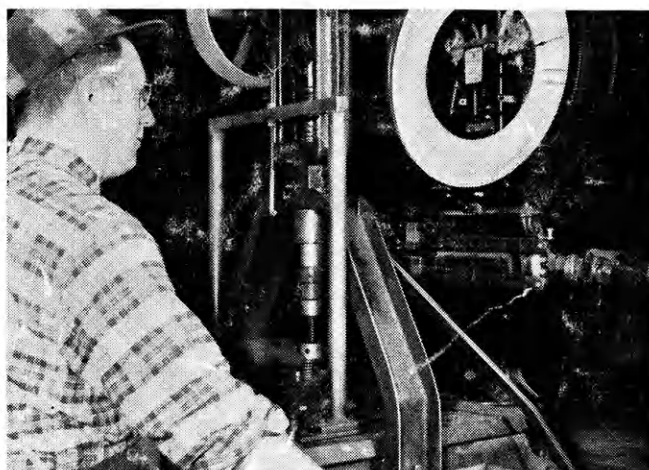
*A report to you about men and machines  
that help maintain International Harvester leadership*



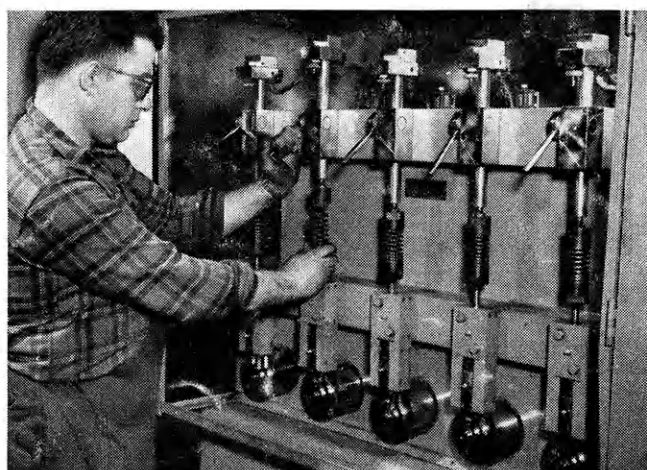
**Automatic coiler "hatches off" 10,000 springs a day.** It is one of many automatic machines that coil more than 5,000 different springs for IH products. These high quality extension and compression springs are made from thread to finger-size wire. They are as thin as  $\frac{1}{16}$  of an inch . . . as thick as five inches . . . as short as  $\frac{1}{4}$ -inch and as long as five feet!



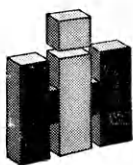
**"Ferris wheel" ride makes springs act alike.** A slight difference in length makes a big difference in the performance of the same spring. That's why the length of valve springs may vary only a few thousandths of an inch. Here are 288 corn planter springs riding the "ferris wheel" through a big grinder which makes them all *exactly* the same length.



**Every valve spring must prove its strength.** After IH springs have passed many gauging tests during manufacture, they are subjected to a load test—forced to confess their true strength on the scales. Their strength must not be more than five percent above or below normal. The scales themselves are checked for accuracy by their manufacturer every month.



**Millions of "push-ups" test valve spring stamina.** This valve spring tester, which simulates actual engine operation, compresses valve springs millions of times. When this fatigue test is completed, the length and compression of these springs is double checked. They must not shrink in length or load beyond the rigid standards to which they are designed.



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Chicago 1, Illinois

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Crawler Tractors and Power Units . . .



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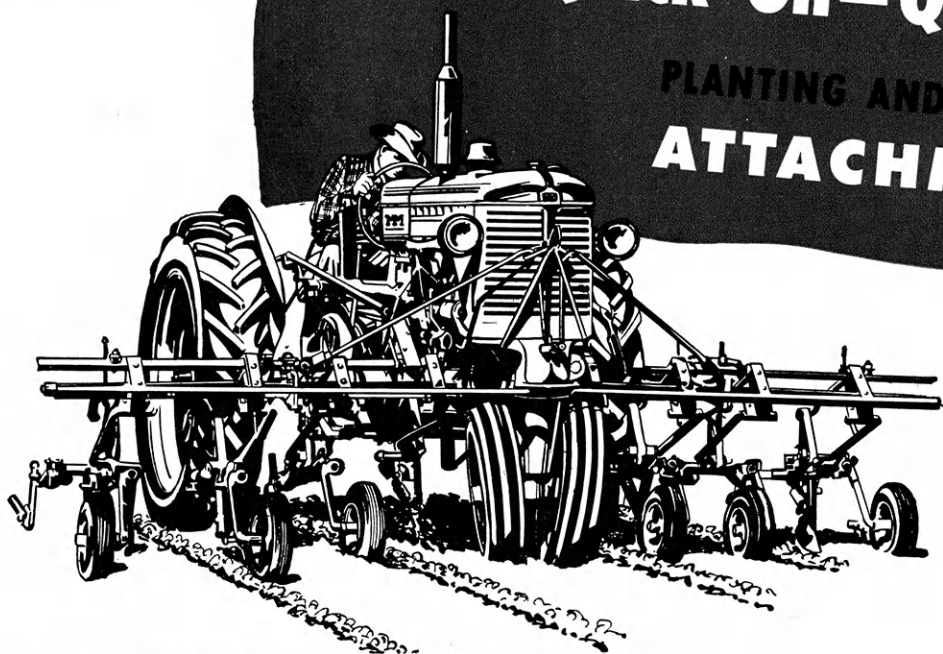




WE INVITE YOU TO INVESTIGATE  
THE ECONOMICAL

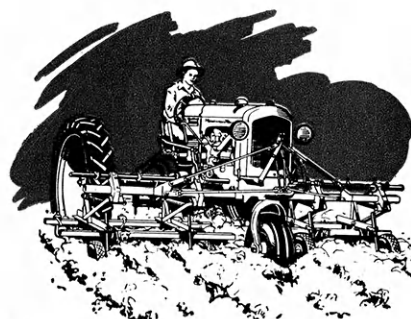
# MODEL "U" TRACTOR and Quick-On—Quick-Off

PLANTING AND CULTIVATING  
**ATTACHMENTS!**



Your MM Dealer Has Complete  
Service Facilities and Skilled  
Mechanics To Serve You Well!

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- Parallel link construction for instant, positive, even depth penetrations.
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## SEE WHAT YOU'RE DOING!

Because MM tractors are completely VISION-LINED, you can easily watch the work being done without stretching or straining. MM Quick-On—Quick-Off Attachments are easily controlled from the seat of the tractor . . . are easy to see and operate. Get complete details now from your dealer.

See Your Dealer or Write . . .



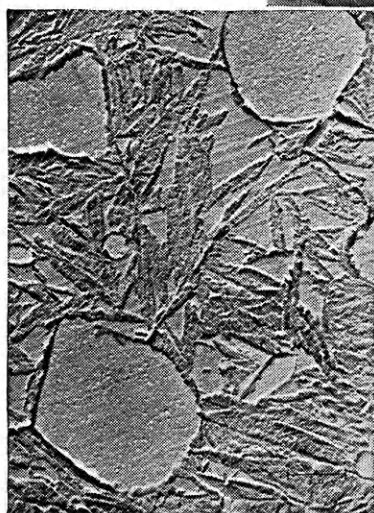
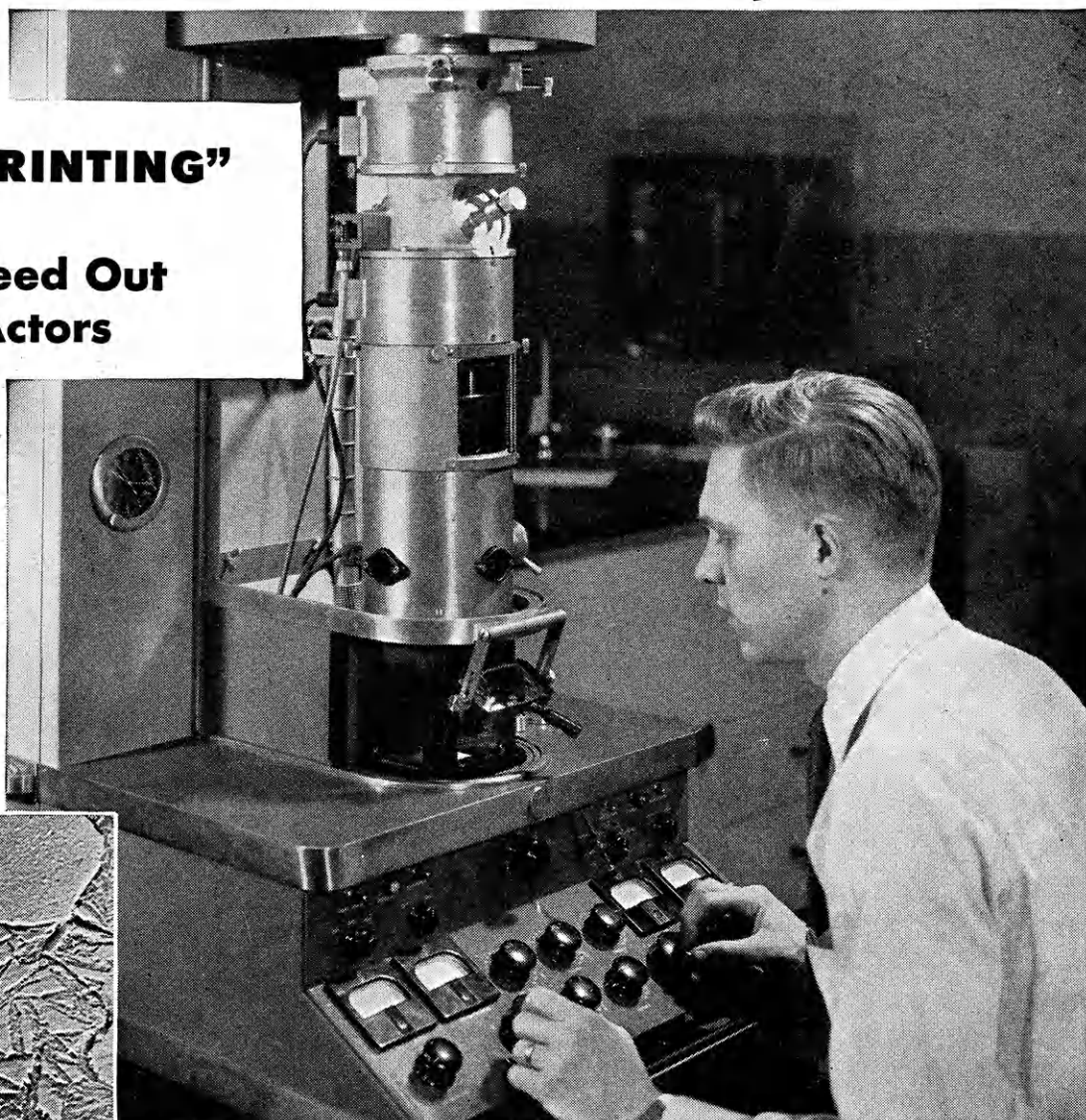
**MINNEAPOLIS-MOLINE**  
MINNEAPOLIS 1, MINNESOTA



## *Men and Machines that Help Maintain International Harvester Leadership*

### **"FINGERPRINTING" METALS**

**To Weed Out  
Bad Actors**



Here's what an IH researcher sees when he looks at a sample of steel under the electron microscope. This is a picture of the internal structure of heat-treated steel.

### **Electron Microscope Helps IH Researchers to Study Minute Particles Never Seen Before**

An electron microscope, which enlarges objects 100,000 times, helps IH researchers to study the make-up of metals. Minute particles that hide from ordinary microscopes are easily seen. This enables International Harvester technicians to "fingerprint" metals—to actually *take the measure* of particles in steel. These findings help

to solve practical manufacturing problems in IH factories.

The 250 technicians at IH Manufacturing Research work closely with product engineers and production men in IH factories. This trail-blazing team constantly seeks ways to improve today's farm equipment—helps to plan even better products for the future.

International Harvester Builds McCormick Farm Equipment and Farmall Tractors . . .



Motor Trucks . . .



Crawler Tractors and Power Units . . .



Refrigerators and Freezers . . .



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