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The 110 Mixer-Feeder

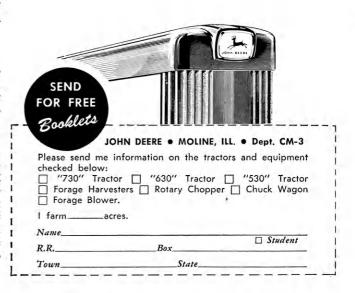
The big-capacity John Deere 110 Chuck Wagon Mixer-Feeder is an all-purpose outfit that handles up to 175 head in minutes. It not only delivers material from side and rear but also mixes supplements thoroughly into chopped material when unloading from the side conveyor.

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At Top: You do a fast, clean job in standing hay crops with a John Deere No. 6 Forage Harvester. It has the adaptability to fit every forage grower's needs and is available with complete equipment for handling all forage crops.

Above: The many uses of the Chuck Wagon with its side and rear unloading, cut costs per job to a minimum. The wagon box can be mounted on wagon running gear or truckbed to fit your feeding operation.



Kansas State University AG STUDENT

Vol. XXXV

April 1959

No. 5

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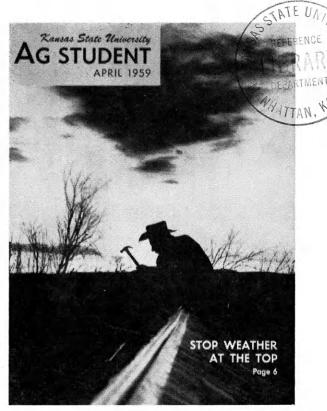
Joe Mink

FACULTY

Lowell Brandner

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What's the most important part of any building? Although the foundation plays a vital role in holding up a structure, the roof is really what makes a building functional. A home is not a home; a barn a barn; or a doghouse a doghouse, unless it has a roof. The old saying "a roof over our heads" has a lot of meaning, especially to farmers with many buildings to keep in shape.

Roofs can be pretty sneaky at times. Most roofs look their best when the sun is shining, but let even a light rain fall and they may turn double-crosser by letting water drip almost unhindered onto stored grain and equipment.

If you noticed our publication's name on either the cover or the top of this page, you saw it read "Kansas State University Ag Student." The staff is proud to present the University's first "Ag Student."

Advocates of the name change hope it will give K-State more prestige, secure a higher quality faculty, and allow graduates to pick up fatter paychecks. If these improvements do pan out, it may be hard to prove they actually resulted from the change in name alone. Probably, for several more decades, we farmers will still send our kids up to the "College" and ask extension people about new developments at the "College."

However, we must progress and the name change is a step along this line.

-Chester Peterson Ir.

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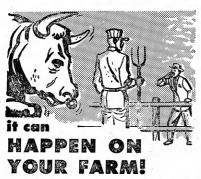
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It Pays to Increase Your AG POWER

by John Carlin

Each right answer is worth 10 points. A score of 100 is an A, 90 earns a B, 80 rates a C, 70 narrowly squeaks by on a D, and a score of 60 or less would earn no grade points.

Correct answers are on page 22.

- 1. The top two markets in cattle receipts for the past several years have been: a. Chicago and Kansas City. b. Denver and St. Louis. c. Omaha and Chicago.
- 2. The term "fancy" is used as a market grade in which class of livestock?

 a. Vealers. b. Feeder steers. c. Prime steers.
- 3. Santa Gertrudis is an increasingly popular beef breed in the Southern United States. This breed was developed by crossing: a. Shorthorn and Brahma. b. Brahma and Angus. c. Hereford and Charbray.
- 4. Wool produced in the United States is referred to as: a. Domestic. b. Native. c. Shorn.
- 5. The flushing of swine is a feeding process done: a. Immediately after farrowing. b. Before breeding season. c. As market time approaches.
- 6. Milk from cows in advanced lactation frequently becomes bitter after standing for a short time because of the: a. Action of the enzymelipase. b. Rancid taste of milk fat. c. Breakdown of milk sugar.
- 7. On the judging score card for dairy cattle, breed character is considered as a part of: a. Body capacity. b. Dairy character. c. General appearance.
- 8. Which of these is a commercial class of wheat? a. Soft red spring. b. White, c. Emmer.
- 9. In chicken breeding if a hen with a rose comb was crossed with a single-comb rooster the offspring would have: a. Single combs. b. Pea combs. c. Rose combs.
- 10. The difference between worsted yarn and woolen yarn in appearance is: a. Worsted yarns are compact and clear in outline while woolen yarns are rough and fuzzy. b. Worsted yarns are soft and dull while woolen yarns are parallel in arrangement. c. Worsted yarns have short fibers and woolen yarns long fibers.



MANY SCIENTIFIC SKILLS are needed to meet the research challenges of the petroleum industry. Shown above are (l. to r.): Kemp Bunting, mechanical engineer; Arthur Sisko, physical chemist; Thornton Traise, organic chemist; Wilbur Hayne, chemical engineer.

They are members of the research team that developed Standard Oil's revolutionary new Supermil ASU greases. These amazing lubricants are the first to deliver normal performance at both extremely high and low temperatures.

Four heads are better than one

Seldom is a major petroleum advance the work of one man—or one kind of knowledge. It is the result of a group of scientists whose skills encompass many fields.

Take Standard Oil's amazing new Supermil ASU greases, for example. These revolutionary lubricants assure normal performance at fantastic temperature extremes—from 70° F. below zero to 480° above. Their development has made possible major advances in America's Space Age defense program and its industrial efficiency.

The story behind the development of Supermil

ASU greases is as fascinating as the products themselves. For it is a story of Standard Oil research teamwork. Physical chemists, organic chemists, chemical engineers, mechanical engineers and technicians worked together for *five years* to break down a major barrier in the lubricant field.

At Standard Oil, scientists and engineers of many types have the opportunity to work on a wide variety of challenging projects. That is one reason why so many young men have chosen to build satisfying careers with Standard Oil.

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Good Roofing Will

Stop Weather

This salesman knows roofing and will suggest the right type for the job. Here he shows a customer corrugated metal roofing that is durable, weather resistant, and economical.

by Neil Dowlin

NOW IS the time to repair old roofs or construct new ones. Holes in roofing or siding can let in just as much rain as sunlight, so a good sound roof is money saved when grain and supplies need to be stored out of spring rains.

Choosing a roofing material is the most important decision you have to make. There's a big difference in roofing and siding materials on the market today. The three most common roofing materials in this area are wooden cedar shingles, corrugated galvanized steel or aluminum, and asphalt shingles commonly called composition shingles.

Steel Roofing Is Popular

Galvanized (zinc-coated) steel roofing is widely used by farmers because it's easy to put on and requires little upkeep. Sheet metal weight is determined by gauge number. For instance, 24 gauge metal is heavier than 28 gauge because 24 gauge is thicker. Galvanized metal shouldn't be lighter than 24-26 gauge for roof use. Twenty-eight gauge can be used for siding.

Although galvanized roofing costs more than asphalt shingles when new, the extra years of service make up for the price difference. Keep in mind that the life of steel depends on the weight of zinc coating it has. A dry Midwestern climate doesn't re-

at the Top



This farmer is protecting his investment by making roof repairs before leaks start.

quire as much zinc coating as the damp climates or heavily industrialized regions do. A 1.6 ounce zinc coating per sheet of 12 foot corrugated steel roofing is good for about 20 years of service in dry climates.

Three Factors Determine Usefulness

"A point to remember when buying asphalt roofing is that the quality, thickness, and strength of the felt it contains largely decides how long the shingles will last," says Prof. Frederick C. Fenton of the K-State Department of Agricultural Engineering. Asphalt shingles weighing 165 pounds for each square (commonly referred to as standard weight) have been found to be satisfactory in this area. However, shingles weighing 200 pounds or more a square (a square is 100 square feet of area) aren't damaged by wind and hail as easily as the lighter weights.

Wooden shingles, formerly the cheapest kind, are now more expensive to buy and involve more labor to apply than steel shingles. Many good wooden shingle roofs have been in service 25 years or more, with little water leakage. Recommended shingles are of random width, have edge grain, and are put down with a five inch exposure length. Wooden shingle roofs can be repaired by put-

ting in a new shingle where needed.

Galvanized metal doesn't have the insulation value of asphalt or wooden shingles, recent Iowa State College tests show. While large amounts of heat are reflected off metal roofing, much is absorbed and radiates down on the under side.

Applying white paint to a metal roof will make the building much cooler in summer. If metal roofing is applied over an old wooden or asphalt roof, the building temperature will compare closely to a wooden shingled building.

Metal roofing and asphalt shingles are fire resistant and so enjoy a lower fire insurance rate. In Kansas, the rate for fire-resistant materials is about six cents less than for a wooden shingle roof.

Shingle Life Depends on Weather

One of the factors affecting roof life is the weather. If you live in a region with many strong wind storms each year, it may take lots of care to make a roof last ten or fifteen years. Wind, hail, and the sun are the biggest causes of damage to a roof.

Another thing affecting roof life is the method used when putting a new roof on. On a sound roof the sheathing shouldn't be rotted, sagging, or broken. Wooden shingles and steel roofing lie flat longer and suffer less wind damage when nails penetrate into solid lumber. The nail should penetrate into a two-inch rafter or purlin when steel is being laid. Nails in one-inch sheathing won't hold effectively unless clinched on the under side.

Slope of the roof and shingle exposure are important in preventing wind damage and wind leakage. Purdue tests show a roof of six inches slope for every foot of rise doesn't suffer as much damage as do those with less slope.

Asphalt shingles that soften in summer heat and stick together show less storm damage. Some shingles will selfseal. According to a Purdue report, shingles that are nailed down on outer edges give poor service. Manufacturers now recommend the use of a quicksetting cement, but the limited information now available shows selfsealing qualities to be better.

FACTORS TO CONSIDER WHEN BUY-ING ROOFING MATERIALS

- 1. Cost and labor
- 2. Length of life
- 3. Fire resistance
- 4. Insulation qualities
- 5. Reflection of heat rays
- 6. Appearance
- 7. Future repairs



Prof. George Filinger, of the Horticulture department at K-State, examines the fruit of one of his favorite dwarf apple trees.

Want Fruit?
Short on Space?

Raise

Dwarf Fruit Trees!

by Ben Brent

NOW YOU can have fresh fruit from your own orchard! Before you say this is just a pipe dream and you don't have room for an orchard, see what dwarf fruit trees have to offer.

These astonishing midgets of the plant kingdom are, except for size, similar to ordinary fruit trees, and they come into production much sooner. They bear normal-sized fruit, in some cases, superior in color to fruit from normal trees.

Most of the dwarf varieties can be picked and pruned from the ground without using a ladder, and can be sprayed with ordinary garden-spraying equipment already on hand. In addition to these virtues, several kinds

of fruit can be grown in a small area. Dwarf trees, however, aren't without disadvantages.

They live only about 20 to 30 years and due to a poorly developed root system in a few varieties, are more prone to wind damage than regular trees. As a rule, dwarfs produce less fruit per acre than normal trees.

Dwarfs Are Produced by Grafting

Dwarf fruit trees are produced by grafting scions, or shoots from normal trees, onto so-called dwarfing root-stock. Although it's not known for sure what causes the dwarfing condition, it's believed due to partial incompatibility between the normal and dwarfing stocks. This incompatibility is known to scientists as "stionic effect." It may be due to leaves not producing enough food for the roots, or roots sending up

insufficient nutrients for the leaves, or both.

British horticulturists have been producing dwarf fruit trees for about 100 years. Several British varieties are available in the United States.

Weather Too Tough for Some

British dwarfs, however, weren't hardy enough to stand climatic conditions in Kansas. Prof. George Filinger, of the K-State Department of Horticulture, set out to develop a dwarfing stock that would survive Kansas weather. At the beginning of the study, 600 different strains of apple trees were planted. Early in the test, a severe drought and a blizzard killed all but 60. Of these 60 varieties, 4 or 5 have proven to be good dwarfing stocks.

These winter-hardy, drought-resistant varieties are known as the K Series and according to Professor Filinger, are "tailor made for Kansas." British stocks used in the same trials were all lost to winter kill.

Dwarfing Method Sometimes Fails

Professor Filinger explains that not all graftings between different varieties produce dwarfs. Of the 60 hardy varieties found in the test, many produced perfectly normal trees when other varieties were grafted onto them. Surprisingly, a few even produced larger than normal trees.



Dwarfing Graft

Two grafting methods are commonly used to produce dwarf fruit trees, according to Professor Filinger. In one method, as hort piece of dwarfing stock wood only a few inches long is grafted onto a normal root stock and then the top of the

normal tree is grafted on top of this short section. Trees of this type usually have a swollen section where the short piece of dwarfing stock is grafted in. Trees grafted by this method are prone to twisting and breaking at this point during wind storms.

A superior method used at K-State consists of grafting shoots from (Continued on page 18)

Kansas State University April, 1959



President McCain

Ag School students, parents, and prospective freshmen:

This year at K-State, Ag Week and Ag Science Day have assumed

new dimensions of importance.

America is faced with a critical shortage of agricultural scientists, a problem certain to grow more serious in the years ahead. During the past eight years, enrollments in the nation's colleges and universities have increased at a rapid rate; during this same period enrollments in schools of agriculture have been dropping.

As a result, specialists in almost all areas of professional agriculture are in short supply. It's an ironic fact that while agricultural enrollments are decreasing, employment opportunities in agriculture are more at-

tractive than ever before.

Ag Week and Ag Science Day furnish an incomparable opportunity to focus attention on the need for men and women with scientific training in agriculture and the incredibly bright future that lies ahead for the qualified young people who secure such training. Hundreds of vacancies exist today for county agricultural agents, 4-H Club agents, and teachers of vocational agriculture. Most of the agricultural experiment stations have vacant positions paying attractive salaries for agricultural scientists.

In the vast area of agribusinesses, those industries in our cities engaged in processing and distributing food and the manufacturing of feeds, insecticides, farm implements, and a variety of other activities essential to the feeding of the nation, have thousands of rewarding job opportunities for farm-raised youth who have secured appropriate training.

All of these facts are well known to the faculty and student body of Kansas State University and, for that matter, to farm leaders of the state and nation and to the executives of the various agribusinesses. Unfortunately, far too few of these facts are known to outstanding farm-raised youth who are completing their high school education and faced with the decision of choosing a college.

I hope very much that through the activities of Ag Week and Ag Science Day, agricultural students at Kansas State University can call to the attention of farm youth throughout the state of Kansas the needs for more persons trained in agriculture and the many attractive employment

opportunities in this field.

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Ag School on Display

Dear Mom and Dad,

No, I'm not writing for money this time. I need a big red neckerchief, my boots and my ten-gallon hat. If I don't have them by next Monday I'll get the worst dunking you ever saw.

Your son,

Norman

THIS IS probably the story of many a freshman Ag student. Each fall, since 1930, Aggies have donned their blue jeans, western shirts, and red neckerchiefs for

a period of six days, known as Ag Week.

In the past it usually began Monday morning with several dunkings of optimistic or forgetful Aggies in the famous (or infamous if you lacked a red neckerchief) horse tank, and ended Saturday night with the crowning of the Ag School Queen at the Ag Barnwarmer dance.

Formerly Ag Week had been more or less a fun week for Aggies, with the horse tank representing a large part of the amusement. Many battles have been waged over this "necessary evil." Right along with resistant Aggies making a big splash have been Vet students, Collegian reporters, and even a couple of Ag School professors.

Last year, however, Ag Week turned to more constructive features. Dunking in the horse tank, the normal penalty for improperly dressed Aggies, was abandoned, and Ag Career day was featured. Career day was a major event directed primarily at high school students. It was planned to help high school students see the opportunities in agriculture.

Career Day created new interests, but as a whole, interest in Ag Week lagged. As one Ag student put it, "Ag Career Day is a good idea, but Ag Week was a flop. Ag Week just isn't Ag Week without the horse tank."

So, this year free baths in the traditional horse tank will once again play a part in Ag Week. A new and

different Ag Week, coupling education with fun, plus the use of the horse tank, is planned for this year. Previously, Ag Week was held preceding the Barnwarmer in the fall and the K-State Little American Royal was held during the spring semester. This year Ag Week will be in the spring along with Home Economics Hospitality Day, and the Little American Royal.

Displays for the general public will be open Saturday, April 11, the last day of Ag Week, to be followed by the Little American Royal that evening. Ag Science Day, as the day will be called, will feature exhibits set up by departmental clubs in the School of Agriculture. All of these displays will be related to the theme "Modern Living in Agriculture." The various clubs will be competing for a traveling trophy presented for the best booth by Alpha Mu, milling honorary.

Aggies Furnish Little Royal Competition

Ag Science Day and Ag Week will be climaxed by the Little American Royal. If you're a high school student, make it a point to see the Little American Royal at K-State. It's a fitting and showing contest for college students, patterned after the American Royal at Kansas City.

Experience at showing any of several types of livestock is gained by participation in the Little Royal by K-Staters. Only college stock is shown in the contest. Animals are judged on the way contestants show them in the ring, and on any improvement in appearance during the eight weeks students worked with them.

Over the years more than 2,000 students have shown in the Little Royal, including about 40 girls. Practical experience and not trophies is the real reward for showing in the Little American Royal, because this type of competitive experience usually isn't obtained in the classroom.

The traditional red bandana and horse tank return to Ag Week this year. A cold dunking awaits all non-conforming Aggies.



Come to Hospitality Day

"Fair Ladies"

by Ruth O'Hara

COME, you "Fair Ladies"—whether you're students, teachers, or homemakers—to the campus of K-State on April 11 for the annual Hospitality Day.

Borrowed from the stage play, "My Fair Lady," are gay exhibit themes—"With a Little Bit of Love" (Family and Child Development), "Get Me to School on Time" (Teaching), "It Was Lovely" (Art), "I've Grown Accustomed to Your Style" (Clothing Retailing), "Along the Street Where You Work" (Home Ec Journalism), and "Without You—at K-State" (nursing). These are set up by the Home Economics School clubs.

After Registration Come Introduction and Exhibits

First you'll register in K-State's modern Student Union where you'll receive your program for the Hospitality Day, a campus map, and your lunch ticket.

Beginning your busy schedule for the day will be the introduction by the Dean of the School of Home Economics, Doretta S. Hoffman, who is a wife and mother as well as a career woman. Next a skit will be presented on the theme "My Fair I ady." It will demonstrate how the theme has been adapted to home economics.

Next you'll be in one of the five groups which rotate to the home economics clubs exhibits, the classroom tours, the careers program, the fashion show, and a film sponsored by the Dietetics department.

The exhibits, shown in Nichols gymnasium, are each planned to represent one of the curriculums in the School of Home Economics. Some will show class work projects, says Judy Stover, teaching senior from Ransom, who is exhibits chairman.

Be sure to bring along all your questions about the courses offered here and the opportunities after graduation. Along with the exhibits, the Teaching club has planned a Counseling Center where members of the home economics faculty and students, too, will try to give you some of the "inside" story. And won't it be fun to see some of the textbooks on display that are used in



Hospitality Day exhibits will help introduce visiting high school girls to the various curriculums in Home Economics at K-State.

home economics classes at K-State! You may also want to ask questions about the city of Manhattan.

The careers program planned by Janice Bates, home economics journalism senior from Augusta, will feature slides showing home economists on the job in businesses and industries.

From expertly tailored suits made with fine tailoring details to bouffant cocktail dresses, you'll see them all modeled in the fashion show by the students who designed and sewed them. Mary Jo Moriconi, clothing and textiles junior from Wichita, is chairman of the fashion show to be presented in the Student Union Little Theater.

At noon you'll get to visit the cafeterias and dining rooms of Northwest and Southeast halls, freshmen women dormitories. Lunch has been planned and supervised by Vera Wierenga, dietetics junior from Cawker City, and other students in the dietetics and institutional management curriculum.

Visitors Will Tour K-State Dormitories and Campus

After lunch you'll have some free time to tour the dormitories and see some of the rooms (you're almost sure to find a student from your home town), visit the home management houses where teaching and extension seniors live and work for nine weeks, and the nursery school, which is the laboratory for child guidance classes. You certainly won't want to miss walking by the rapidly growing structure of Justin Hall, the new \$1.9 million home economics building under construction which is scheduled for completion next fall.

The K-State Hour, a talent show by K-State students, will entertain you later in the afternoon.

So it's "Home Economics for You—My Fair Lady" not just on April 11 but all the year 'round at Kansas State.

HA

Semen collected from this Holstein bull is used for artificial breeding. All bulls are potentially dangerous. Artificial insemination will eliminate this danger on your farm.

by Eugene Harter

PROBABLY no method of livestock production has been more quickly and readily accepted than the artificial insemination of dairy cattle. This technique isn't limited to dairy cattle alone, but economic and management conditions have made it especially adaptable to this class of animals.

Artificial insemination, commonly referred to as AI, isn't new. There supposedly is a true account of an Arab chief in 1322 who mated his prize mare with an enemy chieftain's stallion by stealthily collecting semen from the stallion and then successfully artificially impregnating his mare.

Spallanzani artificially inseminated a bitch about 1775. Ivanoff, a Russian, successfully artificially bred farm animals as early as 1899. He established a laboratory for further investigation in 1909 and started large-scale investigations in 1922. In 1936, the first large co-operative AI association was organized in Denmark.

The first large-scale AI association in the United States was organized in Clinton, New Jersey, in May, 1938. Similar organizations were established in several other states in 1938 and 1939. In 1941, 100,000 dairy cattle were artificially inseminated; in 1951 more than 3.5 million, and in 1957 the figure exceeded 6 million.

One of the primary requirements

for a successful AI program is a supply of good semen. This means the use of fertile bulls, proper management of the bulls, and the correct technique in semen collection.

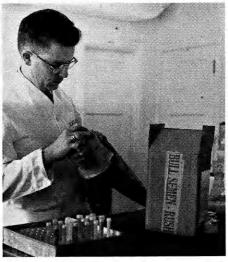
A big problem is determination of semen fertility. The best indication of the fertility level of a bull is his actual breeding record. In the case of young bulls, such a record isn't usually available. And breeding records of older bulls are often incomplete and inaccurate. Some sires produce semen satisfactory for natural service, but not of sufficient survival ability to withstand rigors which semen used in AI organizations is subjected to.

Semen Checked for Life

Determining the fertility of semen is usually accomplished by checking the physical appearance of the semen and the initial sperm motility. These are only rough estimates, but they are of some value if the breeding record of the bull is already known.

One problem that AI associations have been concerned with is how to maintain the quality of semen over a long period of time. Next month there will be an article on frozen semen and how it has helped solve this question.

The greatest advantage of AI is the increased use of superior sires.



William Collins is packing semen which will go to inseminators all over Kansas.

Records show that over the nation as a whole, cows born as a result of AI have produced 859 pounds of milk and 41 pounds of butterfat more than their dams.

Another advantage is that more sires can be proven. This is important because the supply of proven sires has never been sufficient to meet demands. AI makes possible the testing of 100 or more daughters of a bull rather than 5 or 10. In addition, the results aren't unduly influenced by conditions existing in a single herd because the daughters are scattered out in many herds.

Eliminating the need for an expensive herd sire in small herds is also an advantage. Most small dairymen can't afford to buy animals of the quality now available for AI use.

Perhaps one of the outstanding advantages of AI is that it has stimulated greater interest in better live-

E BULL, WILL TRAVEL



stock breeding and management practices. Extension dairymen have found the introduction of AI to be followed by a greatly increased interest in methods of raising calves, pregnant cow feeding and care, and in dairy herd improvement associations.

There are few disadvantages of AI that can't be overcome by the application of knowledge available at present. AI won't result in higher fertility when healthy cows and bulls are mated nor will it decrease sterility. Careless use of AI will result in lowered breeding efficiency and failure to follow strict sanitary practices may result in the spread of disease. In properly managed associations this shouldn't occur, though.

Results obtained from several states indicate that AI, as practiced by well-organized associations and fully co-operating herd owners, does just as efficient a job of getting cows in calf as natural service. To be practical, 60 percent of all cows should settle the first time bred. Practically every study on breeding efficiency shows five to six percent of the cows in an average herd fail to settle when bred by either natural or artificial service.

AI of poultry was studied by sci-

entists about 1914, but didn't come into general use until development of a practical technique for semen collection in 1937. This was developed by W. A. Burrows and J. P. Quinnin working for the Department of Agriculture.

AI of poultry is now in fairly general use for experimental work and where birds are kept in a cagebreeding system.

Al Improves Turkey Fertility

It's used commercially in turkey flocks all over the country. Best fertility has resulted from a combination of natural matings and AI. If fertility in natural mating is below 70 percent it's believed the addition of an AI program will increase fertility 10 to 15 percent.

AI of beef cattle is an added expense because increased labor is involved in bringing cattle in off the range to be inseminated. Some breeders have so planned their breeding system that cows can be bred in late March and April before being turned out on pasture.

AI is becoming more popular with commercial livestock breeders, too. Calves from artificially inseminated animals are ineligible for registry in purebred associations.

Some ranchers feel AI is a valuable breeding tool for the man whose ranch provides the proper physical setup and who is willing to give the program precise and detailed management.

Work on AI of swine, at present, is largely experimental. Its advantages, however, are similar to those in cattle breeding. At this time, the practical use of boar semen is limited by unsatisfactory methods of handling and storage. Experimental work on these problems is being carried out at several colleges.

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Money or Service

The Rural Bank

Offers It

by Laurice Margheim

DID YOU ever stop to think how you could conduct farm business without the services offered by your local bank? If you couldn't write checks, how much cash would you have to carry to buy 40 head of whiteface steers? Where would you keep the money from a truckload of wheat? Where would you borrow money to pay off your harvest hands until you could sell some grain?

Most rural banks furnish services that are so familiar we take them for granted. While profitably investing deposits is a bank's chief source of income, most rural banks furnish many services to the community for which they receive little or no direct income.

Most farmers consider their banker a reliable source of financial counseling on subjects ranging from making a will to buying a farm. Many Kansas rural banks have found counseling to be such an important part of their business that they have added special departments for this purpose.

The agricultural representative in charge of the farm department is usually a college-trained man with a background in agriculture. He improves the public relations of the bank by working closely with farmers. He may even drive a farmer to a livestock sale and help him buy some calves. Sometimes he just stops by the farm for a visit.

This way he becomes familiar with the farmers and their various farming programs. At the same time he promotes the interests and good will of the bank. The agricultural representative supervises all farm loans and also helps farmers with their farm plans.

Country Banks Serve Community

Rural banks support youth organizations such as 4-H Clubs, F.F.A. chapters, and Boy Scout groups. Community projects such as hospital improvements, community chest drives, and county fairs are supported too. Loans and scholarships are granted to college students by some rural banks. Then, too, the bank usually will make its window display space available for advertising worthwhile community projects.

All banks have savings programs and most have special programs aimed at teaching school children how to save. Many rural banks furnish free



Rural banks are tailor-made for farmers. Here business is on a personal level and the services performed by the bank are built around the needs of the farmer depositors.



This modern country bank is an outstanding citizen as well as the financial backbone of its small Kansas farming community.

checking services to their customers. Important papers and other valu-

Important papers and other valuables can be stored in fireproof safe deposit boxes for only a few dollars a year. Deeds and titles are often held by a bank for safekeeping while a business deal is being closed or a title cleared.

Purchases and sales of securities can be made through rural banks, too. People who want to invest their money where it can be converted quickly to cash often use government bonds or other securities. Many people depend on their local banker to help them keep their money invested safely.

Trust Departments Invest Income

Some country banks have trust departments that manage estates and invest or distribute the income from them according to the trust terms.

Every bank issues money orders and cashiers' checks to give its customers a safe and convenient method of transferring money through the mails. Travelers' cheques are another service offered to protect money from loss.

The banker in most rural areas knows enough about every farmer in the community to tell whether or not he is a safe loan risk. There are many other places a farmer can go to borrow money, but they can't offer him the prompt and personal service available at his local bank.

The success of a rural bank is so dependent upon the community's prosperity there is usually a feeling of partnership between the farmer and his banker. The farmer has confidence in his rural bank and he works hard to prove to the banker his ability as a good manager to make profitable use of borrowed money.

Breeders' Index

GUERNSEY

Bertholf Dairy Green Pasture Farms W. H. Bertholf, owner Rt. 2, Wichita, Kansas

Cee Jay Farms C. J. Graber, owner Rt. 1, Newton, Kansas

AYRSHIRE

Du-Ayr Farm M. B. Dusenbury Route 1 Caldwell, Kansas

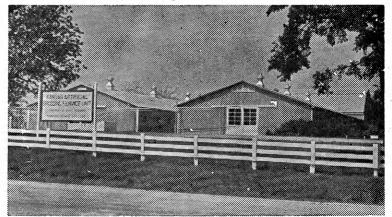
BROWN SWISS

Prairie View Swiss Farm Earl Webber, owner Arlington, Kansas James Hess

LaHarpe, Kansas

Harper Dox Swiss Farms K. A. Bush, owner Harper, Kansas

HEADQUARTERS



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Are you getting what you should from Small Appliances?

by Mary Jo Mauler

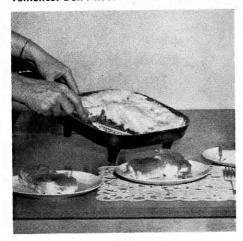
THOSE SMALL electrical appliances you have stashed away on some shelf, just waiting to be used for that one special purpose, can be used to do many extra jobs around the kitchen. If you use an appliance only for the purpose for which it was made, you may be using it as seldom as once a month or even once a year.

The electric skillet is one of the most versatile of the small appliances. Although it's most often thought of for frying, it can be used for stewing, braising, and sauteing, as well.

An upside-down cake is easy to make in an electric skillet.

First, put the butter into the skillet and set at 250°. When the butter is melted, add brown sugar and mix thoroughly. Spread this mixture evenly over the bottom of the pan. Press pineapple, apple slices, plums, or prunes into the mixture. Then pour your favorite cake batter over this (a packaged cake mix will work

Use your electric skillet for baking convenience. Don't heat the oven for one dish.



fine). Cover the skillet and cook for 40 to 50 minutes. Loosen the cake from the skillet and invert.

Coffee breads and basic cakes also bake well in an electric skillet. One with a vented lid is needed in this case. Just pour the batter into the skillet and cook at 275° F. until done.

To give the cake a topping, you can sprinkle chocolate bits on the hot cake. When they melt, spread them for frosting. Another topping can be made by combining nuts and brown sugar and sprinkling this over the top for the last 15 minutes of baking time.

Bake Apples in Electric Skillet

You can give baked stuffed apples a new twist by preparing them in an electric skillet. First core the apples, then scoop out the centers and chop them up. Combine the chopped fruit with bread crumbs and raisins, or chopped cranberries, sugar, and cinnamon. Top with butter and cook with a half cup of water at 350° F. for about 30 minutes.

The electric grill makes an excellent server for hot foods. Soup, creamed chicken, and stew can be kept warm by putting them in a stainless steel or cast aluminum container. Put the container on the grill set at "warm." The food will stay serving hot for outdoor picnics or porch buffets.

Green vegetables such as green beans, asparagus, and broccoli gain new appeal when fixed on an electric grill. Dip only fresh vegetables in boiling water for three minutes. Put these on a grill set at 200° F. Add butter, cover, and steam to taste. In case your grill doesn't have a cover, you can top it with aluminum foil.

That electric cooker or Dutch oven, commonly thought of only to use for cooking roast, can be used to sterilize baby bottles. First, wash the bottles and nipples with mild soap or detergent, using a bottle brush to get them clean, then rinse. Place the bottles on their sides and put the caps and nipples around the edge of the cooker. Cover with water, set at 375° F., and cover. Bring to a boil and then after 10 or 15 minutes reduce the heat to a rolling boil. Remove the bottles and they are ready for use.

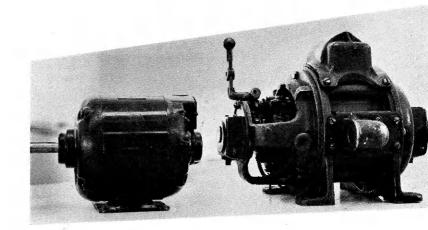
Another good way to put an electric cooker into use is to steam puddings or brown breads in it. Use a regular mold or a can for the batter. If the mold doesn't have a cover, you can make one with waxed paper, saran film, or aluminum foil. Place a flat cover or grid in the bottom of the cooker and add one quart of water. Put the mold into the cooker, cover, and bring to a boil at 425° F. After it starts to boil, reduce to 212° F. and steam until done.

Rolls and breads of all sorts can also be warmed in an electric cooker. Just put the buns in the cooker, cover, and heat at 250° F. Heat until the buns are warmed through. If the buns are dry, you can sprinkle them with half a teaspoon of water before putting them into the cooker. Buns of the packaged variety can be put in, package and all, wrapped in aluminum foil. Be sure to open the package first.

You can prepare custards and puddings without using a double boiler. The electric sauce pan that can be set for gentle controlled heat is the answer for you. The larger size sauce pans can also be used to bake potatoes and apples, fry in deep fat, pop corn, or warm buns or rolls.

Your Electric Hired Man

Saves Time Cuts Expense



by Don Sumner

ELECTRIC motors are the farmer's cheapest source of labor. They eliminate many backbreaking jobs because of high efficiency and low operating cost.

Electricity has accounted for many of the improvements in farming today. Perhaps the main reason for this is because electric motors have increasingly replaced other sources of power under all working conditions.

When using an electric motor, a farmer can mix one yard of concrete, shear 50 sheep, or mix two tons of feed with only one kilowatt hour of electricity for a cost of about 6 cents.

Electric motors can be put to use in almost any farm building. In the dairy barn they run milking machines and separators. They furnish power for gutter cleaners and litter carriers and so take the drudgery out of cleaning up. Motors can also provide power for silo unloaders, elevators, and feed mixers to make livestock feeding easier.

Motors Operate Shop Machines

The farm shop has many machines that can best be operated by motors. Power hacksaws, table saws, air compressors, lathes, drills, and grinders can all be powered by an electric motor.

One of the more recent developments in use of the electric motor has been its adaptation to large equipment. Motors are used to grind, mix, elevate, and auger grain. High humidity the last two years at harvest time increased the need for dryers, fans, and blowers. These machines require power that can be provided cheaper by electricity.

Small portable electric motors are a common sight on Kansas farms. They're used on pump jacks, concrete mixers, and portable grinders, since they can easily be carried from one job to another. Even a large motor can be made portable by mounting it on a homemade cart.

As a general rule a one-fourth horsepower motor will replace a man. If speed and other load factors remain the same, a gasoline engine can be replaced by an electric motor with only two-thirds the horsepower of the gas engine.

When purchasing a motor, the kind of job it's going to be used for should be taken into consideration. If power is provided for something that will be hard to start, such as small feed grinders or air compressors requiring up to one horsepower, a capacitor-start induction motor should be used.

For loads up to one horsepower that are extremely hard to start, such as large water pumps and conveyors, a repulsion-start induction motor will be required. Ensilage cutters, gutter cleaners, and other machines that take larger than one horsepower motors are both hard to start and have a big

load while running. Either a repulsion-start or two-valve capacitor motor can be used.

Equipment that vibrates a lot should have motors with shockabsorbing bases. They have rings at each end of the motor shaft to give a cushioning effect and absorb vibrations.

Enclosure Depends on Conditions

The type of motor enclosure will depend on where the motor is to be used. In general, if weather conditions bother the operator, an open type shouldn't be used. However, they are the most widely used on farms. Splash-proof coverings give protection against water and dust. Totally enclosed motors have no external openings, and should be used in extremely poor conditions.

Motors up to one-third horsepower can be operated from 115-volt outlets, but motors of one-half horsepower or over should have 230-volt sources because of the necessary current. Most power companies limit the size of motors on farms to five horsepower. Larger motors require more current and may overload transformers.

In the future, motors will do more and more of the farmer's work. Furnishing power for Kansas' growing irrigation systems is one use that will be expanded in coming years. **DIAMONDS** WATCHES **JEWELRY** Diamond Specialists

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Dwarf Fruit Trees

(Continued from page 8)

dwarfing varieties onto the ends of the scaffold or main branches of a young normal tree. This method produces the same type of tree as the previous method, but it's more resistant to wind damage.

Several dwarf varieties of most common fruits such as apples, pears, cherries, crabapples, and peaches are available through commercial nurseries. The hardy K Series of dwarf apples, developed at K-State specifically for Kansas conditions, was released to commercial nursery men several years ago. It's probably the best variety for dwarf apple production in Kansas.

Dwarf fruit trees are of interest both to the horticulture hobbyist and the home gardener. They are easy to raise, produce an abundance of fruit in a limited space, and come into production much earlier than normal trees. Ease of picking, spraying, and pruning makes them ideal for the home fruit grower.

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Canine Cop, Cowboy, and Companion

That's

ROVER

by John Thomas

THE FARM DOG is night watchman, hired hand, hunting companion and man's best friend, all for just a little food and affection.

A farm dog can be helpful with daily chores and activities. Your dog can be trained to watch an open gate, hold cattle, or help drive sheep and hogs.

Sheep ranchers would be lost if it weren't for their flock dogs, which, most often in this country, are the old-time Shepherds or Border Collies.

In choosing a flock dog, working qualities should come first. Type, breed, and looks are of secondary importance. Intelligence, agility, and a sound body are necessary to work with cattle, sheep, and horses. Dull or timid dogs should never be used for farm work because they may not be aggressive enough to do the job.

No Worry When Rover Is on Watch

A good dog around the farm can double as a watchman, too. When trained at an early age, Rover can save you the trouble of padlocking your gas barrel, and will keep those newly weaned pigs out of your wife's garden. A wise old coon may think twice before sticking his head into the chicken house door if he knows who's waiting to tangle with him.

Hunting is another part of farm life where dogs are important. Some hounds and mongrels, as well as purebreds, are trained to hunt coyotes, pheasants, or rabbits. The black and tan coonhound, found on many farms, is a good example of a hunting dog without registration papers.

In many farm homes, the dog is almost a member of the family. A youngster growing up with a dog will collect a lifetime of happy memories. They will find simple kindness and constant companionship by roaming the fields searching for nothing special, yet always looking in every hollow stump, down every steep bank, and up at every tree.

Care should be taken to give Rover protection. Living close to town or near a highway is a constant threat to his life. Dogs should be trained early not to chase cars or trucks.

Another enemy of our four-legged hired hand is the hookworm. Almost every farm dog has them to some extent. He should be wormed at least once or twice a year.

Noseprints Verify Ownership

You also should be able to identify Rover and have proof of his ownership. A collar and tag stamped with the dog's name and the owner's name and address are often used, but these can be easily lost. The safest and surest method is to have him nose printed. Just like a person's fingerprints, no two dogs' noses are alike. A special inkless pad is first touched to the dog's nose. Then a sensitized noseprint card is pressed where the pad was, which immediately produces

a permanent black print on the card.

Tattooing is another common system of identification. The dog should be about two to three months old when marked. Tattoos may be placed in either the ear, flank, or lip. This will remain permanent and legible for the life of the dog.

Color patterns and markings are a poor means of identification. "Spot" to someone might be "Blackie" to someone else or Spot might even have his spots removed by dyes.

Distemper and rabies are constant threats to farm dogs. Rabies is especially dangerous if the dog is around children, because the disease is 100 percent fatal to both dogs and humans. After your local veterinarian has vaccinated Rover against these two diseases, he will give you an identification tag for his collar to prove rabies protection.

The loss of a dog can mean a broken heart to a little child, the loss of a companion to a sportsman, and to the stockman, the loss of a valuable worker.

First the dog and then the horse came to the farm. The horse has gone, but the dog has stayed.



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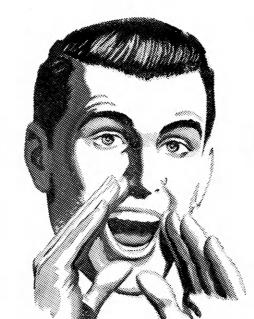
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Aggies' World

by Fred Clemence and Neil Dowlin

Grades Pay Off for Aggies

A newly created scholastic honors recognition program went into effect this year at K-State. All undergraduate students, except freshmen, who received grades in at least 15 hours the previous semester with a grade point average of 3.25 or more are entitled to optional attendance.

Students from the Ag School who earned scholastic recognition for the fall semester are Donald Adee, Carl Alexander, Gerald Bachman, James Balding, Bryan Barr, Robert Baruth, Earl Beck, Loren Becker, Frank Bell, William Boon, James Booth, Ben Brent, John Carlin, David Cool, Billie Cowell, Gary Cromwell.

Leonard Drumright, James Dunham, Gary Eilrich, Frank Einhellig, John Forrest, Harlan Forslund, Donald Foster, Billy Fuller, Dwight Glenn, Wayne Grover, Lee Hackett, Ken Hylton, Loren Isaacson, Edward Janzen, Bob Jones, Harold Knewtson, Ronald Kruse.

Leroy Lang, Melvin Martinek, Ronald McCune, Donald Nelson, Chester Peterson Jr., Ronald Rhoads, Harold Roberts, Thomas Rogler, Gary Rumsey, Michael Schafer, Elson Seitz, Harold Severance, Stanley Smith, James Snyder, Norman Staats, Ned Stirtz, Darrell Stites, Lawrence Stoskopf, Shirley Strnad, Donald Stuteville, Max Stutz, Gary Sullivan, Thurston Thiel, Duane Unger, Samuel Unger, Richard Vanderlip, John Weseloh, Donald Wier, James Wilson, and Lee Young.

Dairy Major Meets Ike

John Carlin, Dairy Husbandry freshman, was one of six 4-H youths selected to present a "4-H Report to the Nation" to President Eisenhower in Washington, D.C., during early March.

"The purpose of the trip was to inform President Eisenhower, national farm organizations, and the nation of 4-H objectives and achievements," Carlin said.

Carlin is a member of the K-State Dairy Club, corresponding secretary for Collegiate 4-H, a member of the Farm House fraternity, and an Ag Student staff reporter.

Dean Weber Breaks Judging String

Arthur D. Weber, dean of agriculture at K-State, has been named to the board of directors of the International Livestock Exposition in Chicago.

As a result of this assignment, Dr. Weber will no longer select the grand champion steer at the International. He broke tradition back in the 1940's when he became the first American to ever select the grand champion steer.

As judge at the International, Dean Weber has had a strong influence in getting livestock producers to shift from the overly fat animal to a steer more desirable to both the packer and consumer and more profitable to the producer and feeder.

Alum Named Beef Herdsman

K-State's new beef herdsman is Miles McKee, a K-State graduate who was a member of the champion livestock judging team at the International in Chicago in 1950. McKee will assume his duties March 15. He replaces Gail Long, who has resigned to accept a similar position at Penn State.

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Southeast Girl: "Did any of your friends admire your engagement ring?"

Engaged Roommate: "Admire it? Two of them recognized it."

An Aggie visiting a local whistlewetter ordered a beer.

"How much beer do you sell a week?" he inquired.

"About 40 kegs," replied the bar-

"I'll tell you how you can sell 80." "How?"

"Simple; just fill up the glasses."

Engineer: "What's that long rope on your saddle for?"

Cowboy: "Catching cows."

Engineer: "How interesting! And what do you use for bait?"

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Prof: "What is the difference between a little boy and a dwarf?"

Aggie: "There might be a lot of difference."

Prof: "For instance?"

Aggie: "The dwarf might be a

Dentist: "Your teeth are in perfect condition."

Texan: "Drill anyway, I feel lucky."

The lines of a girl's palm may foretell her future, but only the lines of her figure will make it come true.

Mother to boy returning home frem fight: "How did it start?" Little Boy: "He hit me back."

Garage mechanic to owner: "My advice is to keep the oil and change the car."

Texan to Australian guide: "Well I'll admit one thing, your grasshoppers are bigger than ours."

Aggie: "How about a goodnight kiss?

Northwest girl: "I don't kiss on the first date."

Aggie: "How about your last?"

"Is she your best girl?" "No, just necks best."

"Soil," the Prof told his class, "is like an engineer, half solids and half

Prof: "This exam will be conducted on the honor system. Sit three seats apart and in alternate rows."

Eli Whitney: Get your cottonpickin' hands off my gin.

> Spwing is spwung, The gwass is gween. Pwettiest day That I've yet seen.

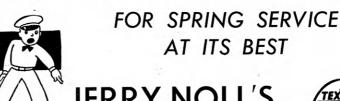
Spwing has spwung, The gwass is wet. Pwettiest day That I've seen yet.

Spwing is spwung, Oh, spwung is spwing. Just wisten to The bwidies sing. -Author too shy to be wecognized.

Let us never forget that the cultivation of the earth is the most important labor of man.—Daniel Webster.

INCREASE YOUR AG POWER Answers

- 1. c—Omaha and Chicago.
- 2. b—Feeder steers.
- 3. a—Shorthorn and Brahma.
- 4. a—Domestic.
- 5. b—Before breeding season.
- 6. a—Action of the enzymelipase.
- 7. c—General appearance.8. b—White.
- 9. c—Rose combs.
- 10. a-Worsted yarns are compact and clear in outline while woolen yarns are rough and



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New McCormick No. 2 hay conditioner can cut curing time 50%! Exclusive IH rubber rolls gently crush entire hay stem to save leaves... speed curing. Working height is controlled hydraulically. When fully lifted, rubber rolls separate to clear slugs.



New McCormick No. 15 field harvester direct-cuts and chops up to 40 tons of alfalfa an hour. Six-knife, lawn-mower-type cutter head slices the crop 6,000 times a minute. Row-crop, windrow pickup, and cutter bar units interchange in minutes.



New McCormick No. 56 baler ties up to 15 tons an hour—day after day! Double-windrow capacity from pick-up through bale chamber handles heaviest crop with leaf-saving gentleness. The No. 56 comes in wire or twine... pto or engine-drive models.

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