KANSAS STATE UNIVERSITY

Ag Student

APRIL 1960

LAR Spotlights Showmen . . . page 12

A special message to everyone born between 1938 and 1942

Hey, there! You with the freshly-starched diploma in your hand! Discouraged with your first hard look at this topsy-turvy world? Think someone chopped out the rungs in the ladder of success? Think opportunity is dead?

Don't you believe it! Today, opportunity under America's free enterprise system is more alive than ever! Within the next few years, you'll see space travel programs accelerate and inspire now unheard-of products. You'll see standards of living go up. You'll see exciting new jobs created out of nowhere.

Take our own business, for example. Oil. In the next few years, we *know* Standard Oil will create a cornucopia of new products and new processes. And that means opportunity! But it takes time, work, and study to turn opportunity into advancement. People who are willing to put forth the extra effort to prepare for greater responsibility will find opportunity awaiting them.

Is opportunity dead? Whenever we hear that question, we think of the thousands of people who won promotions last year at Standard Oil and the fact that most of our officers and directors since this company started have come up through the ranks. No Standard job is too big a target for any employee...if he listens for opportunity's knock and is ready for it when it comes.

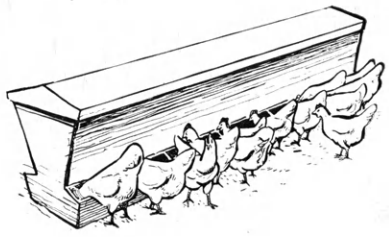
Opportunity dead? Not by a long shot!

WHAT MAKES A COMPANY A GOOD CITIZEN? One way to judge is by a company's economic effect on a community. Is it growing? Is it progressive? Will it provide opportunities for advancement? For the five years from 1954 to 1959, Standard spent $1.4 billion on new facilities. Expenditures like these help to create new opportunities.

STANDARD OIL COMPANY

STANDARD

THE SIGN OF PROGRESS...
THROUGH RESEARCH



In This Issue

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KANSAS STATE UNIVERSITY

Ag Student

Vol. XXXVI April 1960 No. 5

The Editor Says...

AGRICULTURAL MACHINERY has come a long way since the day of horse-drawn implements. Methods also have changed. The first circular printed by the Kansas State Agricultural Experiment Station was about treating seed-corn to protect it from burrowing animals. Three methods were suggested—poisoned bait, poisoned seed, and coating the seed with an offensive substance.

For the first two, either strychnine or arsenic was used. Various substances were tried to make the seed distasteful to animals. Among these were kerosene, crude petroleum, fish oil, pine tar, tobacco, and coal tar. Of these, only two were considered promising, coal tar and tobacco.

RADIO WAVES MAY be used to kill insects in stored grain in the future, according to W. Keith Whitney, K-State entomologist. The insects heat faster than the grain and when the fatal temperature for insects is reached—120 to 150 degrees Fahrenheit—the grain is not damaged. However, the cost now prevents it from competing with fumigation.

WHAT DO YOU really learn when you have a proximate chemical analysis made of a feed? The analysis provides the approximate amounts of water, crude fiber, crude protein, mineral matter, crude fat, and the organic material which does not contain nitrogen. This will allow you to provide a ration which will include the proper amounts of each needed by the animal. This does not tell what the nutritional value is. For example, the protein content might be high enough, but certain essential compounds known as amino acids could be absent. Then, even though the proximate analysis provides an estimate of the value of the feed, the final test must be "the proof of the pudding is in the eating."

SOUTH DAKOTA STATE college scientists report that cockleburs cannot be effectively controlled in corn with the amine form of 2,4-D. Spraying should be done before silking stage and the corn should not be cultivated for a week or 10 days, as it becomes brittle when sprayed.

One half pound per acre will control the cockleburs which can reduce yields as much as 9 bushels an acre, according to experiments.

EVIDENTLY EVEN GOPHERS are lazy if you give them a chance. Colorado State university biologists have tried making burrows containing poisoned grain for them. The gophers like the idea so much that they will even repair breaks and cave-ins in the artificial runways. The burrows are made with a "torpedo" mounted on a tractor, which opens an underground tunnel and drops poisoned grain. They report from 90 to 100 percent control costing about $1.50 an acre. With this rig one man can treat up to 50 acres in one day.

--Richard Vanderlip

As Close As Your Phone--

'A Mill on Wheels'

by Arnold Good

WE'LL ALL AGREE that a heavy-duty two-ton truck looks pretty big, but now try to imagine one with all this equipment mounted on it: a 300-bushel-an-hour corn sheller, a big-capacity hammer mill, a 20-ton-an-hour feed mixer, baled hay chopping equipment, molasses blender and a 500-gallon molasses tank, pneumatic feed blower capable of moving feed 80 feet, and tanks for as much as 2½ tons of concentrate.

You say it can't be done? You're wrong, because there are four or five companies making these portable feed mills now, and some of them have all of the above equipment.

Heavy Duty Trucks Are Used

The trucks used under these rigs are all heavy-duty, since the empty weight on some of them runs as high as 14,500 pounds. In some cases, the mills are powered by the truck motor, and when this is the case the trucks have high-torque motors and heavy-duty clutches as well as big-capacity cooling systems. Some mills use a diesel engine as a power source.

Most of the hammer mills are variable speed and, with the variety of screens available, they can handle baled hay, ear corn, shelled corn, and small grains. The mills are capable of handling up to about 200 bales of hay an hour. They take square or round bales with equal ease. All you have to do is take the wire off the wire tie bales, and lay them on the feed table; the machine does the rest. They take string tie bales and round ones just as they come from the stack.

Some of the rigs carry up to 3,400 pounds of molasses, and are capable of blending it into feed at the rate of from one-half percent to 40 percent. They also carry as much as two and one-half tons of concentrate which they mix or blend with equal ease.

Some outfits run a regular route and some run on an order basis; we'll say yours is on the order basis. You call in your order and tell the office what kind of concentrate you want and in what percentages you want it mixed. You also tell what the total run will be. The driver loads what ingredients he needs and drives out to your farm.

If you are going to mix things like hay and ear corn, they should be located fairly close together, since the intake feed tables are limited to about 10 feet in length.

Feed Is Handled Mechanically

The driver backs the truck up to your corn crib, drops the hydraulic-powered feed table into the crib. Then while you pull the trailerload of hay alongside the truck, the driver sticks the end of the discharge hose in your bins and the outfit is set to run.

In about one-half hour, the trailerload of hay is chopped, mixed with corn, molasses, and concentrate, and is in your bins, ready to feed.

The driver folds the feed table alongside the truck, reels in the discharge hose, and your feed grinding is done.

Processing prices on this portable mill will run about 10 cents a hundred for easy-to-grind feed like corn, but for grinding oats or chopping baled hay the prices will run a little higher. Figuring this load of hay and the corn you mixed, the cost would run about $10. To arrive at this we set the corn-to-hay ratio at 1 to 1. Of course the molasses and concentrate that were mixed into the ration would be added to this base price. This may sound a little high to you, but when you consider the convenience, it's not so bad.

Portable Mills Save Time

The reasons for these units' popularity boils down to one thing: they save time. For the farmer they save trucking and loading time. For the mill, they make feed processing simpler.

Other advantages for the mill are that they are good advertising, and they get some business that wouldn't come to the stationary outfit.

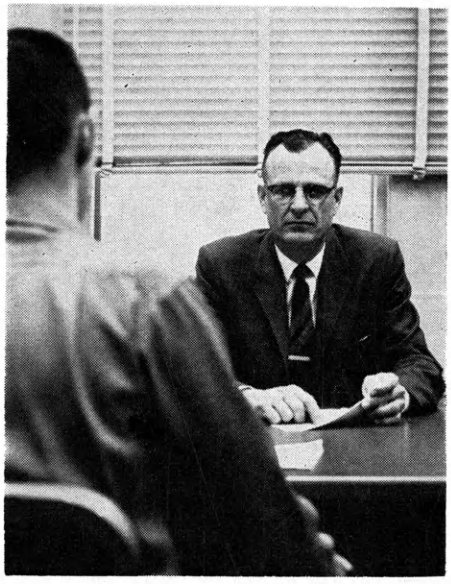
Will these units become popular in Kansas? Maybe, especially if wheat raising is further cut back and farmers go into more sorghum production. With more sorghum production, cattle feeding should become more widespread, and this would provide both a market and raw materials for the portable mills to use.

Portable mills such as this are increasing in popularity. Roughage and small grains can be mixed or blended and molasses or concentrates added without you lifting a scoop.

Over the Director's Desk

By C. Peairs Wilson

Director of the School of Agriculture



Director Wilson

MAY I TAKE this opportunity to welcome our guests to Ag Science Day and the Little American Royal. These events are activities of our students in the School of Agriculture. Our faculty is proud of the work our students are doing and we hope Ag Science Day and the Little American Royal prove to be interesting and educational to all.

The exhibits, demonstrations, and show illustrate several things. In the first place, agriculture includes not only farming and ranching, but also the businesses, industries, and services related to farming and ranching. The School of Agriculture offers several programs of study for young men planning to take up farming or ranching as a career. By choice of major and elective courses, the student can adapt the program to his interests and needs. For young men who will not have an opportunity to make farming or ranching their career or whose interests are in businesses, industries, and services related to agriculture, there are also a number of programs of study. These include Flour Milling, Feed Milling, Dairy Manufacturing, Landscape Design, Agricultural Education, Rural Banking, the Livestock and Meat Industry, Poultry Science, Agricultural Journalism, etc. Ample career opportunities are open to young men interested in agriculture.

A second point emphasized in Ag Science Day and the Little American Royal is the progress that has been made, and is being made, in applying science and technology to agricultural production, processing, and marketing. Frequently, people do not recognize or appreciate the importance of this to our nation. The blessings of America's abundance of low-cost, high-quality, sanitary food has been taken for granted by most consumers. The exhibits, demonstrations, and livestock show illustrate some of the causes of, and reasons for, this abundance. A contribution toward public understanding and appreciation of agricultural progress is a worthy objective.

In the third place, Ag Science Day and the Little American Royal dramatize that agriculture is big business. One out of every three gainfully employed persons in the United States is a farmer or rancher, employed in an industry or agency providing farm supplies or services; or in an industry processing and distributing farm products. Total farm investment in 1959 was two-thirds the value of all the stocks of all corporations on the New York Stock Exchange. Investment in farm machinery alone is twice that of the entire steel industry, and five times that of the automobile industry. The average farm investment per worker is $27,000 compared to $15,000 per worker in industry. To maintain our present diet in America, by 1975 United States agriculture must produce 56 percent more meat animals, 60 percent more fruit and vegetables, and 48 percent more dairy products.

So agriculture is a dynamic, efficient, and growing industry. We hope Ag Science Day and the Little American Royal are stimulating experiences to all who participate.

You CAN TOO Control

Johnsongrass

by Don Haberer

IS YOUR high-producing bottomland rapidly becoming covered with a sorghum which closely resembles sudangrass, but does not seem affected by normal cultivation methods?

If so, you have a problem common to many Kansas farmers, johnsongrass—a problem that is increasing in intensity as johnsongrass continues its extraordinary ability to grow in previously uninfested areas of the state.

Johnsongrass occupies an unusual position in that it is an important forage crop in certain sections of our country and a troublesome weed in others. It is second only to field bindweed as a weed menace here in Kansas. Under provisions of the Kansas weed law, it has been declared a noxious week in 90 counties. Johnsongrass is most prevalent in southeast Kansas and irrigated sections of western Kansas, but it has also gained a foothold in most other parts of the state.

Johnsongrass Hard to Control

Then why don't we eradicate johnsongrass or at least halt its spread? The main reason is that eradication of johnsongrass is easier talked about than carried out. Certain measures of control are available, but first we must get acquainted with the plant, and its habits of growth and development.

Johnsongrass can compete with nearly any crop. Kill it before it covers your farm.

Johnsongrass is an upright-growing perennial that frequently grows to be six to eight feet tall. It is capable of producing eighty thousand seeds per plant during a single growing season. These seeds may germinate at once or lie dormant in the soil for several years.

Spreads Two Ways

Johnsongrass is capable of holding its own in competition with other plants and spreads easily to uninfested areas despite efforts to control it. This is due not only to the great number of seeds, but also to the extensive network of underground rootlike structures called rhizomes. Rhizomes are actually modified stems with five to eight joints per foot which develop rapidly under seedlings and establish the plants. Rhizomes store food and can produce a new plant at every joint.

"How can I do anything with a plant like this?" you may ask. "It's like starting a 100-yard dash with your opponent only five feet from the finish line."

Several Controls Available

True enough, control of johnsongrass requires a lot of patience, and complete eradication may be impossible. There are several methods of control, and one may fit your particular situation.

In dealing with johnsongrass the old adage, "An ounce of prevention is worth a pound of cure," is appropriate if you are now farming in an uninfested area. Preventing johnsongrass from becoming established is the most effective means of control. To do this the farmer must be able to recognize not only the plant, but also the seed.

Being able to recognize johnsongrass seed and making sure none of it is contained in seed to be planted is an important method of prevention. Feed grains, hay, bedding, combines, and trucks provide ways of

spreading the menace. Even livestock can spread johnsongrass, as it is possible for the seed to pass through the digestive system of an animal and still germinate. Likewise, silage may also contain undamaged seed.

If your farming operations are carried on in an area in which johnsongrass is already prevalent, you have quite a problem. This problem can be best dealt with through the use of the following general methods of control, depending on whether you have scattered or solid infestation, and whether it is on a large area or in small patches.

● *Close grazing or frequent cutting followed by late fall plowing.*

Close grazing eradicates johnsongrass by restricting top growth throughout the growing season, thereby preventing the formation of deep roots. The root system is brought near the surface where exposure to freezing and drying during the winter may injure or kill the plant. Grazing should start with growth in the spring and continue until frost and be followed by late fall plowing. Success of the operation depends on the severeness of the winter and the snow cover.

The drawback to grazing is that johnsongrass, like other sorghums, contains a small amount of prussic acid, which may be fatal to livestock under certain climatic conditions. Cases of actual poisoning from johnsongrass are not common, though.

Mowing can be substituted for grazing if it is done often enough to prevent the plants from becoming more than six to eight inches high. Oats or other spring grain crops should be sown in the infested areas the following spring and the stubble plowed immediately after harvest.

An extensive network of rhizomes makes johnsongrass hard to control. These modified stems are capable of sending up five to eight new plants per foot.

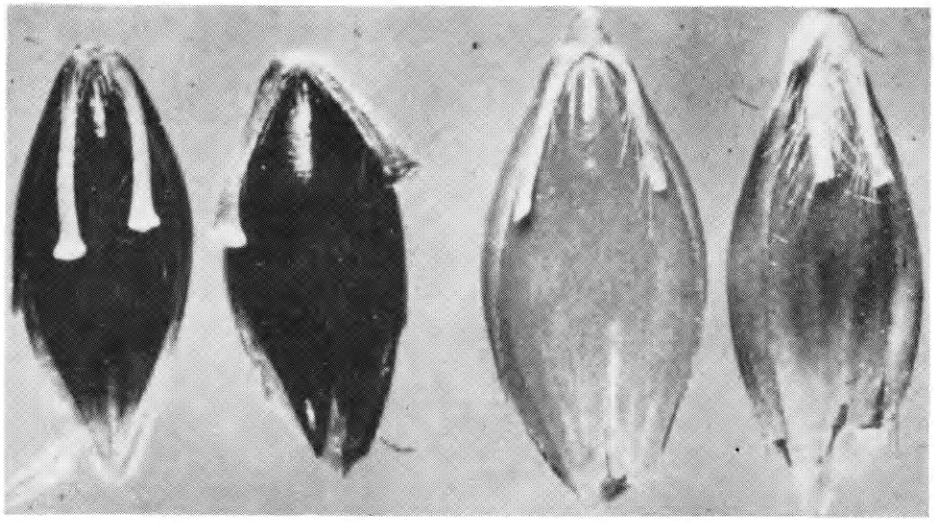
● *Intensive cultivation.*

Johnsongrass should be plowed under when it reaches a height of six inches and then cultivated with a duckfoot or similar implement that cuts off all plants about four inches below the surface at intervals of not more than three weeks. A thorough job should leave no live plants by the first killing frosts. Care must be taken in this operation so that rhizomes will not be spread by the implement to uninfested areas.

● *Intensive cultivation in combination with growing a small grain crop.*

Plowing immediately after harvest, followed by cultivation every two or three weeks throughout the growing season, is the basis of this method. The infested area should then be sown to wheat. This whole process should be repeated the following year or until the johnsongrass is entirely killed. Oats may be substituted for wheat in the spring, but intertilled crops such as corn and sorghums are not satisfactory.

Sudangrass seeds (below right) and johnsongrass seeds (below left) are very similar in appearance. To make a fairly definite identification, however, take a close look at the two stem-like prongs on each seed. The johnsongrass prongs are bell shaped on the ends.



● *Use of chemicals for small patches.*

Generally, chemicals are too expensive to be used for control of large areas of johnsongrass, but may be used on patches up to one-fourth acre and in places such as fence rows, creek banks, or otherwise nontillable land.

At present, sodium chlorate is the leading chemical used for control of johnsongrass in Kansas. It should be applied in dry form at four to five pounds per square rod in the spring or three to four pounds in the fall. The ground should be relatively free from old top growth or other trash and the chemical should be evenly distributed over the entire infested area and several feet beyond. Any

surviving plants should then be spot treated with sodium chlorate.

The chemical TCA has been increasing in use over the past few years. It should be applied by spraying the bare ground with a solution of three-eighths to five-eighths pound of the chemical to two gallons of water. This amount will treat one square rod, and should be applied, preferably in the spring, a short time before the first shoots of johnsongrass appear. Since TCA is very soluble, it may leach out of the soil within a few weeks, and may not stop young plants from starting from seed during the summer. Treated areas should be watched and cultivated or sprayed at about one-third original concentration if seedlings appear. TCA is advantageous in that it does not leave the soil sterile as long as sodium chlorate.

Two Applications Required

Although decreasing in use, dalapon is still an important chemical control of johnsongrass. It should be applied at the rate of 16 to 25 pounds per acre when the plants are 6 to 18 inches tall. It can be applied at 8 to 10 pounds per acre, with a second application of 5 to 8 pounds 15 to 30 days later. The lower rates should be used when plants are near the 6-inch stage and growing vigorously and the higher rates should be used at the 18-inch stage or when growth is less rapid.

If late summer spraying is desired, old plants should be removed and dalapon applied at one pound per five gallons of water while regrowth is in a young, vigorously growing condition. Retreatment will probably be necessary to take care of surviving plants and should be done 15 to 30 days after initial application. Dalapon should not be applied to plants suffering from drouth or to plants that have headed.

Several other effective chemicals are Erbon, applied at one-half to one pound per square rod to growing johnsongrass of 6 to 18 inches tall, boron-chlorate mixtures containing at least 20 percent sodium chlorate, and CMU applied at 40 to 60 pounds per acre.

With proper use of one or more of these methods of control you can expect to eradicate, control, or prevent johnsongrass from becoming established on your farm.

A little pig became a ham, which was made into sandwiches by a beautiful woman. "He died a gentleman," said his mourners. "His last act was to give his seat to a lady."

He claimed he could stop on a dime: Now the judge has his name on the docket. Yes, he proved he could stop on a dime. It was in a pedestrian's pocket.

The bill collector found the bachelor farmer milking his one cow. "I'll be through in a minute," he grunted, motioning the collector to sit on a milking stool.

He finished milking, lifted the pail to his mouth and drank deeply, poured the remaining milk on the ground and hung up the pail. "Now," he said, "the chores are done, supper's over and the dishes are done. What do you want?"

Sam: "How about it, does your new girl friend have a good figure?"

Joe: "Physically, no; financially, yes."

Freeze Plentiful Foods

for Mealtime Variety

by Janet Dawdy

TAKE ADVANTAGE of those special sales and stock up on frozen foods; you'll be surprised at the savings you'll make! Your home freezer can be your most convenient appliance. Every fifth American family now has a home freezer. More than a million of them were sold last year alone.

Besides the convenience of buying foods in quantity and using them whenever you need them, you can buy foods in season at low prices and store them in your freezer for later use.

Freezers Are Timesavers

When you're preparing meals, your freezer can be a real timesaver. You will have something on hand when an unexpected guest arrives, or you can prepare your family's entire meal ahead of time and simply reheat it when you are ready to use it. It's easy and convenient to double a recipe and put one batch in the freezer for a quick meal later on.

Fresh meats, poultry, fish, fruits, vegetables and baked products can all be kept without danger of spoiling or becoming stale. If you're budget minded, as most of us are, buy day-old rolls and bread and put them in your freezer. When you are ready to use them, simply warm in the oven. You'll be surprised at the freshness of their taste and texture.

There are certain foods that don't freeze well. Fresh tomatoes, celery, lettuce, cucumbers, and radishes will turn limp. Meringue and hard-boiled eggs become tough and rubbery. Potatoes will get mushy, and fried foods, with the exception of French fried potatoes and onions, develop a musty flavor.

Flavorings Change in Freezer

Many seasonings and spices change flavors when they are frozen. Some spices lose strength and others become stronger. Salt and chili powder become weaker, and cloves, onion, garlic, and black pepper get stronger and sometimes bitter.

If you're wondering whether or not to refreeze food after it has been defrosted, look at the condition of the food. If it has completely thawed, it should be cooked and used immediately, or discarded. If it still has a few ice crystals in it, you can go ahead and refreeze it. However, you

(continued on page 14)

With a well-stocked home freezer like this you're ready for any mealtime emergency.

Little Royal

Spotlights Student Sh

by Don Edson

Red bandanas and blue jeans signify the beginning of a big week for K-State aggies as they play host to hundreds of visitors to the "north end of the campus." This will start the traditional Ag Week, climaxed by Ag Science Day and the Little American Royal Saturday, April 2.

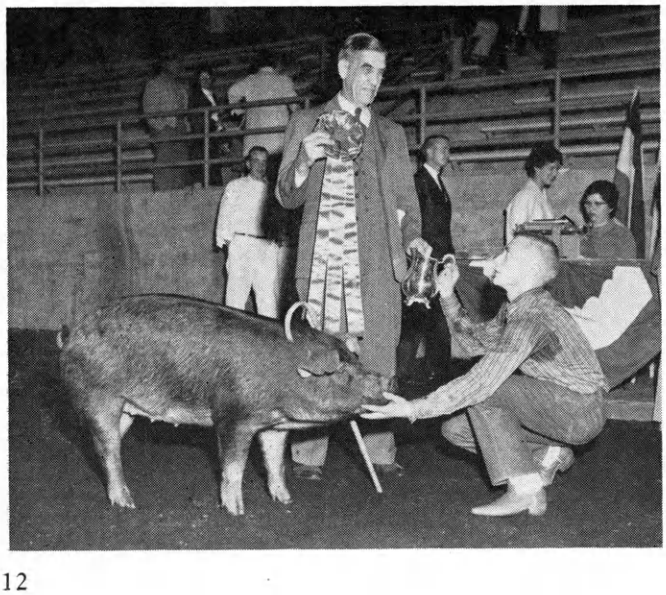
Only a few of those present on that day will realize the history and tradition surrounding either Ag Science Day or the Little American Royal. Both events provide a fitting climax to the preceding six days.

Although relatively new, Ag Science Day has proven to be an interesting and informative experience for anyone attending. On this third annual Ag Science Day, each department will design and build an exhibit depicting a certain phase of their respective fields. All displays will be judged and the winner given a traveling plaque by Alpha Mu, honorary milling fraternity.

The Horticulture Club has won top honors the past two years, and by winning this year, could claim permanent possession.

Until three years ago, Ag Week was held in the fall, with the Little American Royal following the next spring. However, it was felt that many people away from the campus would like to see what goes on in the ag school. Ag Science Day solved this problem, and was set up for the first time in the spring of 1958. Since then crowds and displays have been getting bigger and better each year. With interest lagging in Ag Week, it was decided to move it to spring also. Now all aggies on campus concentrate their efforts into one big week in the spring.

Prof. F. W. Bell, the honored guest of the 1959 Little American Royal, presents awards to Block and Bridle winner, Jim Houck.



Little Royal Climaxed Ag Week

By far the biggest event in the ag school is the annual Little American Royal. With 31 performances in its 36-year history, the Little Royal has become a "byword" among K-State agriculture students and alumni.

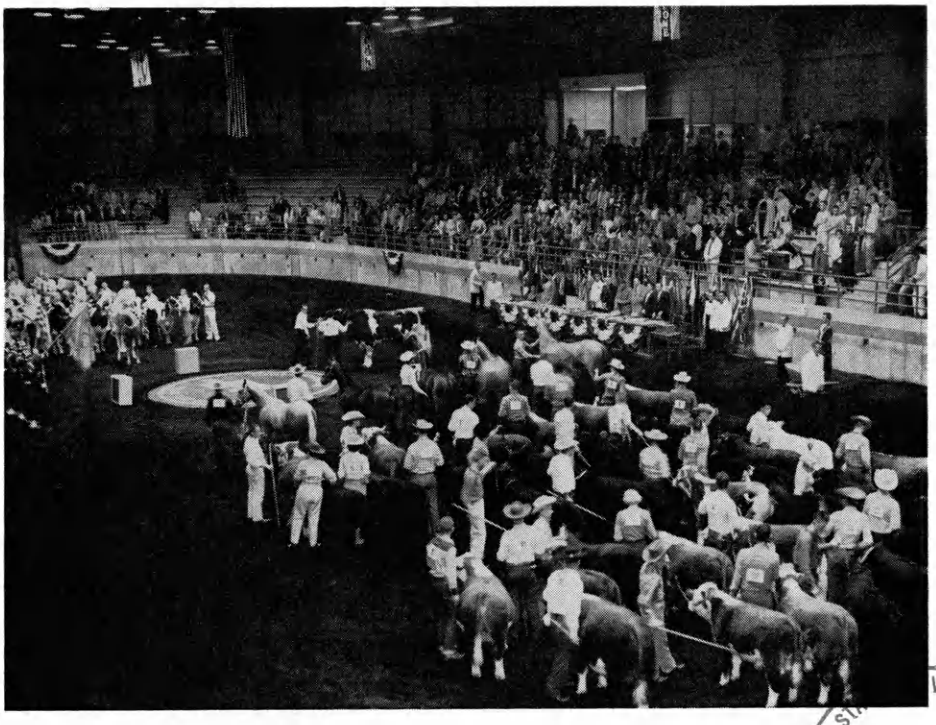
The first Little American Royal was held in 1924 as a parade and exhibition of college livestock for the benefit of visitors attending Farm and Home Week in February. The first sponsor was the Block and Bridle Club and the animal husbandry department. In 1927, the Dairy Club and the dairy department sponsored a student contest to test the ability of members to train, fit, and show dairy animals. Then in 1929, the two clubs combined their shows into what is now known as the Little American Royal.

This show continued as a Farm and Home Week attraction until 1942, when low enrollment, due to World War II, caused it to be discontinued. In 1948, with a high veteran enrollment, the Little Royal was revived under the same co-sponsorship and has continued to grow since that time.

Kansas City Show Pattern for LAR

Patterned after the famous American Royal in Kansas City, K-State's Little American Royal gives students the opportunity to actually test many ideas learned in the classroom. Each contestant draws for university-owned livestock early in February and has until show time to train and fit the animal. Animals are judged at drawing time and again at show time. Showmen are judged 50

owmen



Grouped around the centerpiece are showmen and their animals as they form the grand entry of 1959 Little American Royal.

percent on the improvement shown in the animal during the grooming period, and 50 percent on the student's ability to show his animal in the show ring.

Students Fit and Show Animals

During the six weeks between drawing and showing, students spend all their spare time at the barns, grooming and training their animals for the show. Whenever problems arise as to technique, capable herdsmen readily supply the answers.

The Little Royal originally started as an afternoon show in the livestock pavilion between the two wings of Waters Hall. As the crowds and participants increased in size, an evening program was necessary with tickets to assure each guest a seat.

In 1951, a different home was found in the newly dedicated Ahearn Fieldhouse. It was, at the time, the only non-athletic event held in that building. Upon completion of the new $1.3 million Animal Industries Building in 1958, the Little Royal was moved again. This is now considered the permanent home of the show.

Show to Include 135 Entries

Spectators attending the Little Royal this year will see four rings of action—two for the livestock division and two for the dairy phase of the show. Even with the four rings, it will require approximately two hours to show the 135 entries this year.

Since 1927, the grand champion showmanship award has been given to the overall livestock showman in the animal husbandry division. In this show, any K-Stater can show beef cattle, swine, sheep, or quarterhorses. In the final round of judging, contestants may be called on to prove their showmanship ability by exchanging animals and again being judged before the overall champion is crowned.

In 1930 the dairy division started the same practice, thereby creating two shows in one. There is no overall winner, but rather the top place is shared by the dairy and livestock showmen.

Each fall the School of Agriculture elects a Barnwarmer Queen who reigns for the entire year. This year's queen, Colleen Ungeheuer, will be on hand to present the top prizes to the showmen.

Over $700 worth of prizes are given away to showmen in each year's Little Royal. Engraved sterling silver cups and plates signify the top winners, while varied size and color ribbons comprise other awards. A large vote of thanks goes to the donors of the silver trophies: the American Royal Association, the Kansas City Stockyards Company, and the Kansas City Chamber of Commerce, all of Kansas City, Mo. The ribbons are presented by the Little American Royal Association.

Centerpiece and Grand Entry Are Traditional

Many traditions have become attached to the 31-year-old Little American Royal. No doubt, the most colorful is the centerpiece, designed and constructed by the students themselves. This 16-foot, revolving wheel is constructed entirely of multicolored sawdust, carefully inlaid to form a different design each year. The Block and Bridle and the Dairy Clubs alternate in planning the design. This year the Block and Bridle design will feature a quarterhorse on a green background.

A tradition started at the very beginning of the show is the grand entry, immediately prior to the Little Royal itself. This year the Clay Center high school band will provide background music, while all contestants and performers mass in the arena for the playing of the National Anthem.

Through the years, over 2500 students have shown in this show, including nearly 75 girls. Many of the former winners have gone on to become outstanding in the field of agriculture. Dr. C. Peairs Wilson, director of the School of Agriculture, won in 1936, as have many top livestock breeders in the state.

Freezers

(continued from page 11)

will lose some nutritional value from the food.

Experts say that the way to get the most value from your freezer is to use it often and restock it frequently. You should label and date all of your food and then use the oldest first. As you add food, put the older packages to the front so that they are easier to get. An inventory list aids you in keeping a well-stocked supply and also helps your meal planning.

Select Foods Carefully

The two types of frozen foods, those prepared commercially and purchased in the frozen state, and those that are prepared and frozen in the home kitchen, require care in selection and storage.

When you buy packaged frozen foods, deal with a reliable store where the foods are handled properly. If the packages are stained or misshapen, it is a sign that they have been allowed to defrost and have probably lost some of their quality. After buying frozen food, take it home and put it in your freezer immediately.

Preparation and packaging of food for home freezers is fairly simple, but you must follow certain procedures to insure success. After washing and blanching or cooking, the food should be cooled and packaged in a suitable container. It is important to select air- and moisture-resistant wrapping materials to prevent freezer-burn and keep the food from drying out. Exclude as much air as possible and seal it.

Keep Packages Small

It's convenient to package foods in family size or individual portions. Not only can you thaw and heat them quickly, but large bulky packages are more difficult to store. When you buy packaged fresh meat, have your butcher wrap it in quantities to fit your family needs. It will be more convenient and more economical. Also, large pieces take longer to freeze and may lose some quality. When you freeze meat patties or slices of meat or chicken, it is convenient to place a double thickness of wax paper or plastic film between each piece so that it can be easily separated.

If you are thinking about buying a new freezer, or are convinced that you should purchase your first, there are a few things to look for in a new freezer. Plastic is not a suitable lining, because it will crack very easily. Look for an aluminum lining around the doors, etc. A solid aluminum shelf with a freezing coil welded to each shelf is best for good freezing. This is called contact freezing and does a better job of freezing all food evenly, not just the food on the sides. A defroster on a freezer is not practical. It will cost about $100 extra and will take away some of the cold needed to keep your food frozen solid.

When you purchase a freezer, just remember, the cheapest buy may not be the cheapest in the long run.

Toastmaster: "I'm sure that Mr. Jones of the Soils and Fertilizer department will give you a pleasant half-hour. He is just full of this subject."

Biology professor: "Why do women live longer than men?"

Ag Engineering student: "Paint is a great preservative."

Let's Go On A

'Trek to Home Ec'

by Mary Jo Mauler

COME and join the 60's TREK TO HOME EC Saturday, April 2, at Hospitality Day. Hospitality Day is the School of Home Economics annual open house, and this year it will be in the new Home Ec building —Justin Hall.

High school students and teachers, 4-H members, county home economics agents and all homemakers are invited to attend Hospitality Day.

The day will provide a chance for visitors to get acquainted with the opportunities and careers in home economics as well as what the K-State School of Home Economics has to offer.

Fashions for all campus occasions will be shown at K-State Hospitality Day, April 2.

The entire day has been planned by the home ec students and is scheduled for the same day as Ag Science Day and the Little American Royal, making it a wonderful opportunity to bring the family and see K-State.

Open House in New Building

This is the first year the open house will be in the new building. Last year the exhibits were in Nichols gymnasium, the style show in the Union, tours of the classrooms in Calvin, and the luncheon in the freshman dorms.

This year everything except the style show, which is to be in the Union, will be in Justin.

Visitors will register in the K-State Union and receive a copy of the day's program, a campus map, and luncheon tickets.

Doretta S. Hoffman, Dean of the School of Home Economics, will welcome the guests at the opening meeting at 10 a.m. in the University auditorium. The program will consist of various talent acts by K-State students.

Various classrooms in Justin will be used to outline the opportunities in eleven fields of Home Economics. Included are art, nursing, dietetics, teaching, extension, journalism, family economics, foods and nutrition, clothing and textiles, institutional management, and family and child development.

Each exhibit will occupy a separate classroom to show the various courses offered in the curriculum, books used, and activities which are combined with the classwork to make the curriculum more interesting.

Professors and students majoring in the field will be at each exhibit to answer questions, so bring all your questions along. Visitors will be able to stay at their favorite exhibits as long as they like and won't have to keep up with the crowd.

A careers program featuring films which show the various opportunities offered in home economics is also on the schedule for the day.

Style Show Featured

Every popular campus style from strictly tailored to elegant evening attire will be seen in the fashion show of garments made in the various clothing classes. Garments modeled will be from the beginning classes such as pattern study, and advanced classes including tailoring, flat pattern design, and design by draping. In the more advanced classes, the garments are designed and then created without any commercial patterns.

Noon lunch this year will also be served in Justin hall. Students in dietetics and institutional management will prepare the luncheon in the foods laboratories.

Time is also being allowed for the visitors to see the freshman dormitories as well as the home management houses. The nursery school laboratory will also be open in the afternoon for anyone who is interested in seeing the facilities that are used in the child guidance classes.

These Tiny Worms

Rule the Garden Underworld

by Neil Dowlin

GIVE A FARMER or gardener a pest that he can see and he will do all within his ability to fight it or make it less dangerous. But let an unseen enemy run right under his nose and ruin crops while his hands are tied, so to speak, and he will go nuts.

This is exactly what has happened to the farmer and gardener who have been robbed by the nematode. Though the little worm is only about as long as a grain of table salt, he steals your profits so fast that you seldom know what has hit you until it is too late.

If a hail storm hit your farm and ruined half of your wheat yield or up to 85 percent of your potato crop you wouldn't stop talking about it for a month. You don't know it, but this little worm has been doing this same thing in many areas where no one knew he existed.

The Saturday Evening Post calls this worm "the king of pests" and research people have called it "the most unpredictable varmint around." That may be the most certain thing we know about this little pest, for nematodes react in dozens of ways. For instance, the U.S. Department of Agriculture states the life span of nematodes is generally from three weeks to three months, with a few odd-ball individuals living for 20 years under protected conditions. Some have been revived after having lain dormant for 39 years.

Nematodes Are Everywhere

Nematodes come in countless shapes and sizes. They are found in all parts of the country feeding on almost any kind of plant you can name. The little rascals move only about eight or ten inches during their lifetime under their own power, but generally are moved about in soil and irrigation or drainage water. Also they hitch rides on equipment, shoes, and animals. By these methods they can and do get around pretty fast.

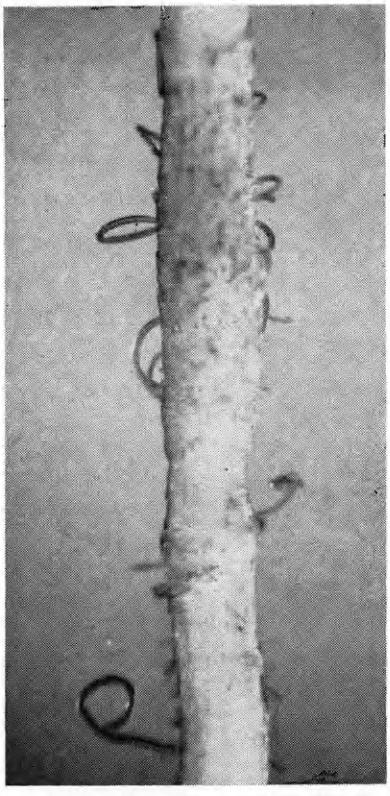
Nematodes caused the reduced stand of tomatoes in the middle three rows below. These unseen enemies are common in Kansas and are out to steal profits.

Don't Underestimate Them

Just because they are so dependent on being carried from place to place, don't undersell them. Some attack almost any plant around, while others are particular what they live on. Soil fumigants and crop rotation are helpful in the war to rid your farm of some, but not all of them. When you really want to deliver the knock-out punch, special fumigants are the only good methods to use.

When do you know whether nematodes are in your soil? Nematodes feed on the plant juices much like the mosquito feeds on you. By puncturing the cells of the root, they can just lie there and get fat off the food from the plant. Thousands may live on one plant, so you can imagine the effect it has on the crop. The whole plant may take on a stunted appearance, and in general looks unthrifty and undernourished. In an effort to obtain more food the plant will send out new roots which are in turn attacked just as the first were. Older plants are generally stunted and unproductive, while seedlings are usually killed.

In recent years it has been found that nematodes are often the culprits causing what has been known as "worn-out soil." Mom's garden probably has been growing poor, straggly, small carrots lately if nematodes are invading. They love almost any garden crop, but carrots really show nematode damage.



These spiral nematodes are feeding on a boxwood root. They penetrate the bark and feed on the plant sap.

Root-knot Most Common

The most common nematodes in Kansas are forms that cause root-knot disease and which are known to feed on some 1,800 types of plants. These include farm crops, flowers, garden plants, and weeds. They are easy to recognize because they cause knots, galls, or swellings on the infected plants. Other nematodes cause stubby roots because the plant makes repeated attempts to send out new roots.

Not all the undernourished crops you find are victims of nematodes, but if you find swellings, knots, and galls on the roots, nematodes probably are the culprits. Nothing can be done for annual plants at this stage, but chemicals are available to kill nematodes that have infested perennial plants.

Sometimes it isn't the nematode that does all the dirt, though he may be indirectly responsible for the damage. When the nematode attacks a plant he pushes into the root, which leaves a break that other diseases can use to enter the plant. This gives the crop a double dose of disease, either of which may kill it.

In some instances you may rotate crops to reduce the nematode population, though they won't bother the root-knot nematodes which attack many different plants.

Nematodes Immune to Cold

We've had near-record below-zero weather this February and March, but that doesn't kill these nuisances. They just stop all action and wait for another warm day, when they become active again. They can't, however, live through the effects of hot weather and dry soil, so this is often used to lick them.

Turning the soil exposes them to the strong heat of the sun. By plowing you can greatly reduce the number of nematodes in the soil, says Prof. O. H. Elmer of the K-State botany and plant pathology department. He stresses that you use plants that don't have nematodes in them or in the soil on the roots.

So far we've found nematodes are persistent pests which put up a pretty good fight, because most nematodes are so small you may not notice them until their population has become extremely large. Sometimes crop rotation will reduce their population enough that your land will produce more profitably, and other times the rotation crop will be nothing but dessert for them.

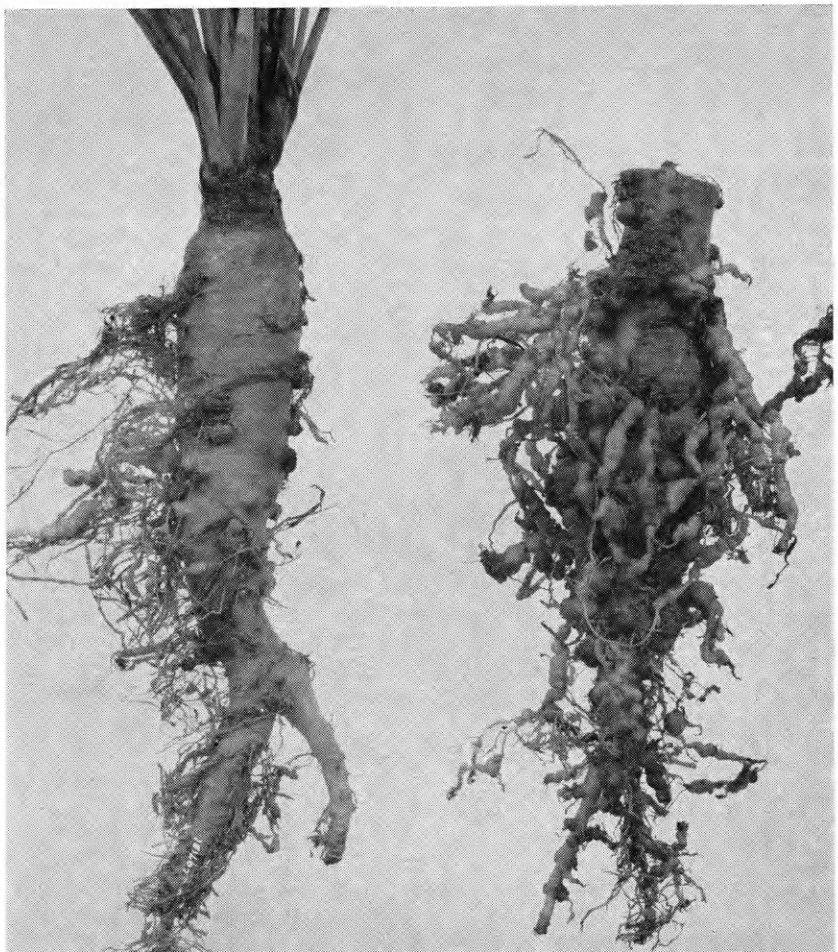
Your best weapon against them is fumigation with special chemicals, coming to be known as nemacides because they actually kill the nematode in the soil. Most of the effective chemicals are volatile and move through the soil and kill all the nematodes that are there—and crops too. These fumigants are like "wonder drugs" in the sense that they do a wonderful job.

Not all nematodes cause knots and galls to form on the roots of crops, so you can't be sure they are not there when you don't find these signs. If you think your soil may have nematodes, but plants don't show root-knots, you may want to have a laboratory test to be sure.

Many Nematodes Beneficial

We've knocked nematodes pretty hard without intending to give the impression that all of these are harmful. In fact we've been talking about a relatively few of the total population. We find that most of the nematodes give agriculture a big lift by speeding the decay of dead plants.

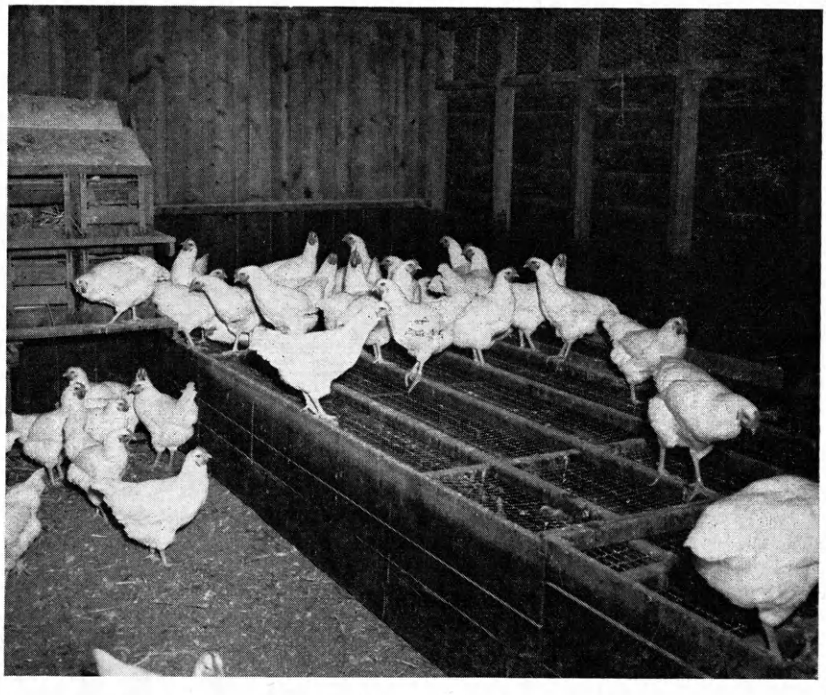
That still doesn't reduce the importance of the damage they are going to do to the total production of your farm this summer.



Root-knot nematodes ruined these carrots. Chemicals are now available, however, to kill the nematodes which infested the soil.

Should You Buy Started Chicks?

by Fred Clemence



The started chick system can provide the poultryman with pullets which are ready to put in the laying house. Losses caused by disease are minimized.

A QUESTION of major economic importance to all poultrymen who raise chickens in Kansas is "Should I buy day-old chicks, or started chicks?"

There are two systems of starting chicks. In one the hatcheryman keeps the chicks one, two, or three weeks before delivery. The other is a system of growing replacement pullets up to 22 weeks of age and selling these ready-to-lay pullets to poultrymen.

The system of keeping the chicks at the hatchery for one to three weeks is very unsatisfactory for the hatcheryman, according to Thomas B. Avery, head of the poultry department at K-State. For instance, the farmer likes to get chicks three weeks old, which lessens the risk of losing young chicks. Also the farmer isn't responsible for the risk in case of disease, or might decide that he doesn't want the chicks when the hatcheryman needs to move them. All these risks put the hatcheryman at a disadvantage. Farmers also object to the added costs of started chicks.

For these reasons this system has proven unsatisfactory from both the hatcheryman's and the farmer's point of view. Sales of started chicks have declined in the past ten years until less than two percent of the chicks now sold are started.

The second system of started chicks is buying pullets that are ready to go into the laying house. This has been brought about by the building of cage laying houses and large windowless laying houses.

Many of these poultry houses were built by farmers who hadn't been in the poultry business before. The feed dealers promoted programs to see that someone supplied the poultrymen with replacements. Farmers could contract to have a certain number of replacement pullets delivered several times a year.

A system such as this is all right as long as everyone keeps their agreement. Generally, the pullet grower must keep the bird for 22 weeks. Then he must move them before they start laying because he doesn't have the facilities to handle laying birds. If the farmer decides that he doesn't want the pullets the grower will have to find another buyer or take a big loss, since the pullets must be moved.

Also the hatcheryman takes the risk of disease losses during the 22 weeks he has the pullets. The growing period is very important in developing good layers. If you are to have a good flock of hens, you must receive healthy birds that have been raised under ideal conditions. There is the possibility that the young birds could bring disease into your laying flock, or the old birds could transfer disease to the in-coming pullets.

If You Want a

Gardener's Green Thumb

Plan
Fertilize
Plant

by Susan Schutz

SPRING is almost here, and with the approach of this season, the gardener should be selecting plant varieties and preparing the ground for planting. If a large garden is planned, sweet corn, broccoli, and lettuce are some excellent choices now, since all three grow well in Kansas.

Anyone beginning to plan a home garden should first choose a good garden site. A backyard plot near the house is an ideal location unless trees shade too much of the area. In such a case, the site should be moved to a shade-free area so the vegetable crops can receive the full benefits of the sun all day.

Pick Site with Care

Even if the garden is not in shade, care should be taken that roots of nearby trees do not sap the soil of water and plant food. Chinese elms are a good source of trouble. A solution is to dig a trench between offending trees and the garden, cutting all roots which cross the trench. A wall of roofing material or sheetmetal lining one side of the trench will prevent any further trouble after the trench is filled with earth.

Soil conditions are important factors which the gardener should take into consideration. The soil should be well drained, free from troublesome stones, and adequately supplied with organic matter. One of the best sources of organic matter is manure, which is very high in nitrogen and nutrient content. The manure should be well rotted and fine before it is spread at plowing time.

The fertilizer easiest for the gardener to use is artificial manure, prepared by decomposing vegetable matter in compost piles with the aid of chemical fertilizers. Generally, best results are obtained from those fertilizers containing five percent nitrogen, 10 percent phosphoric acid, and five or six percent potash.

Although a cover crop is impractical for the home gardener, a mulch or roughly plowed surface is important for holding moisture during the winter months.

Plan Vegetable Arrangement

A good garden arrangement is just as important as fertile soil. Small growing crops that need hand cultivation should be grown closer together than crops cultivated by machinery. Permanent crops such as lettuce and rhubarb should be planted where they will not interfere with the annual cultivation of the garden. Tall-growing crops should be planted where they will not shade or interfere with the growth of the smaller crops. All rows should be planted to follow the contours of the land.

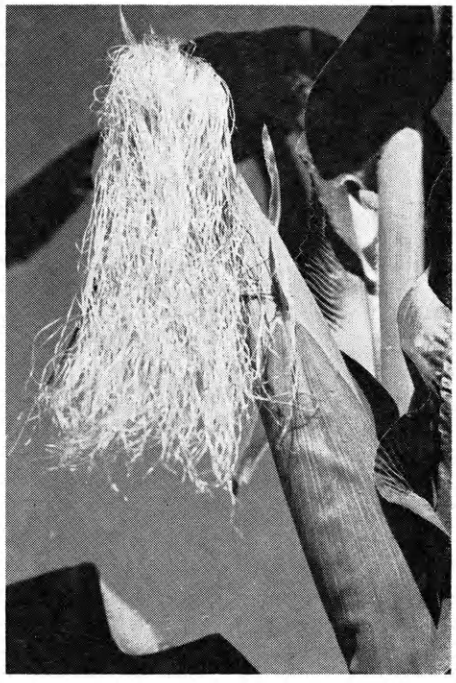
No matter how good your garden site or how fertile the soil, a good crop may not be produced if it is not started from good seed. After a garden plan has been prepared, showing the plantings size and the quantity of seed needed, it is best to purchase the seed from reputable salesmen well in advance of planting time. Homegrown seed should not be counted on.

Once all these steps have been taken, the actual planting process may begin.

Corn Good in Large Garden

Sweet corn is a good crop for any home garden. A clay loam which is fertile, well drained, and moist is almost ideal for sweet corn. Corn needs plenty of space, however, and does best in a large garden. A deep, naturally rich soil that is easily worked is preferred, though not essential. Even though sweet corn is not especially sensitive to an acid soil, extreme acidity calls for liming to bring the soil to moderate acidity.

Sweet corn should be planted somewhere between April 10 and 20. Great care must be taken to plant after the ground has warmed up. Sweet corn suffers injury quickly



If you are planning a large garden this year, sweet corn will be a good choice.

from rainless periods over two-week lengths. This reduces yield, quantity, or both. These dangers are avoided if the soil stores a large amount of water; otherwise, irrigation is a necessity.

Sweet corn may be grown in hills or rows. The seed should be planted thickly, 12 inches apart in rows at least three feet apart. When the plants develop, they should be thinned to single stalks 14 to 16 inches apart. Planting the seed too deep is a common error. The seed should be planted only deep enough to place it in the moist soil below the dry surface area.

White and yellow hybrid sweet corn is usually more productive than the open-pollinated varieties. Ordinarily, hybrids require a more fertile soil or heavier fertilizing. However, they are more resistant to disease, particularly bacterial wilt. Good yellow-grained varieties are Spancross, Marcross, Golden Cross Bantam, and Ioana. White-grained hybrids are Iogent and Evergreen hybrid.

Plant Lettuce Now

Lettuce can be grown in any home garden. This cool-weather crop should be planted between April 1 and 10. Well-decomposed barnyard manure is a good fertilizer because of its high nutritional content. For nitrogen: poultry, swine, and sheep manure should be thoroughly worked into the soil long enough before planting, that the manure can decompose. The soil should be plowed deep so that organic matter can be worked to a depth of eight inches or more. Plowing the land when it's wet will put the soil in bad physical condition.

Spring lettuce should be started indoors, or in a hotbed, between February 10 and 20, and transplanted to the garden when the plants have four or five leaves. The spacing between plants in each row should be from 10-20 inches. Allow approximately six weeks for the plants to grow.

Four Varieties Popular

The seed for the fall crop may be sown directly in the row and thinned. Nothing is gained in transplanting if the weather is warm. For leaf lettuce: Grand Rapids and Salad Bowl, and for head lettuce: Great Lakes, Pennlake, or Bibb will do very well in a home garden.

Broccoli adapts itself to a wide range of growing conditions, making it a desirable home-garden crop. The best adapted varieties of broccoli have been developed in this country, and most of the seed is grown here. Broccoli should be planted between April 1 and 10. Many types of soil are favorable for its growth, but the highest quality broccoli is grown on fairly heavy soil with good water-holding capacity. Good drainage is essential, but the plants must have plenty of water, since they should grow rapidly and evenly.

Don't Overfertilize

Nitrogen is the element most commonly needed for good broccoli growth. Barnyard manure is the best source of nutrients, but returns per acre may be more if not fertilized heavily. Some soils may require the addition of some trace minerals, as their deficiency may cause a loss of chlorophyll from the areas between the large veins.

Broccoli seed should be planted in a hotbed between February 10 and 20 to give sprouts about 10 weeks later. The sprouts carrying flower buds are cut about six inches long. Other sprouts arise in the leaf axils so that a continuous harvest may be obtained. When the seedlings have reached the four-leaf stage, they should be thinned out, allowing about two inches each way between the plants. They should then be permitted to grow until field conditions are favorable for hand transplanting. When the seedlings are transplanted, allow 18 inches between each plant in the row.

The best broccoli varieties for Kansas gardens are Green Bud, Green Sprouting Early, and Early Decicco.

Patient: "It's nice of you to come here so late at night, Doctor."

Doctor: "I've got another call to make near here, so I just thought I'd kill two birds with one stone."

"What would I get," asked the man who had just bought a fire policy, "if this building were to burn down tonight?"

"I would say," the agent replied, "about five years."

If you laid all of the economists in the world end to end, they would all point in a different direction.

There are two kinds of girls: Those who neck, and bridesmaids.

More cattle on fewer acres; that's the aim of 'most all pasture management procedures. Along with this idea is the possibility of lowering the abortion rate of cows caused by poisonous weeds. Control of these problems gives a farmer more profit.

More Beef
From Fewer Acres

by Dale Wilson

WE ARE NOW paying for our grandfathers' lack of foresight in plowing millions of acres of valuable sod. Our history as well as the history of many ancient countries is related to wild grasses. Overgrazing depleted pastures and caused weeds to grow.

We are now paying for regrassing and terracing to prevent further washing and erosion.

Aside from taking moisture from the grass plants, weeds cause staggering losses by causing abortion in cows. The fact that disease-free cows were aborting caused veterinarians to start studying the pasture conditions.

Weeds Cause Abortions

Vets found that abortion was not caused by stagnant water, algae, mold on dead grass, lack of minerals or too much mineral. They discovered that pastures in which the mysterious abortions occurred were always weedy. Many had marshes or some low land. Occasionally poisonous plants were found. One pasture studied had as many as 90 different weeds, including shrubs.

They also found that pastures containing only a few weeds were causing trouble, too. One weed-free pasture had a fence row containing elderberries. These had been grazed and abortions had occurred. On another farm cattle had topped a few stinging nettles and 84 of 140 beef cows aborted. On still another farm a small patch of weeds had caused three abortions.

None of these weeds were found to be poisonous. The cows were never sick but the calves were lost. Examination showed the aborted calves had rotted kidneys and spleen. Also the intestines and lungs were affected. Weed-caused abortions can happen any time during the gestation period.

The way to prevent these abortions is to get rid of the weeds. Spray weedy pastures with any recommended weed killer. Use a hand rig for small areas and a tractor-mounted sprayer for larger areas, and fence rows. Spray where the weeds first appear and again a month later. It may be necessary to spray once again the next spring. After spraying, grasses should keep out most weeds. Do not let cattle graze until a month after spraying.

Fertilizing Increases Profits

Eliminating weeds has another benefit. After the pasture is weed-free, four to six times as many cows can be grazed, and by applying phosphorus and potash, five cows may be grazed where one starved before, as pastures usually need fertilizing.

The fertilized, weed-free pasture is one of the great profit opportunities left to livestock men, as pasture is the cheapest feed for dairy or stock cattle. The ratio for dairy cows is 1:2:4. This means that one dollar's worth of pasture is worth two in any form of silage or hay, or four dollars' worth of corn or concentrates. It is even more dramatic in producing beef, since fertilized pastures have boosted beef production from 80 to 280 pounds per acre.

Graze Pasture in Strips

Strip pasturing is a good way to utilize seeded pasture. When cows get a fresh strip of pasture each day they eat more and produce more. This is caused by two things. First, cattle trample and soil a lot of grass if they get a chance. Next the grass or legume is harvested at the proper time. University of Wisconsin agronomists advocate using electric fencing to divide pastures into strips, each connected to a lane that leads to water and the barn. Portable cross fences give about an acre to a plot. If the forage gets ahead of the cattle it may be cut for hay or silage. This pasture rationing, or "doling," is used extensively in New Zealand.

'He Who Laughs Last...'

Two aggies were walking toward each other and one was very bow-legged. The normal one asked curiously, "Texan?"

The other fellow whipped back, "Nope, short bunk."

Mr.: "Teaching that calf to drink took me two hours, roughly speaking."

Mrs.: "That's what you may call it, John, but I'd call it just plain cussing."

A Scottish undertaker, irritated by his slow payers, telephoned to one of them who had not paid the last installment on his mother-in-law's funeral and said: "See here, if that five shillings isn't paid on Saturday, up she comes."

"I see in the paper where a scientist claims that insects can talk to each other."

"Of course they can. Aren't moths always chewing the rag?"

One drunk to the other: "Shay, could you tell me if tha's the sun or the moon up there?"

Other drunk: "No, I can'd—I'm new in town myself."

Prosecuting Attorney: "It is my duty to warn you that everything you say will be held against you."

Aggie defendant: "Marilyn Monroe."

Two old maids went for a tramp in the woods. The tramp escaped.

In the Bible it was considered a miracle for an ass to speak. Nowadays it takes a miracle to keep one quiet.

When you make a right turn from a left-hand lane the chances are you are just absent-minded, and not really what the driver behind you called you.

Girl Employee: "Your wife wants to kiss you over the phone, sir."

Absent-minded Employer: "Take the message. I'll get it from you later."

Some men will allow women to make fools of them. Others are the do-it-yourself type.

Gadget-free IH balers tie top tonnage without shattering leaves or choking!

Before you count to 10, this speedy IH baler can pick up, pack, and pop out a brick-square bale of hay!

It's simple! There are no beaters . . . no complicated hayforks to shatter and rub off feed-rich leaves. And the big IH bale chamber door ends plug-ups caused by funnel-down feeding. This stops costly leaf loss and keeps you baling non-stop in heavy hay.

Watch how gently . . . how easily a McCormick baler ties a ton of hay every six minutes. Low pick-up raises the windrow into the baler *intact*—like a green carpet! Instantly the full-floating, short auger whisks this stream of hay to the big bale chamber door. Three packer fingers spread it evenly across the bale chamber. Then the plunger packs it firm.

Rubber-roll conditioner saves leaves . . . halves curing time by cracking each hay stem along its *full* length. Now, teamed with a high-speed mower, this McCormick® No. 2 Hay Conditioner lets you crush and mow at the same time.

Get cash for dealing now! Your IH dealer will pay interest at the rate of 6% on your trade-in and/or down payment. Stop in today and ask him for a demonstration. See how high-speed IH hay machines can help you make better hay faster.

The sooner you trade the more you save

See your INTERNATIONAL HARVESTER dealer

International Harvester Products ***pay for themselves in use***—Farm Tractors and Equipment . . . Twine . . . Industrial Tractors . . . Motor Trucks . . . Construction Equipment—General Office, Chicago 1, Illinois