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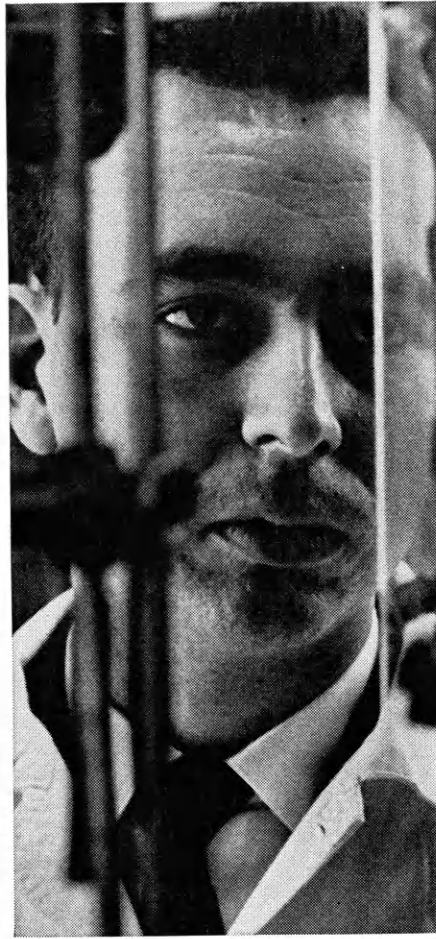
MAY 1963

A
KANSAS STATE UNIVERSITY
AG STUDENT

Kansas



**Summer Vacation Promises
Variety of Recreational Sports page 10**



Our gasoline isn't good enough for some people... us

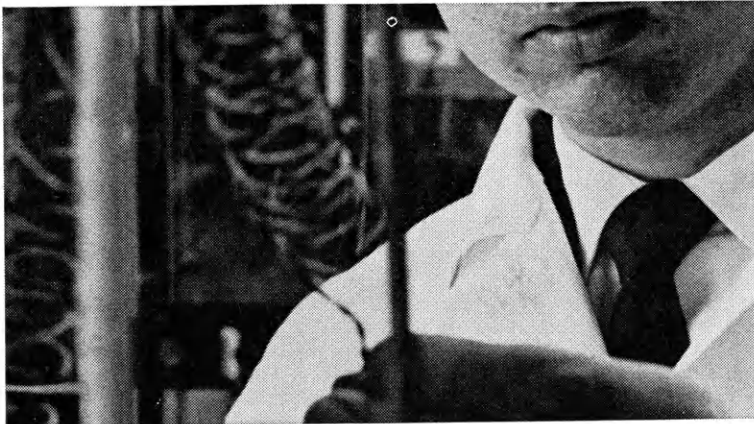
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**STANDARD OIL DIVISION
AMERICAN OIL COMPANY**

KANSAS STATE UNIVERSITY AG STUDENT



100 YEARS OF SERVICE TO KANSAS,
THE NATION AND THE WORLD

Vol. XXXIX May 1963 No. 6

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IT'S SPRING AGAIN! Mother Nature gave the earth a shot of adrenalin to spring it back to life after the long cold winter. Everywhere you look, new life greets you.

Ol' Mother Nature certainly filled the prescription right when she fixed up the earth this spring. She made every ol' Hereford cow on pasture have a little white-faced calf to follow her around like a shadow. Sometimes that shadow seems to get a mind all its own and goes tearing away from mama's side, with its white-tipped tail flagging behind. Whatever happened to the cows happened to the ewes, sows and mares, too. Almost any place you look, you might see a fuzzy little lamb down on its knees eating dinner, or a litter of pigs piled in a heap soaking up the sun, or a knobby-kneed colt running around the pasture fanning its whiskbroom tail.

Spring put the spurs to people, too. They're bustling about, doing everything they've dreamed of all winter. Farmers are busy planting crops in time to benefit from the spring rains. Gardeners are spading the ground, preparing to plant flowers, trees, shrubs, and grass. Children are playing at double-time, as if trying to catch up on the hours they spent indoors during the winter. Lovers are strolling hand in hand, completely absorbed in the wonder of themselves and spring.

Everyone's vigorously pursuing some special activity. Little boys are cracking bats against baseballs. Early swimmers are splashing into ponds and pools. Handball and tennis fans are flooding the courts. Many people are enjoying quiet drives through the country to admire the redbuds in bloom. Still others, like our cover girl, Miss Linda Doll of Ellinwood, prefer standing in a cozy spot under a shady tree with a fishing pole.

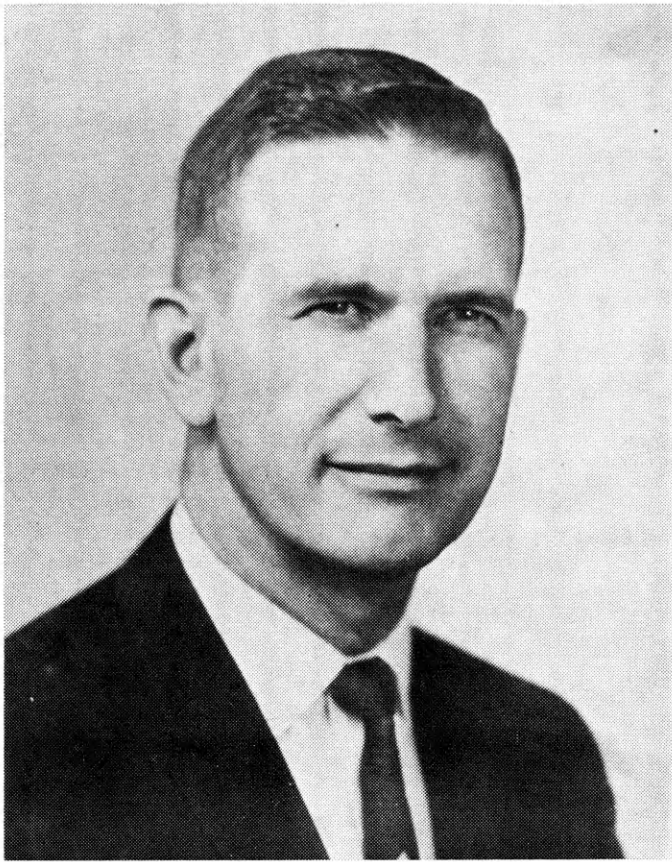
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Frank R. Carpenter
Asst. Dean Resident Instruction

by *Frank R. Carpenter*

SUMMER vacation is just ahead. For many of the seniors, the work at KSU is almost history. As you visit with people and have chances to answer questions about the school at Manhattan, what impressions will you leave with them?

Will they know that there are at least two good jobs waiting for each good man who obtains a degree in agriculture? Will they know that it does not take unusual mental ability to succeed here, but that it takes application and tenacity? Will they know that education does not cost but that it pays?—that there are attractive and realistic loan programs available through our Aids and Awards office?

High school students often do not clearly see the rewarding, interesting and challenging possibilities that lie ahead of them through higher education. Predictions on labor needs as reported by the U.S. Department of Labor show that nearly twice as many professional people (which include degree men in agriculture) will be needed in 1970 as were needed in 1957, and that there will be no additional need for common laborers.

Census data show that in 1958 of those who had completed only the elementary grades, 1 of 12 was unemployed; those who had completed high school, 1 of 22 was unemployed and of those who had taken some college work, 1 of 40 was unemployed.

Two Jobs Awaiting Each Ag Graduate

Average annual income for the group who had completed only the eighth grade education was \$3,000. For the high school graduate group, average income was \$5,500, and for those who had completed college or university degrees, \$9,000. The difference in lifetime earnings, according to the last general census, of those who completed only high school compared to the college-degree people, at current salary levels, was in excess of \$100,000.

Dollar earnings, though important for good living, will not be the most rewarding part of your efforts to prepare well for life's work.

Each of you has tremendous opportunities to be of positive influence on others to seek higher education and in professional agriculture if your interests are in this area.

Woody's

Haberdashers for K. S. U.

in

Manhattan's Aggieville

Shopping Center

Gets \$10,000 Grant:

KSU Studies Non-farm Job Opportunities in Kansas

by Richard Wilcke

WHAT are the job possibilities in non-farm agricultural fields in Kansas? Kansas State University has received a \$10,000 grant from the State Board for Vocational Education to come up with an answer or answers to this question.

The research program is being headed up by Dr. Raymond Agan, K-State's head teacher-trainer in agricultural education. Four graduate assistants in agricultural education are aiding him in his research. They are Larry Asher from Stafford, Alfred Mannebach from Hoxie, Charles Schaller from Kinsley, and Vernon Schweer from Garden City.

These four men are interviewing many of the state's agricultural leaders, who were selected from non-farm agricultural businessmen. To determine which types of businesses to study, Dr. Agan and his staff compiled an operational definition of agriculturally oriented businesses. They decided that any business which produces products, provides services, conducts research or serves unique needs of a producer or middleman relating to the production of many-celled plants and animals is an agriculturally oriented business.

Of course, a definition like this takes in too many businesses. The list, following this definition, in-

cluded every implement company, every feed, seed and grain business, every packing house, every produce buyer, every nursery and every agricultural bank in the state. Consequently, Dr. Agan and his staff devised a method of selective choosing.

Survey Covers Four Major Areas

Four main categories were set up—farm implement, farm produce, farm supply and farm service. These included all businesses in the list. To classify these businesses further, Dr. Agan listed them according to the size of the towns and cities where they were located. Then, taking the largest percentage of businesses from the large cities, his staff was able to choose 500 firms.

Each of the graduate assistants is a trained interviewer. With the state divided among them, each man interviews the owners of selected agriculturally related businesses in his assigned area. First, letters were mailed to these businessmen, asking them to cooperate with the interviewers.

Ask Same Questions of Businesses

Each interviewer follows a mimeographed interview checklist in questioning the employers. Some of the key questions they are asking include:

"How many different job titles are included in the company?"

"How many people work in each title?"

"What are the prerequisites necessary for the job? Education? Previous training and experience? Knowledge of agriculture?"

"How many people have you employed in this job in the past five years and what do you anticipate for the next five?"

"What additional jobs do you see developing?"

These interviewers will have collected all the necessary data by June 1, and the results will be computed and arranged by June 30.

Through routine questions, the interviewers will determine the area of agriculture in the various businesses that the workers must be familiar with in each job title. Dr. Agan devised a list of 46 areas including dairy, taxes, crops and every other phase of agriculture. Interviewers also asked employers what the reasonable starting salary was for their firms.

Will Analyze and Expand Data

This information will be analyzed and expanded so estimates may be made for the entire state. If it is found that either specific or general training is needed for these job titles, the State Board for Vocational Education will set up area schools in high schools and junior colleges. They will be financed by state and federal funds provided by the Smith-Hughes Act and other special educational legislation. They will be located in parts of the state where they're needed.

These area schools will make it possible for current workers and both college and high school graduates to get training previously acquired only by experience. The courses offered will last anywhere from several months to a year.



The attractive appearance of this home is aided by the well-kept, healthy lawn.

by Lloyd Moden

KSU Experts Say

Healthy Lawn Requires Work

“**W**HAT a lovely place!” Have you ever exclaimed this as you passed an attractive, well-kept home? A beautiful, green lawn often contributes to the attractiveness of a home. Although a healthy lawn may require some caretaking, it’ll add to the value of your property and give you a deep sense of pride and personal satisfaction.

Carefully select and plant the best variety or varieties of grasses to grow a good lawn. Grasses grown in Kansas are separated into two types—cool-season grasses, which include Kentucky bluegrass, Merion bluegrass and tall fescues; and warm-season grasses, which include bermudagrass, zoysia and buffalograss. According to Dr. Ray A. Keen, ornamental horticulturist at Kansas State University, bluegrass is best for northeastern Kansas and shady areas elsewhere in the state. Bermudagrass or zoysia is best for southern Kansas and areas subject to heavy use in summer. Buffalograss is best for western Kansas unless water and shade are available.

Keen said cool-season grasses grow

best from September until the ground freezes and from March to July. Because bluegrass and fescues remain green eight or nine months each year, they are often preferred to warm-season grasses which remain green only five or six months of the year. "You ought to plant cool-season grasses in September for best results," stated Keen, "but late February or March plantings may be satisfactory with additional care in the summer." Warm-season grasses turn brown after the first frost and don't green up again until late April or early May. Warm-season grasses are excellent for areas such as playgrounds that are used during the summer. Cool-season grasses are best for areas which will be used during their growing season—spring and fall. Bluegrass and fescues also grow better than bermudagrass and zoysia in shaded spots beneath trees.

Mix Cool- and Warm-season Grasses

A single kind of grass will not always make a suitable turf. "Mixtures of cool- and warm-season grasses offer hope of good lawns in Kansas the year around if properly managed," Keen advises. You will get best results by planting the cool-season grass into an established warm-season sod in September. If the sod cannot be opened by aerifying, spiking, or slicing, the seed should be covered with a light topdressing of soil or compost. If your established lawn is a cool-season grass, you may plant the warm-season grass as plugs of sod in May or June. Favor the weaker grass in caring for the lawn.

Proper Care Keeps Lawns Good

A good lawn will not last long unless it's properly cared for. Good lawn maintenance includes mowing, watering and fertilizing. "Mowing doesn't benefit grass," says Keen, "since it removes part of the leaf area which manufactures food for growth and other life processes." Because lawns must be mowed to remain attractive and produce a good turf, he advises that you mow the grass often to reduce damage caused by mowing tall grass. If you permit the grass to grow tall between mowings, the tall grass will shade the lower blades and cause sun scalding when the grass is cut. Bermudagrass and zoysia should be cut about one inch high, and bluegrasses should be

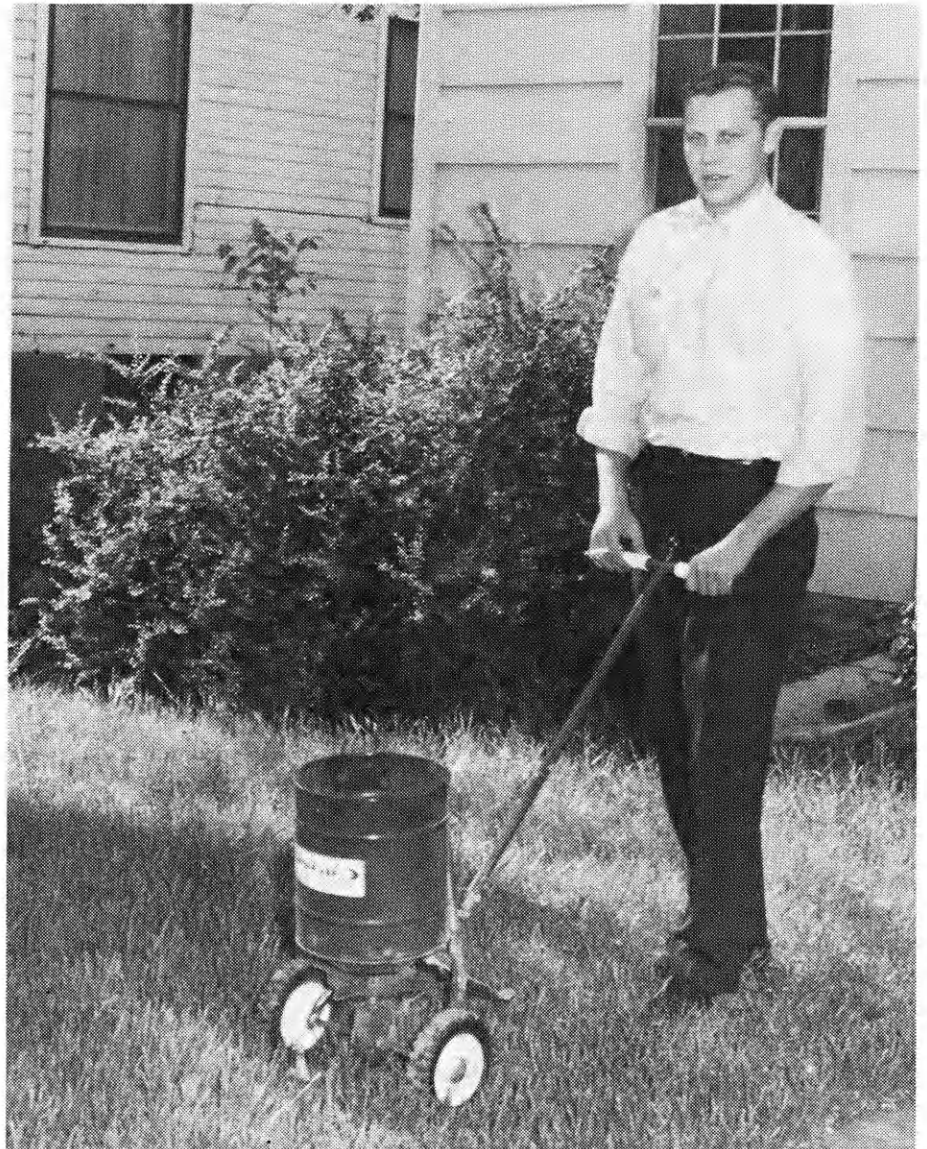
mowed at least two inches high. Keen recommends higher mowing—up to three inches—from May until September to prevent crabgrass from growing in the lawn. The grass should go into winter slightly taller than the recommended summer cutting to provide a natural mulch.

Watering is another important factor in lawn maintenance. Don't subject your lawn to shallow, frequent waterings because this encourages growth of the roots near the surface of the soil. Instead, water until the ground is soaked about a foot deep, then wait until this water has been used before watering again. Keen suggests that you apply half the water needed, then water again in a few hours or the next day. This gives a more uniform moistening of the soil.

Since light rains during the hot, dry summer also cause roots to grow in the top few inches of soil, water your lawn after small showers. You should also moisten the lawn soil to a depth of two feet before the ground freezes in the fall to insure plenty of moisture for early spring growth.

Fertilizing Important in Lawn Care

"Proper use of fertilizer is one of the most important factors in growing good lawns," says Keen. The cool-season grasses are comparable to winter wheat in their growth habits and fertilizer needs. Like wheat, they need fertilizer in the fall or early spring. Bermudagrass, zoysia and buffalograss have growth patterns similar to corn. Fertilize your lawn in May, June, or July—the same time you would fertilize corn.



Proper lawn care must include fertilization. Richard Daniels demonstrates the use of a spreader to facilitate easy application of fertilizer.

Kansas Farmers Can Make Money Growing Castorbeans

by *Thayne Cozart*

"SURE, castorbeans are used to make that nasty-tasting oil mom used to give you as a cure-all." This statement reflects most people's knowledge of castorbeans. What they don't know is that castorbeans have carved an important niche in the country's economy. They are used to make many commercial products now; as a result, castorbean production could easily expand.

Castorbean oil has a high viscosity, that is, it flows easily at cold temperatures, with a low congealing or thickening point. Consequently, it is in great demand as a lubricant in jet aircraft and as a liquid cushion for artillery recoil mechanisms. Dehydrated, fast-drying oils — derived from castorbeans—for use in paints, varnishes, and other protective coverings, comprise the largest single outlet for castorbeans.

Other derivatives of castorbean oil are chemically prepared for use in manufacturing plastics, hydraulic fluids, printing inks, artificial leathers, polyurethane foams, pharmaceuticals, and all-purpose greases. Over 175

derivatives of castor oil are listed by one processing company.

The United States produces only 10 to 18 per cent of the castorbeans it processes and uses. The remainder is imported. Enterprising Kansas farmers could take up part of this tremendous slack.

The 150,000 acres needed to supply the domestic demand could be grown by Kansas farmers. The present principal growing area is southwest Kansas. The climate is favorable there and the danger of disease isn't so great. High humidity and lower temperatures in southeast Kansas are favorable for two castorbean diseases, *Alternaria* leaf spot and *Alternaria* capsule mold, for which there is no good remedy, yet.

Raise Beans on Feed Grain Acres

You may plant castorbeans on Feed Grain Program acres and still receive 30 per cent of feed grain parity.

Since there is no open market for castorbeans, a contract with a commercial processing company is necessary. Failure to secure a contract will result in a crop with no market. Company representatives within the state draw up the contracts and your contract with the company will be through them.

After drawing up the contract, you secure the seed for planting from the company representative. Research

at Kansas State University has indicated that Baker 296 (a dwarf variety), Hale, and Lynn (semi-dwarf varieties) are best suited for growing in Kansas.

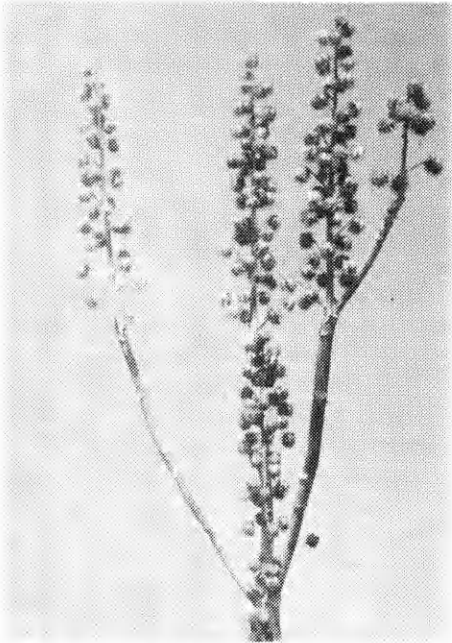
Irrigation Helps Get Best Yields

The best yields in Kansas are obtained by irrigating; however, excellent crops have been harvested from dryland fields under favorable conditions. Highly fertile, well-drained soil with loam or silt loam texture and high moisture-retaining capacity is best for castorbean production.

You can plant castorbeans with ordinary row equipment with special plates. According to experiments at K-State, highest yields result from spacing the plants 10 to 18 inches apart. Castorbeans respond well to applications of nitrogen fertilizer (100 pounds per acre). Potash should be applied on potassium-deficient soils; phosphorus should be applied only in accordance with soil tests.

Post-emergent Chemicals Hurt Beans

Castorbeans germinate slowly. Ten to fourteen days is the usual period for emergence, so don't be discouraged if it seems to take them quite a while to come up. You can cultivate with your regular machinery. Don't use post-emergent chemicals to control weeds in your crop, as castorbeans are highly sensitive to them. Some



Dwarf varieties of castorbeans give highest average yields in Kansas.



Growing castorbeans under flood or spray irrigation is now profitable in Kansas.

pre-emergent herbicides have been used successfully, but they are expensive.

The expensive element in castorbean production is harvesting, as special combines or special combine attachments are needed. A two-row attachment costs around \$3200 and a four-row, \$5600. Custom combining, which bypasses this expense, is the method which most growers use.

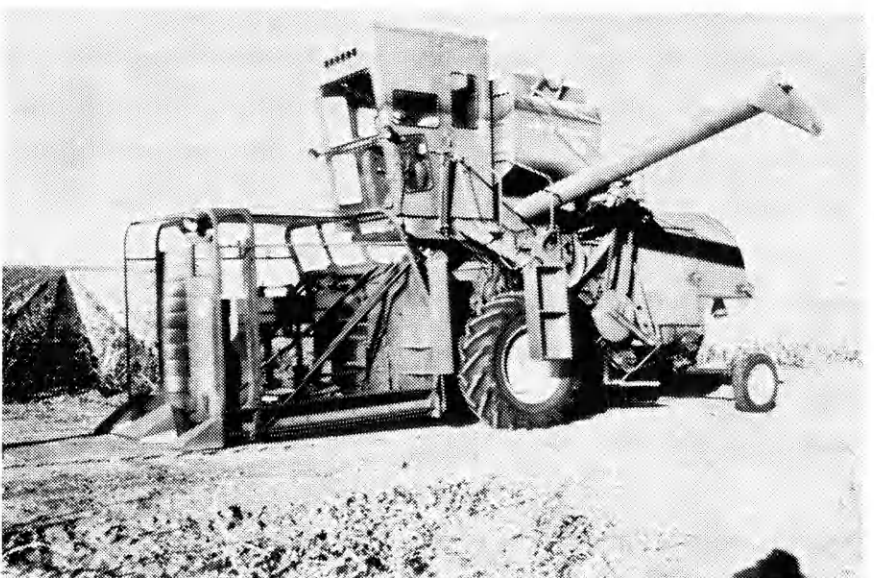
Castorbeans are a full-season crop. They are planted the first week of May and harvested approximately ten days after the first killing frost, after the foliage has fallen off. The average yields in southwest Kansas under irrigation are between 1800 and 2200 pounds per acre. A normal contract price is five cents per pound, thus a normal crop results in an income of \$90 to \$110 per acre.

Castorbeans Are Highly Poisonous

Take extreme precaution with castorbean seeds. They are highly poisonous to both livestock and people. Clean combines and trucks well to keep stock and children from eating seeds that might lodge in them. Researchers are trying to develop a process to eliminate the poisons, ricin and ricine, from castorbean pomace. If they succeed, this protein-rich pomace could be used for livestock feed. At present, the pomace is used as an organic fertilizer, with nutrient content well above that of dairy or steer manure.



Workers in a castorbean field near Garden City check for Alternaria leaf spot.



Kansas growers often avoid buying expensive equipment by hiring custom cutters.

Bowling, Swimming, Boating

Summer Vacation Promises Variety of Recreation



Swimming can be fun too, as Nancy Ballard (left) and Brant Taylor indicate.



Perhaps golfing might be your answer to refreshing entertainment this summer.

by Andrea Torrence

WITH summer vacation only a few weeks away, your thoughts are probably turning to recreation, relaxation and education—informal, that is. If your ideas are limited as to variety in recreation, you might try a few of the following suggestions.

Bowling is now a national pastime nearly as popular as baseball. Freed from their dingy setting, many bowling alleys now include restaurants, barbershops, beauty shops, pool rooms and snack bars. The sport is relatively inexpensive, as all equipment may be rented. If your ability is a little above average, league bowling may be right for you.

The old stand-by, a movie, may sound dull, but with the general improvement of films during the past few years, it can be an excellent way to relax. The air-conditioned theaters or open sky drive-ins are invitations to escape the summer's heat.

If your idea of relaxation is keyed to the spectator's side, ball games are your answer. In small towns, adults may form town baseball teams or church groups may compete. Little League baseball for kids has boomed in the past few years and watching small fry play is an excellent source of entertainment.

es hal Sports

The number of lakes in Kansas is small but their quality is high. State-stocked ponds and streams make for good fishing. Depending upon your interest in the sport, your fishing equipment may be as inexpensive as a bamboo pole, 10-cent hook and home-dug bait or it may include a rod and reel, special flies, and store-bought bait.

Another water sport is boating. Initial investment is rather high, but unless you're a real enthusiast, you may rent your equipment. Whether in a canoe or small yacht, fresh breezes and spray in your face are an exhilarating experience and a good way to beat the heat.

If your ankles are strong, your swimming skill good, and your courage high, you might try water skiing. Although water skiing is more strenuous than most sports, it helps you develop coordination and get a good suntan.

Swimming Facilities Are Unlimited

And mentioning suntans, what better way to become golden brown in your spare time than by swimming. This sport too develops your coordination and muscle tone. It's a pleasant way to spend an afternoon, too. If your swimming ability is limited, practice under an expert's watchful eye. Facilities are unlimited, for many Kansas towns have municipal pools. Or if one isn't handy, use a farm pond (if you're familiar with its depth) or a lake which has an area designated for swimming.

As a special treat, a picnic or barbecue on a summer evening or



Even reading can be entertaining and relaxing, especially if you curl up in a shady nook with a good book, as our cover girl, Miss Linda Doll, does here.

weekend noon always gives you a way to be lazy, lazy, lazy. This recreation requires nothing but a well-filled picnic hamper and a desire to do nothing but relax. The picnic hamper includes, of course, such traditional items as potato salad, relishes, baked beans, a meat already prepared and ready to broil, potato chips, an ice-cold beverage and spray to discourage visitors from the insect world.

Tennis, Reading, Hobbies Enjoyable

Tennis is a two-man sport but if courts are available, the initial investment of a racket and balls is small compared to the enjoyment you'll get. Tennis is an excellent method of relieving tension but it's tiring.

Reading may not appeal to you but if the library is air conditioned and the book is the latest best-seller,

it can provide hours of pleasure. A library card is inexpensive, considering the enjoyment and knowledge you can gain.

Hobbies are another method of relaxation for many persons. Perhaps you aren't the stamp- or coin-collector type but other hobbies, especially those related to your work or interests, might prove enjoyable. Studies of Greek mythology or Chinese poetry, a collection of matchbooks from places you've visited, contemporary greeting cards, information about the career you desire, fishing flies, may appeal to you. The key to hobby fun is selecting something that you're really interested in.

Plan to include new types of recreation for relaxation this summer. Look ahead to a summer of fun and enjoyment!



Boiling water poured on fruit stains will remove them, as Judy Rogers shows.



Dianne Jurenka removes gum from a garment with ice and a spatula.

Garments Stained?

You Can Remove Oily, Nonoily Stains at Home

by *Mary Rendleman*

DON'T throw that stained garment away. You can remove both oily and nonoily stains. Car grease and oils, cosmetics, gum, fruit juice, ink, candle wax and paint are among the most common stains.

"Be patient and take time to develop a technique in removing stains," advises Miss Esther Cormany, associate professor of clothing and textiles at K-State.

Keep Stain Removing Simple

"Keep stain-removing methods simple," adds Mrs. Ethel Self, associate

professor of home economics in the Extension Service. "You don't need a shelf full of supplies. Make full use of what you have."

Don't let a stain happen, advises Mrs. Self. Use pocket protectors to keep ink stains out of white shirts. Always use napkins to keep from getting fruit juices and oils on your clothes.

The best approach to remove a stain is to determine first what it is, and the sooner the better. It is harder to remove a stain if you wash the garment before you take care of the spot, or if it is set by heat.

Mrs. Self suggests that you pretreat garments that have stains of

food, body oils, perspiration, car grease and oils. To pretreat, use a concentrated liquid solution of all-purpose detergent and carefully work this solution into spots. You can use a soft-bristled brush for this. Then rinse well. Dry the garment to see if any stain remains. If a trace of the oily stain is left, use a solvent.

Four Types of Stain Removers

Stain removers are divided into four groups—detergents, absorbents, solvents, and chemicals, such as bleaches.

While on a vacation, carry a powder—cornstarch, cornmeal talc or powdered chalk—with you. Each



Iodine stains are being removed from this garment by Dawn Mantele. She's using hydrogen peroxide, a mild bleach.



Sue Arnold uses powder to absorb a grease stain. Then she scrapes off the powder, and repeats if necessary.



evening, check your clothes for grease spatters or other grease stains. If you find any, spread the absorbent powder on the stain before it dries, then shake or brush it off. You can usually remove the stain by this method. Repeat several times with fresh powder.

Solvents such as alcohol or turpentine are useful in removing greasy stains. If the garment has not been washed before attempting to remove the stain, the solvent may leave a ring, though.

Rubbing alcohol is safe for removing stains in fabrics where it won't damage the dye. Be sure to test the solvent on a hidden part of the fabric first to determine whether it will change the appearance of the treated area. Use solvents with care, since all are either flammable or have poisonous fumes. Never use gasoline, since it is explosive. Fumes from carbon-tetrachloride are highly poisonous, so avoid inhaling them.

Feathering Prevents Rings

In using solvents on nonwashable garments, work from the center to the outside of the stain. Use a solvent-dampened cloth, with feathering motion, so a ring will not be left where the stain was. To feather, brush to the outside of the stain with a flipping motion of your fingertips.

To avoid putting the stain back into the fabric, keep the solvent cloth or sponge clean. Always work on the wrong side of the fabric where

possible, so that the stain and stain remover will be washed out of the fabric instead of into it. A blotter underneath the stain sometimes absorbs it.

Bleaches Will Fade Colors

Don't use bleaches in metal containers because metals increase the chance of fabric damage. Chlorine bleaches, both liquid and powder; sodium perborate bleaches; hydrogen peroxide and potent color removers are most widely used but they are also the ones most likely to damage fibers and fade colors, if not correctly used. Mrs. Self doesn't advocate using chlorine bleaches unless you dilute them one tablespoon to one gallon of wash water, since they can damage the garment so easily.

Use sodium perborate bleaches when you don't know what the stain is. Put the sodium perborate in water or put it directly on the spot and add a few drops of water. This is a gentle method and will not harm the fabric.

When using bleaches, don't let them dry on the fabric. Use a mild treatment first by dampening the stain with cool water and stretching it over a bowl or by placing it on an absorbent pad. Use a medicine dropper for applying liquid removers, but sprinkle dry removers over the dampened spot. If the article is washable you may soak it in the remover solution.

Paraffin or candle wax stains sometimes present a problem. Scrape off

the wax that has hardened on the surface, suggests Miss Cormany, then place two blotters or some soft white tissue on either side of the stained fabric. By using an iron, force the paraffin into the blotters or the tissue. Sodium perborate bleaches also help remove the stain left by the paraffin. Then wash the fabric.

Fruit juices or fruit stains are easily removed by sponging them immediately with cold water. Then pour boiling water through the cloth from a height of one to three feet or put it under the hot-water faucet as far down as possible.

Sunshine Helps Remove Rust

Mrs. Self highly recommends sunshine for removing some yellow stains. Lemon juice and salt, plus sunshine, will remove rust stains.

Ammonia or baking soda will help remove fresh deodorant or perspiration stains. Use vinegar for perspiration stains that have been allowed to stay in a garment for some time.

If regular washing doesn't remove ink marks on shirts or washable slacks, sponge the stain with cool water or soak it in cool water for 30 minutes or longer, sometimes overnight. If this doesn't work, rub a detergent into it, then rinse. On some washables, that is light-colored ones, you may use bleach.

When you don't know how to treat a stain, trust your dry cleaner. He has had training and has the facilities to treat the harder-to-remove stains.

Kansas Has Important Timber Industry Potential

by James Brink

KANSAS has an important timber industry and a great potential for future production, reveal recent state timber marketing investigations by the Kansas Agricultural Experiment Station. The investigations were conducted in the North-Central region — Kansas, Missouri, Michigan, Wisconsin, Minnesota, Iowa, Indiana, and Illinois.

First part of the investigation, which was started in July 1960, included volumes and dollar estimates of rough logs. The second stage, which is just now getting started and will be finished this fall, will include further studies of wood processing.

Purpose of the recently completed investigation was to find inefficiencies, functions and trends in the timber marketing system, and reasons for them, and to identify the causes of specific marketing factors which tend to reduce or limit returns to timberland owners, processors, manufacturers and market agents. Quality is more important than quantity, according to investigation reports. In the investigation, volumes of the vari-

ous market areas were determined and a directory of the market agents and sawmill owners was compiled.

Market Reflected Use

One objective was to evaluate how effectively present marketing practices reflect wood use, demands on wood processors and producers. Another objective was to determine the costs and margins of transporting products from woodlots to manufacturers. Still another objective was to determine changes in marketing practices which might raise marketing efficiencies and strengthen working relationships among landowners, producers, processors and market agents. Results of these investigations will be released in bulletin form this summer and fall.

"Kansas is the southwest state of the North-Central region," said Paul Roth, Kansas State University research forester and project leader. "We lack many species that other states have, and we have a wider variation in land character and climate." Native trees Kansas does not have, but which will grow if introduced, are the tulip tree, sweet gum, sugar maple, white pine, bald cypress, Scotch pine and Austrian pine. Kansas timber exhibits characteristics of

a fringe area of the hardwood forests of Michigan, Indiana, Ohio, Kentucky and Tennessee.

The investigation project was divided into five market areas—poles, posts and piling; pulpwood; veneer wood; cooperage, wood for barrels; and wood for sawmills.

Each area was divided into producers, persons who harvest trees; market agents, those who buy and sell trees without changing wood form; and primary processors. The entire investigation dealt with unfinished timber. Values obtained from this investigation are in the rough form; they are conservative and are like the estimated value of a wheat crop in the field.

Studying Secondary Timber Uses

Second part of the study will investigate secondary uses of timber products such as finishing, furniture and flooring.

The post, pole and piling industry is a \$1.5 million business in Kansas every year. Two million fence posts go through dollar exchange each year; an additional 3 million posts are used immediately on farms and ranches. So less than half the post production goes through a dollar exchange. The Osage Orange (hedge) tree is by far

the most important in this category. It is grown largely in hedgerows. Other important trees are the catalpa, red cedar and black locust. These are grown almost entirely in the eastern half of Kansas.

Pulpwood Sold in Kansas City

Cottonwood is the leading pulpwood tree. Box elder, willow, sycamore, hackberry, elm and coffeetree are other important pulpwood trees. Practically all pulpwood from Kansas is marketed in Kansas City. Investigators feel this industry has a bright future because cottonwood trees are easily grown and don't require much time to become of profitable size. Many areas which flood often and are difficult to farm are places that could produce cottonwood trees 4 to 10 inches in diameter in 4 to 10 years.

The cooperage or barrel industry is an annual \$1.5 million business in Kansas, too. Tight cooperage is of high quality and is used for liquids. Slack cooperage is used for shipping barrels. Kansas ranks among the top five states in cooperage production. White oaks, which include bur oak, white oak, chinquapin oak and post oak, are used for tight cooperage. The red oaks—red oak, black oak and scarlet oak—are used mainly for flooring, rough lumber and slack cooperage.

There are approximately 150 sawmills in Kansas. Ten mills in the state each saw over 1 million board feet each year. The board foot is a board 1 foot long by 1 foot wide by 1 inch thick. Many of the mills are small and portable. Most of them are located in eastern Kansas.

Private Ownership Unique to Kansas

Kansas woodlots are 100 percent privately owned. That's unique because most states have state or national forests or commercially owned timber stands.

Less than 10 percent of Kansas woodlots are managed. Don't overgraze or overcut your woodlot. Know the names of merchantable trees and have an idea of the volumes and species in your woodlots. Take bids on your timber from at least two buyers. This will insure your getting a reasonable price for your crop.

Kansas has 1.5 million acres of timber with an additional .5 million acres best suited for timber. This timberland produces an estimated \$25



Pallets—low portable platforms used for storing materials in warehouses or for shipping materials—like these are manufactured from Kansas-grown timber.

million worth of timber each year. The price of timber has increased from one half to two thirds in the last 10 years. The demand at present is still increasing, and shows signs of increasing further. Kansas is now producing only one third of its estimated potential. There is no surplus, hence, no rigid controls on growing or marketing timber.

You ought to work about one day per acre per year in managing your

woodlot, for best results. Cull bad trees and remove them; prune and shape good ones, and fence off your woodlots. Timber isn't a perishable crop—it can wait a year or several years to be harvested. It is renewable by itself and requires no seeding when properly managed. With these possibilities of producing, harvesting and selling, you can grow timber in your spare time and add to your farm income.



Plants like this one make charcoal briquets from some of Kansas' timber.

KSU Gets New Bakery Curriculum; Only One in U.S.

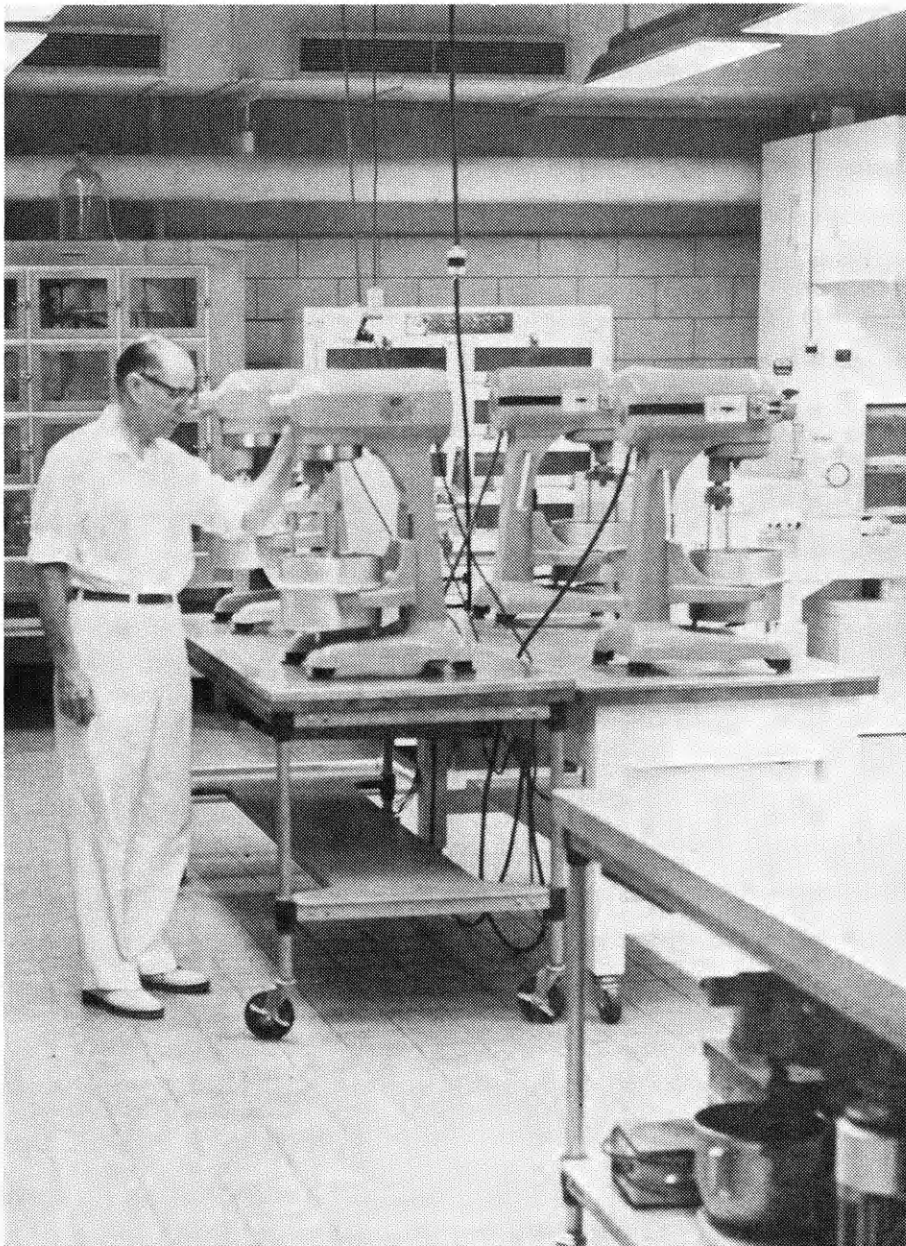
by John Wiechman

A NEW curriculum in bakery management will be offered at Kansas State next September. The curriculum will be taught in a bakery school affiliated with the Flour and Feed Milling department. It will be the only curriculum of its type in the United States connected with a university.

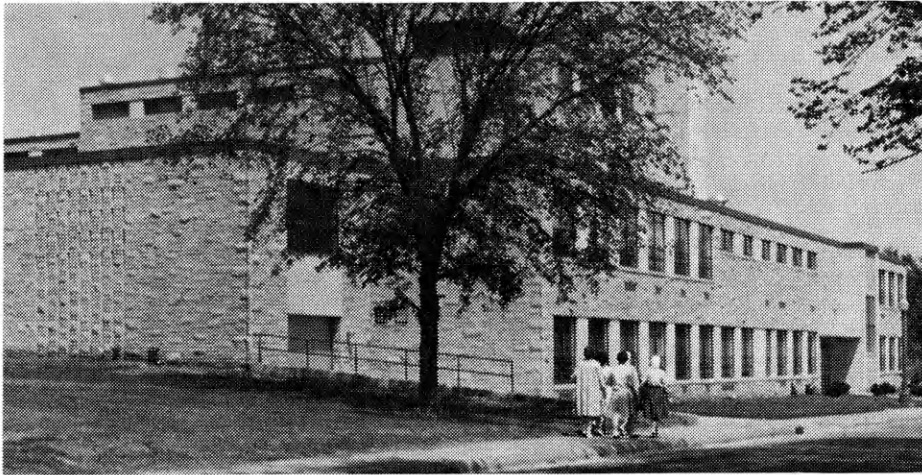
Florida State University was the past academic headquarters for the baking industry. However, a request by members of the baking industry for a bakery management curriculum at Kansas State brought the school here. The Kansas Board of Regents approved the request at a meeting March 16. The curriculum outline was approved by the Faculty Senate February 12.

Kansas State University was chosen for the new site because it had most of the equipment needed, in the milling school bakery. Another reason was K-State's success in establishing and operating a flour and feed milling department. Florida State did not have enough interest in the curriculum to warrant keeping it. Kansas State is also the only school in the United States offering degrees in flour and feed milling industries. For these reasons K-State was selected.

Dr. John A. Shellenberger, head of the milling department, said transferring the curriculum to K-State involves adding only one professor to the present staff in flour milling and formula feed industries. The baking industry will provide funds for this professorship. An appointment to



Don Miller demonstrates equipment which will be used in teaching baking.



The bakery management curriculum is part of K-State's Flour and Feed Milling Department. Facilities in the milling building will be used for the courses.

the position hasn't been revealed yet. Financial assistance to the department, scholarships and loans for students will come from the baking industry and allied trades.

The new curriculum is expected to attract students from throughout the United States and foreign countries. Three options will be offered to students in bakery management. They are administration, science, and operation. The freshman year will correspond to that for any student in the milling school. Specialization in one of the three options will begin during the student's sophomore year. The administration branch requires courses in accounting, finance, marketing, sales management, statistics and other courses related to business. These option courses are spread over the four-year period of instruction.

Students interested in the chemistry of baking will study in the science option. Organic chemistry, physical chemistry and biochemistry, along with physics, bakery design and flow, and flour testing are the courses stressed. Improvements of bakery products and contents are to be the main concerns of students in this branch.

Will Study Baking Mechanics

The operation option deals with mechanical problems in baking, and operating equipment. Electric circuits and machines, electronics, engineering physics and mechanics of materials are the principal courses studied in this branch.

Three new courses will be offered in the Bakery Management curriculum: Experimental Baking II, Bakery

Design and Flow I, and Bakery Technology II. Other courses in milling will be prerequisite to entrance into any of the three.

Experimental baking is the advanced study of the basic properties, chemical and biological reactions of ingredients used in the production of bakery products. Special emphasis will be placed on the fundamental principles of biological and chemical leavening and the deformation and flow properties of dough and ingredients.

The physical and engineering principles involved in baking processes are studied in bakery technology. Students are taught the operation of bakery equipment and control systems. Heat problems, materials handling and sanitation practices are also emphasized. In the laboratory, tests are run on equipment to determine parameters involved in their operation.

Shellenberger said modern bakeries are strictly mechanically operated and have large investments in buildings and equipment. Persons responsible

for these investments must have training in management, law, advertising, accounting, chemistry, engineering and other fields. Advanced degrees will be available in the new curriculum, too. One hundred thirty-six hours are required for a Bachelor of Science Degree. The curriculum is so designed that students will carry seventeen hours a semester for the four-year period.

Feels Course Will Be Successful

Dr. Shellenberger feels the school will be a success at K-State. Several large baking industries have shown enthusiasm over the program and the industry's requests for the school at K-State are favorable. Assistance from these concerns will be a major factor in the success of the program, he stated.

Most commercial bakeries have training programs for their employees. However, graduates from the bakery curriculum will be more qualified where all-around knowledge of the field is concerned.

Public Image Caused Failures

Public image has been the main reason for the failures of previous attempts in establishing bakery curriculums. Minnesota and Pennsylvania, as well as Florida State, have tried programs in milling. All of them failed. People have the idea that there is no money in baking. They also believe there is no prestige or status involved with the baking industry. This is not true. Professional employment opportunities for graduates from the new course will be comparable with the best available in such larger fields as engineering and science. Baking is the sixth ranked industry in the United States and cannot be underestimated.

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Laugh Awhile

He: "Ann says she thinks I'm a wit."

She: "Well, she's sure half right."

Have you heard of the farmer who is so tight that he works crossword puzzles up and down so he doesn't have to come across?

Cop: "Are you going to kiss that girl?"

Student: "No Sir!"

Cop: "Well, then hold my flashlight."

Question: Why are relatives like weeds?

Answer: Just when you have seen the last of one bunch, another bunch shows up.

Dear Dad:

Fire completely destroyed our house last night! But all is not lost—we found the penny in the fuse box.

Love, Jane

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