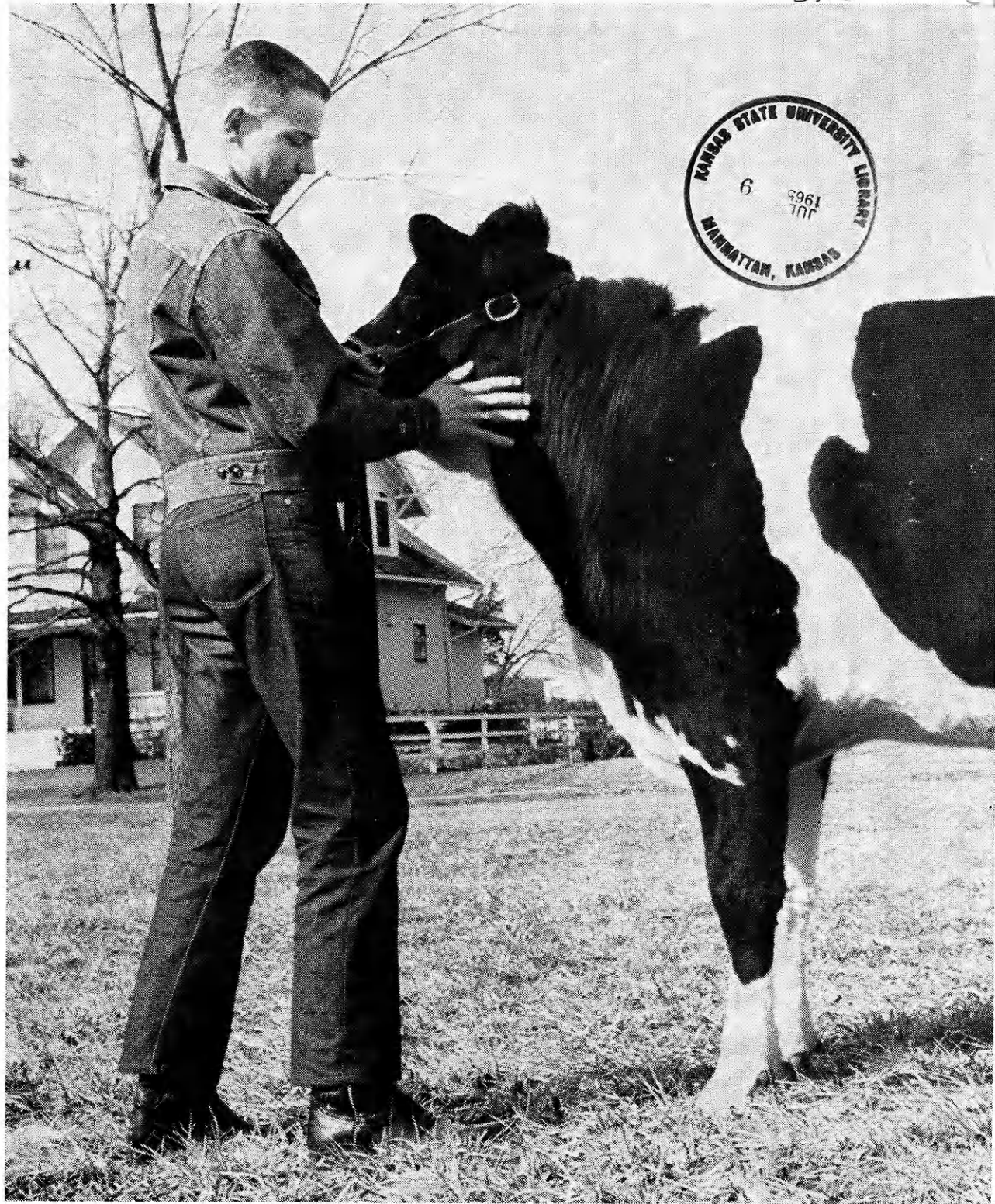


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AG STUDENT

Kansas

Student Showmen Teach Animals . . . Page 7

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KANSAS STATE UNIVERSITY AG STUDENT

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Interest in Trees Zooms

By Lois Hudgins

TREES, trees everywhere—at least there is an interest in trees everywhere on the campus of Kansas State University. This interest is evident not only in the curriculum in preforestry which is offered by the department of horticulture, but also in the activities of Extension and Agricultural Experiment Station forestry projects.

With these two agencies—Extension and the experiment station—a broad, comprehensive education in tree diseases, tree uses and tree experimentation is available to Kansas residents. The two agencies cover everything from Dutch Elm disease to windbreaks to Christmas trees to pecan groves. Practically everything relating to trees is studied and researched at K-State.

The research and control of Dutch Elm disease is an example. The Agricultural Experiment Station regularly publishes a bulletin to inform Kansas residents of its symptoms, life cycle of the fungus, how it spreads, sanitation and spraying to prevent the disease.

The bulletin also discusses general tree care, suggests shade trees to replace elms and gives the outlook for the future. The bulletin is revised regularly to include any recent changes and is a product of the combined work of the departments of entomology, botany and plant pathology and horticulture.

Work at K-State has been instrumental in restricting the spread of this disease and in preserving shade trees throughout Kansas.

Another facet of the forestry pro-

gram includes distribution of trees by K-State to all parts of Kansas. According to a report by Harold Gallaher, extension forester, the 10 millionth tree distributed through this program will reach some Kansas resident this year.

The program is statewide and K-State has received orders for trees from all 105 counties. Trees were sent to 3,498 individuals in 1964. An average of 40,000 each went to Dickinson, Geary, Johnson, Pottawatomie, Reno, Riley, Sedgwick, Wyandotte, Franklin and Barton counties.

Orders for the K-State trees are taken through county extension, and soil conservation district and ASC offices. The trees are priced at \$5 per 100, and stratified nuts are priced at \$1 per 100. Stratified nuts are those stored during the winter in moist sawdust so that they are ready to germinate shortly after being planted in the spring.

In regional research, K-State initi-

ated Kansas plantings of 20 origins of Austrian pine, 30 origins of Scotch pine, 36 origins of red oak and plantings of ponderosa pine and cottonwood. Research also was conducted on selection and hybridization of black walnut and Eastern red cedar.

Side benefit to Kansas is valuable information on best Christmas trees and superior strains for shade trees or in windbreaks.

The valuable information provided on Christmas trees is evident in the success of home-grown Christmas tree sales in 1964. In February, 1965, Paul Roth of the K-State department of horticulture reported that buyers were so pleased with the 1964 crop of trees that orders for 1965 are already being placed with the Mound Valley experiment station. In 1964, more than half of 300 Christmas trees harvested at the Mound Valley plantation graded premium.

The first planting of Christmas trees was made by K-State in 1957.

The first commercial plantings of Christmas trees were near Leavenworth and Edwardsville. That was in 1957. In 1959 more plantings were made around Manhattan, Woodbine, St. John and Pittsburg. Most recent plantings have been near El Dorado and Independence and within a 15-mile radius of Manhattan.

According to Gallaher, Kansans each year purchase about 500,000 Christmas trees valued at \$2 million. More than 90 per cent are shipped in from the north and northwest. The K-State foresters and planters of trees hope to put Kansas-grown Christmas trees in Kansas homes. Advantages listed for home-grown trees are that they are fresher, needle drop is less, and the fire hazard is almost nonexistent.

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The bulgur plant at Hutchinson.

Ancient Food from Modern Hutchinson Plant Is Kansas Wheat Going to Foreign Countries

By Robert H. Miller

BULGUR, a cereal food made by parboiling, then drying and coarse cracking wheat, is not really a new food. It was known during Biblical times in Syria, Armenia, and other nations of the Near East. Now it is made in Kansas to ship to foreign countries.

Syrian and Armenian immigrants brought the recipe to this country years ago, preparing and using the product in their homes. It was also used to a limited extent in restaurants operated by people of those nationalities. This ancient food is variously known as bulgur, bulgor, boulgur, boughour, burgul, burghoul or something similar.

Bulgur has been produced commercially in the United States for many years. Two small companies in California, and another in Massachusetts, made small amounts for local consumption. Most of their market consisted of citizens with a Middle or Far East ancestry. A small amount of bulgur was shipped overseas.

In 1951, delegates from the Oregon Wheat Commission, interested in developing wider use for white wheat, visited one of the California plants. They came away convinced that an effort should be made to expand the use of bulgur, both at home and abroad. During the next two years a project was carried out in India, to determine the acceptability

and keeping properties of bulgur in a humid, rice-eating country. It was demonstrated that with a minimum of instruction and education, an encouraging degree of acceptance could be developed.

Bulgur is now produced at seven plants in the United States, the newest at Hutchinson, Kansas, which also is the first in the Great Plains Region, heart of the nation's wheat production.

Wheat used is No. 1, in the lower protein range with only 8 per cent protein required. Thus there is no competition with the higher proteins more suitable for flour milling. Most consumers like both the red and white wheat Bulgurs, with local customs, versatility in home-use, and advantages of serving a large assortment of meals being important to consumers. Factors like texture, nutritive value, and cooking time may be adjusted through selected processing procedures.

Selected wheat is first dry cleaned with a special screening device, then washed in pure water to remove foreign material, and soaked in hot water until the inner starch granules are fully hydrated. It then is cooked at temperatures above the starch gelatinization range to insure uniformity of texture and cooking characteristics.

The finished product is packed in 50- and 100-pound bags for both domestic and export uses. In the United States it is available in ready-

to-serve meals, and as gourmet packages with herbs for special flavoring.

Bulgur is exported commercially and through the Food for Peace Program. Under Public Law 480, a large quantity of bulgur is sold to other countries for foreign currency.

Bulgur remains sweet for human consumption almost indefinitely and resists attack by insects and microflora better than wheat. Bulgur stored in burlap bags sometimes develops a rancid odor, but when cooked it cannot be distinguished from fresh bulgur prepared similarly. Oil and fat added early in culinary preparation traps rancidity so bulgur then is unpalatable.

The principal reason for the apparent lack of trouble with insect and mold or bacterial infestation of bulgur is sterilization during processing along with drying to 10 per cent or less moisture content. Harvested wheat, on the other hand, is often heavily laden with yeasts, molds, and bacteria, and may be infested with insect pests or their eggs. Bulgur would be similar under long storage and adverse conditions.

White wheat bulgurs are light golden before cooking and pale amber when cooked. Bulgurs made with red wheat are darker and reddish brown when cooked. Before it is cooked, bulgur is granulated, somewhat crystalline, and resembles fractions of a dried wheat kernel. On cooking, it becomes fluffy and soft but, like rice, it maintains kernel or

particle identity. When properly cooked it is tender but firm, not rubbery or gritty.

The protein content of raw bulgur may vary from 8 to 14 per cent, depending on the type of wheat used. Since wheat is a low-cost protein, bulgur becomes an economical, wholesome, and nutritious food.

In the manufacture of bulgur, most of the inherent values of the selected raw wheat are retained during the processing. The riboflavin, thiamin, niacin, and iron content of bulgur compares favorably with other basic foods. If needed, additional vitamins and minerals may be added to make it even more nutritious.

As a nutritious extender for meat, poultry, or fish in meat loaf, hamburgers, meat balls, and turkey hash, bulgur can stretch food dollars nearly anywhere. Its texture closely resembles ground beef in meat loaf and hamburgers.

It also is a tasty, nutritious addition to soup, vegetables, and salads. It can be served at any meal, and in any type of home, from a staple food for the poor to gourmet packages for the rich.

If bulgur develops a long-time demand overseas, it could create an easily supplied demand for Kansas' number one crop.

The Farmers Commission Company has just granted \$5,000 to Kansas State University for research on use of processed wheat products (bulgur). The Departments of Flour and Feed Milling Industries and Dairy and Poultry Sciences will do the research, with Dr. J. David Mitchell and Dr. William Charles Hurley as project leaders. They will investigate meat fillers, puffing characteristics, frying characteristics, water-holding qualities and other characteristics of bulgur.

Spring in Kansas Is Neither

Boisterous Nor Silent

By Eddie Beason

COULD YOU, as a Kansan, speak intelligently on the pesticide controversy as it applies specifically to Kansas? What is the status of biological control and other non-chemical control efforts in Kansas? How is our wildlife being affected? Is our land-grant university playing its proper role? Kansans should know the answers to those and similar questions.

Probably the most heavily sprayed areas in the United States are the northern forests, with their spruce budworm. Cotton growing lands in the South also received heavy dosages on occasion. Forests sometimes undergo massive aerial spraying programs.

Spraying in Kansas, however, is done more on a spot treatment basis. Entomologists do not recommend spraying until significant damage is imminent. When grasshopper outbreaks occur, several sections may be sprayed, but we rarely have an extensive spraying program, said Dr. Herbert Knutson, head of the entomology department at Kansas State University.

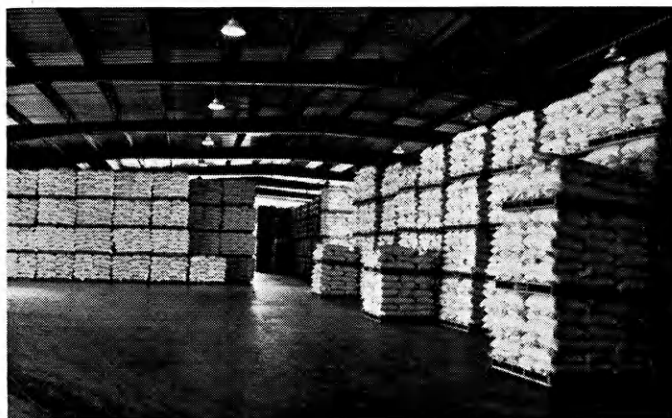
Biological control has come to the forefront as being a promising substitute for chemicals. It worked dramatically on the screw-worm fly in extreme southeastern states, where male flies were sterilized so no fertile eggs were laid. The fly literally bred itself out of existence.

Why not apply this same sterilization technique to insects that are

damaging crops and livestock in Kansas? In the first place, explained Dr. Knutson, it takes an enormous amount of money to conduct such a project. In the case of the screw-worm fly, a factory was constructed to turn out nothing but adult male-sterile flies by the billions. But funds are not the only problem. There are two other criteria that must be met. The female insect must mate only once. Otherwise, the success of the sterile-mate technique is not assured. Secondly, the insect must exist in a confined area. It would be folly to eradicate a species of insect from even a wide area, such as Kansas, only to have a re-population influx from surrounding areas. Sad to say, those criteria do not apply to a single economically important insect in Kansas.

What about importing an insect's natural enemy into Kansas? Many acres of Kansas alfalfa are periodically subjected to aphid attack. Spraying will kill the aphids but it is only temporary relief, since they move in from surrounding fields. Then why not mass spray? The scattered locations of the fields make mass spraying impractical, said Dr. Knutson. A single lady beetle larva will devour 11-25 aphids, and an adult, 16-56 aphids in one day. Lady beetles can be obtained by the gallon from their overwintering quarters in California and transported to alfalfa fields. But as soon as they are released in the very middle of a potentially fine meal, their first instinct out of hibernation is to climb, without hesitation, to a high place and fly away—which they do.

One of nature's checks on chinch bugs, insects Kansas farmers are quite familiar with, is a fungus disease. One recommended control for shade tree leaf feeding insects is a suspension of a certain bacterium to which the insects are susceptible. Wouldn't it seem reasonable that by spreading the spores of the chinch-bug killing fungus over an infested area, control could be effected? The hard facts are that weather conditions must be right, both temperature and humidity, before the chinch bugs are affected by the disease. Otherwise, the



Part of the storage space with bulgur in place at the Hutchinson, Kansas, plant.

bugs could be covered with spores but die of old age. Besides, the number of spores always present under natural conditions is sufficient to do the job, if weather conditions are right, Dr. Knutson said.

Research in other areas of biological control has been, and is being, conducted at Kansas State University. An investigation into the use of sound to attract ants to their death is a current study. Exploring the feasibility of using attractants and repellents has been carried on for decades.

"Insect disease-producing organisms are constantly studied at Kansas State," said Dr. Knutson. "The major contribution toward nonchemical control of insects is developing insect-resistant varieties of crops." Examples are Cody alfalfa, which resists spotted alfalfa aphids; Ottawa wheat resists Hessian fly; and Atlas sorgo resists chinch bugs. Kansas State is a leader in this country and in the world in such control of insects.

A recent grant to Kansas State University for pesticide research is long-range, pesticide effects on the environment. Some 6,000 acres are involved. Chemical content of water,

crops, and wildlife will be studied.

George Halazon, extension specialist in wildlife management, says it's difficult to evaluate over-all effects of chemicals on wildlife in Kansas. There is no documented evidence of serious die-offs due to pesticides. Concern over the number of individual animals killed, he said, is less than concern over indefinite persistence of chemicals and possibilities of upsetting the food chain.

As for Kansas' aquatic wildlife, there have been examples of fish killed in farm ponds. Since fish are so susceptible to pesticides, they present a definite problem. As little as three-tenths part per billion of a certain pesticide kills some fish.

Livestock, freshly sprayed, wading in farm ponds have killed fish with washed-off pesticides. Spraying watersheds has resulted in later fish kills.

The problems pesticides create cannot be resolved easily—there is no one answer. On the whole, pesticides have brought health and happiness, but to assure Kansans of no silent spring in the future, we need open minds and more research along with common sense in using chemicals.

First Annual Awards Assembly for Ags

The College of Agriculture will recognize some of its outstanding students at its first annual awards assembly in Williams Auditorium at 4 p.m. May 6.

To be honored are members of the college's judging and debate teams and winners of scholarships during 1964-65. Judging team members will receive "K" medals at the assembly.

Dr. Arthur D. Weber, vice-president emeritus, will be the speaker; Dr. C. L. Norton, head of poultry and dairy science, master of ceremonies.

About 45 per cent of the undergraduates in the College of Agriculture at Kansas State are from towns and cities; 26 are girls.

Remember, son, a girl who purrs can probably scratch, too.

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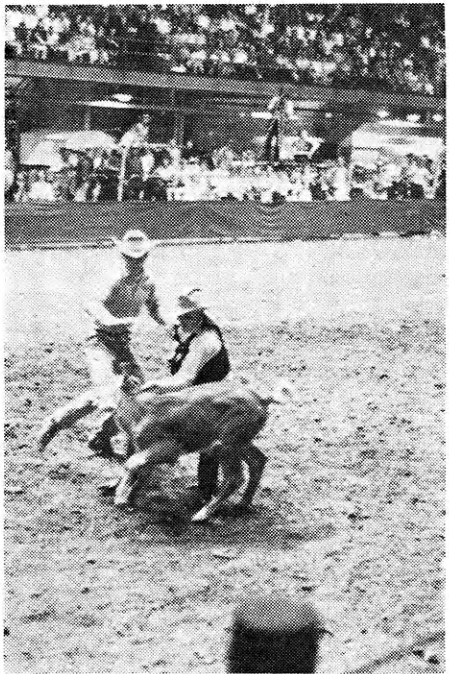
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"Get that ribbon!" shouts the helper, as a K-State cowboy competes in ribbon roping.



A Rodeo with Only Student Participants

IF YOU'RE looking for excitement, come to the Kansas State National Intercollegiate Rodeo at Manhattan April 24 and 25. Students from colleges throughout the Great Plains Region will be competing.

Ahearn Field House will be turned from a basketball court to a temporary arena for the three rodeo performances. Boys' events are bareback riding, saddle bronc riding, steer wrestling, Brahma bull riding, calf roping and ribbon roping. Cowgirls will vie in barrel racing and goat tying.

It isn't hard to tell the farm boys from the "city slickers" when the fraternity wild-steer race takes place. Fraternities enter a three-man team. Several rank steers are put in one end of the arena, with the teams in the other end. When the whistle sounds, the teams try to catch a steer, saddle it, and ride it into a circle that has been chalked in the middle of the arena. It is an event as rough as you want, with the winning team receiving a trophy.

The top all-around cowboy and cowgirl will be awarded trophy saddles, so the competition is always keen. Kansas State's rodeo team is made up of members of the KSU Chaparajos Club. The top six contestants in the club make the rodeo team.

This year the rodeo team will compete in several rodeos at other universities.

A cowboy has his calf roped—now for the tying job.

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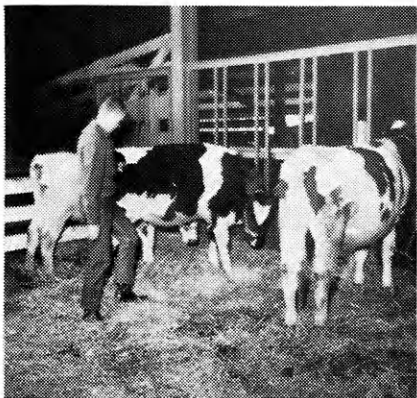
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WHEN a young man or woman enters the show-ring with his or her animal, you can be quite certain that many different jobs had occurred before they entered the ring.

The showman and animal have been working together for months.

They like each other. They are a team when they go in the show-ring and they know how to work together.

Success in the show-ring, like success in any other endeavor, comes after a lot of hard work. It is not even an easy task to select the animals to be shown. Each individual animal has a personality of its own and this may make the process of selection an even harder job. That is, the showman may have a pet animal he wants to show, so he overlooks poor qualities of the animal.

A good rule to follow is to seek advice from experienced persons in selecting, training and showing animals.

To see what a showman goes through in preparing animals for show, let's take a dairy animal as an example. Nearly all the rules that apply to preparing dairy animals for show also apply to other cattle.

Preparing dairy animals for show is a process that takes a long time. It cannot be done the day before the show with success. It has to start about three months earlier. Many jobs are to be done. Some of the preparations are: (1) selecting the animals; (2) training them to lead; (3) fitting them; (4) clipping; and (5) brushing and washing.

Success in the show-ring depends a lot on the person's ability to select animals that will make the best showing in a particular class. This is not so easy as some people think because the animals are completely out of

After a Blue Ribbon? Start 3 Months Early

By Richard Harner

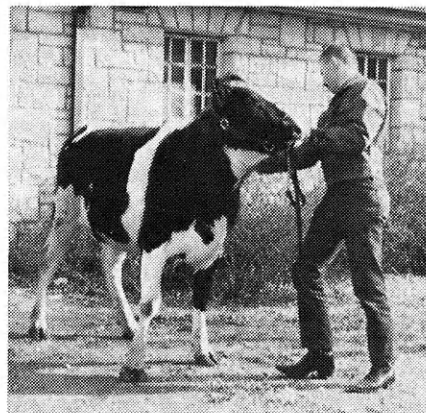
shape when selected. A helpful hint at selection would be to have a friend, neighbor, or experienced cattle man whom you know come to your place and look at the animals with you. The stranger would be able to do a better job because he has never been around the animals and would have no preconceived ideas about which are the outstanding animals.

Teaching the animals to lead is the job that takes the most time. The best time to start training all prospective show animals is when they are still calves. A rope halter should be used and the animals led for a short time every day. Leading the animals to water is a good way to start training them if they have never had a halter on before.

After the animal has been taught to lead properly, it must be taught to stand and pose properly. The head should be up and the feet squarely under the animal. Being patient with an animal will always make things easier and make the animal cooperate with its leader better. The way the animal leads, stands, and poses in the show-ring can mean the difference between winning and losing.

Show cattle should be in good condition—not too fat, not too thin. There is no set formula for feeding show animals. The idea is to get the barrel as full as possible so the animal will look big. Right before the animals enter the show-ring, they should have all the beet pulp (or similar filler) and water they can hold.

Clipping animals for the show requires considerable skill and experience. Show animals are clipped to make them more attractive and refined in general appearance. The parts clipped are the head, neck, and



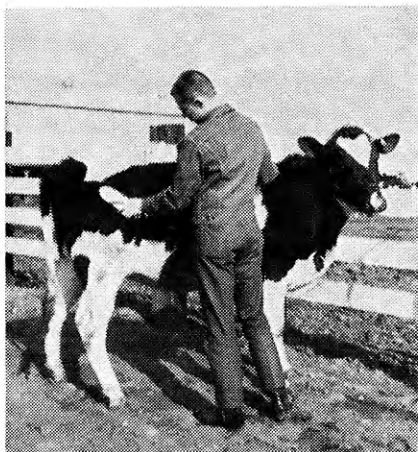
Teaching an animal to lead is the job that takes the most time.

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Brushing and washing are prerequisites to showing.

tail. If a milking cow is shown, her udder and milk veins also are clipped.

Brushing is an important part of preparation. Brushing must be done at least once a day and, if possible, twice a day. Brushing removes all loose hairs and dirt and makes the coat shine. The animals should be brushed just before they go into the show-ring.

Washing is also very important. Warm water, a stiff brush, and soap should be used. Washing gets all dust out of the hair that brushing does not. Washing also takes out all manure stains and makes the animals look as if they have been prepared for show.

The process of preparing cattle for show is long and tedious. It cannot be done a few days before the show. If a breeder shows cattle and he gets his animals properly prepared for the show, he has a better chance of placing high in the show-ring and coming home with more blue ribbons. Blue ribbons never hurt the price breeders get for their cattle, so the results often pay well for all the effort.

Look Who's Goin' Steady: Horse-play & Flunk Slip

By Gary Garrett

EACH YEAR at colleges and universities everywhere in the United States many students flunk out of school. Some of the failures are from lack of ability, but many more are from improper use of time.

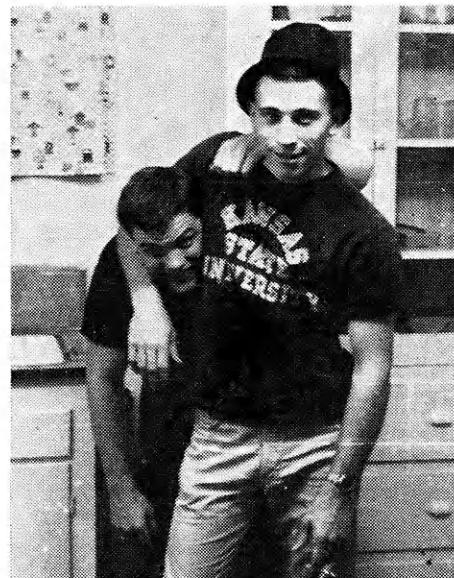
It is generally accepted around here that it takes as much work for a low C as it did for a solid A in high school. Once you get behind, it takes as much work to pass as to get an A would have taken.

Many of the flunk-outs simply learn too late that good study habits are essential to success in college. College is one place you need a light panic button. If you don't panic quickly, you'll probably do it too late to save yourself.

A rule of thumb is that for each hour in class, it will take two hours of outside preparation. If you are in class 16 hours, add 32 for study and you have a 48-hour week. That doesn't leave time to be wasted.

A way to waste time is to get interested in television. A good show on television seldom helps you answer a test question. Television, like going to the theater, can easily steal a full evening.

Social activities are a part of college, and an important part, particularly for new students. But they, too, are easily overdone. Grades will quite quickly put a finger on the fellow who puts social activities ahead of studies. An easy mix-up is to think social activities are more important than studies . . . that's a short detour that leads to the reinstatement committee.



Horse-play may have a place in college but I haven't found a prof who rates it high.

The easy way to do it, if you want to stay in college, is to use social activities only as a reward for studying. That requires self-discipline—sometimes against odds. The odds may be some odd-balls who want to stop for a short beer. That's a social activity that usually becomes a very regular practice. With it your time is gone before you know it.

A good place to study is quiet, well lighted, and not too warm. A person should learn that when he sits down at his desk it is for one purpose—studying. If one regards studying in that way, it is easier.

Some people believe that they can study only when they have nothing else on their minds. For them it would be better to get these things off their minds, then "hit the books."

One of the biggest faults with many people's study habits is not studying diligently when they do study. One has to have a goal in studying and work to reach the goal. Too many students think that they're studying when their minds are far away. One has to learn to concentrate on the business at hand.

The more a student studies, the more efficient he becomes at it. Once he has reached peak efficiency, he will be able to allot time for other activities, because he will know exactly how long he has to spend studying.

So the next time you go to the show without doing your assignment, think about your studies. Which is more important?

The person you save from flunking out might be yourself.

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