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KANSAS STATE COLLEGE

ing Student

MAY, 1958

Kansas State College of Agriculture & Applied Science



There are plans that I must draw.

Then let this timid hand of mine
Be guided, line for line,
With that steady, certain trueness
Of the Hand that planned
This universe.

There are materials I must choose.

Then let this casual mind of mine
Choose with the wisdom of the Mind
That fixed the substances
Of things like grass and trees
And mountain peaks.

There are decisions I must make.

Then let me make them with that sureness
That divided land and sea,
And day and night, the birds that fly
And beasts that roam the field.

I've a future I must build

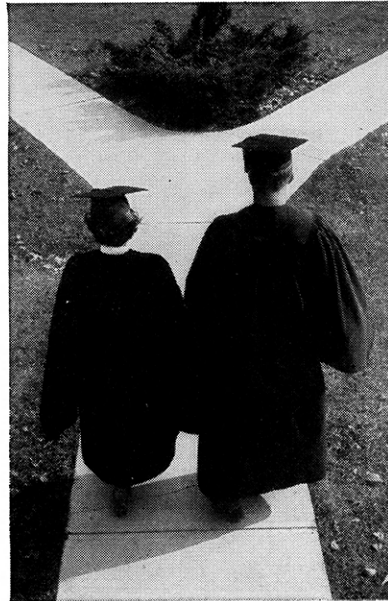
There's a determination I must have.

Then let me bind myself unto such things
As principles, and truth, and right
With that same permanence
That holds in their celestial places
The sun, and stars,
And all the heavens' gems.

I've a future I must build.

So, let me build it with such care,
Such tools, such wisdom,
And with such a rugged firmness,
That all the fiercest thrusts
Of host or elements
Cannot destroy it.

Aye, I've a future I must build . . .
Let me rise, then, to the task!



On the Cover

When someone mentions France everyone's thoughts turn to Paris, fashions, and champagne, with no thoughts going to the backbone of France: its agriculture.

Two Kansas State college students, Elin McCandless and Larry Greene, saw French agriculture from its grass roots by living on French farms as International Farm Youth Exchange students. Elin and Larry found that French people have the same problems and difficulties as we in this country pertaining to crops, prices, and living expenses.

The cover and the accompanying story on page 12 show many similarities of French agriculture to that of our own state of Kansas. Perhaps the cattle and sheep are of another breed and the wheat of another variety, but their main farm enterprises are centered around these three as in our own state.

The pictures on the cover could have been taken on practically any Kansas farm, but the French name on the harvester, and the beanie on the man is the only difference. Of course their farms are not as large as ours, since France is more thickly populated than Kansas.

Some people feel that wine production in France is important, which it is, but it is not one of the major commodities as wheat, dairy products, and corn are. The French wine is probably the best in the world and most of the grapes grown to make wine are in the southern part of the country.

The women in France play an important role in doing chores and even helping their husbands in the fields. It is nothing for a woman to work all day in the field and then cook meals for a large working crew.

Some American machine companies sell machinery there, but it is not the large machines we use in this country. Most of the farms are small and a large machine cannot be used in the small fields. Horses are used on many farms for the source of power, since many farms cannot afford to own a tractor.

French farmers are efficient in using all of the by-products of their agriculture. It is a known fact that the farmer with the largest manure pile at the end of the summer is probably the richest farmer. All of the manure is used as fertilizer, since most of the French soil has been used for agriculture a number of years.

This is the first in a series of articles about the agriculture of foreign countries. We hope by doing this we can create a better understanding of these countries.—Loren Henry.

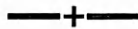


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Kansas State College AG STUDENT

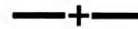
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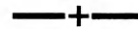
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Over the Director's Desk

By C. Peairs Wilson

Director of the School of Agriculture



Director Wilson

IN THE LAST issue of the Ag Student I raised four questions with respect to our curriculums in the School of Agriculture here at Kansas State college I should like to comment on those four questions here.

Is a student who has just graduated from high school and who has an interest in agriculture capable of choosing wisely among eleven or more specialized curriculums? If he can, there is no problem. If he cannot, there may be a problem. While it is true that the first semester or two of some of the curriculums are quite similar and a student may change curriculums without loss of time or credit, some are quite different and a change of curriculum might be done at some sacrifice.

There would seem to be some merit in keeping the first year or two sufficiently broad and fundamental so that a student may move into alternative areas of specialization without loss of time or credit. In other words, a high degree of flexibility in choice of specialization would seem desirable in the first year or two rather than to start in a specialization, closing the door to alternatives except at a sacrifice.

How far should the undergraduate curriculums in agriculture go in the direction of general education? The general faculty of Kansas State college has adopted certain minimum standards in terms of the number of

hours in certain fields. Not all the present curriculums in the School of Agriculture meet these standards. I am sometimes inclined to think that some of the students (and maybe even some of the faculty) in the School of Agriculture are more interested in setting up some hours that might "get by" rather than aspiring to a goal we might describe as "an educated man." To me this implies a high degree of proficiency in communicating by use of the written and spoken word, some acquaintanceship with the world's and nation's history, the most challenging philosophical thinking of the past, the best literature, music and art, an understanding of democratic government and political and economic principles and processes, and the role and responsibility of the citizen in a democracy. This may seem like a large order but if a college degree is to have significant meaning, these areas should be included.

Scientific Curriculums

How far should the undergraduate curriculums in agriculture go in the direction of basic scientific proficiency? If there is any justification for having a School of Agriculture, there is surely a responsibility for professional proficiency. This would include an understanding of the basic sciences underlying agriculture, in its broadest sense, as well as the application of these sciences to agriculture.

How far should the undergraduate curriculum in agriculture go in the direction of vocational specialization? Agriculture is a specialization. Plant Science is a further specialization. Horticulture is still a further specialization. Vegetable Crops is yet further specialization. This chain could be further extended. If the undergraduate curriculum includes (a) general education, (b) the basic sciences underlying agriculture in its broadest sense, and (c) the application of science to agriculture, it would seem there is a limit to how far specialization can go in a four-year undergraduate curriculum. It would seem that this limitation must be recognized and that if further specialization is desired or needed, a graduate program perhaps leading to a master's degree is needed.

It seems to me more attention needs to be given to keeping the undergraduate program broad and retaining for the graduate program the high degree of specialization. I am particularly concerned about developing a structure of specialized undergraduate curriculums, each of which leads to a specific job in today's highly specialized economy. There are simply too many jobs which would necessitate too many curriculums with too few students in each. This leads to high cost per student credit hour. If enrollments increase as expected, the pressure will be on to reduce cost per

(Continued on page 22)



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our catalysts are also proving useful in preparing many other new products.

Dr. Smith received his B.A. in 1951 from Tarkio College, Tarkio, Missouri, and his Ph.D. in physical chemistry from the University of Nebraska in 1955. He is married and has three daughters. He is active in church work and sports.

Hundreds of other young men with scientific and technical backgrounds are building successful careers at Standard Oil. Their work is helping to make important contributions to petroleum progress.

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Food Irradiation

Store Bread - - Live

by Ruth O'Hara

DOES IT stretch your imagination to conceive of a juicy steak or a fresh fish fillet, purchased in the grocery store, to be stored at home almost indefinitely, not in the refrigerator but simply on the pantry shelf? Such a remarkable advance in food processing is not yet an everyday reality, but, thanks to one of many peaceful applications of atomic energy, it may well come true. The sterilization of food and other consumer items by means of so-called ionizing radiations produced from radioactive elements is still in the research stage, but it will begin very soon to affect our everyday life.

How soon will depend on the findings of extensive research exploring these possibilities. Some of this kind of work is now being carried on in the laboratories of the Department of Flour and Feed Milling Industries at K-State.

Graduate students in cereal chemistry under the direction of Dr. Max Milner are investigating the effects of irradiation on the milling and baking properties of wheat. Just a few weeks before the Waters Hall fire last August, Mrs. Sing-Ping Lai, a Chinese

student now from Kansas City, Missouri, completed her master's thesis on research in this area.

Irradiation Process

For these irradiation experiments the wheat samples are sealed in one-pound metal containers and sent to an Atomic Energy commission installation near Idaho Falls, Idaho. Here the containers are loaded into a huge water-filled vat containing a column of radioactive materials that are by-products of nuclear power plants. Within the vats the wheat-filled containers are exposed to the penetrating gamma rays produced by these nuclear by-products. The dosage of radiation is specified in reps (roentgens equivalent physical), with 100,000 to 1,000,000 reps usually applied.

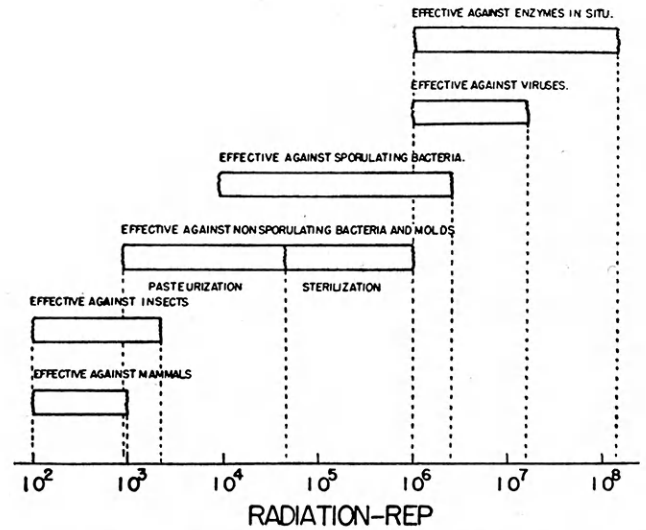
After being shipped back to K-State, the wheat samples are tested to determine whether this type of energy breaks down the proteins or changes the form of the starch in the grain. Some of the changes that occur appear to be similar to the breakdown of food products in the digestive tract. Tests are also made to deter-

mine how the other chemical components such as vitamins are affected. These K-State experimenters and others have found the dosages of radiation required to destroy insects, bacteria, molds, viruses, and enzymes in the wheat samples.

Irradiation can be used to kill insects in grain, but as yet other cheaper methods of deinfestation are more practical.

Through irradiation the wheat can absorb a great deal of energy, resulting in sterilization, without increasing the temperature. Furthermore, when the treated grain is protected by a wrapper which prevents microorganisms from entering, the grain will remain sterile indefinitely even at room temperature after a single treatment.

As the number of nuclear electric power generating facilities increases, more and more radioactive waste products will become available as a cheap source of the intense gamma radiation used in these experiments, and eventually for food processing. These waste products, or by-products of nuclear power production, are the new elements formed by the breaking



The amount of radiation needed to kill certain organisms varies with the smallest amount needed for humans and the most needed against enzymes. The amount is referred to as reps.

- - Fish - - Chicken

up of unstable nuclei of the atoms of heavy elements, such as uranium and radium. This decomposition of the nuclei or internal particles of the atoms is the basic source of radioactivity. Gamma rays are only one of the several kinds of rays produced, including alpha rays and beta rays.

Also used for irradiation are X-rays and cathode rays which are electrically generated by machines. However, gamma rays produced by waste radioactive materials are favored for most uses.

Problems of Irradiation

One major difficulty in using the strongly radioactive materials necessary for food irradiation is that they must be transported and maintained in heavily shielded containers in order to minimize the danger to personnel working with them. This difficult problem is primarily one of engineering and has been largely overcome. Nevertheless, the concrete, lead, or steel containers required to house radioactive materials are very expensive due to their bulk, weight, and complexity. It should be stressed, of course, that this problem of radio-

activity exists at the treating facility but does not occur in foods which have been irradiated. Many ingenious designs have been proposed for irradiation structures. A heavily-shielded facility to be built on a railway car which can be moved readily to any part of the country has been designed for food processing.

Use in Other Foods

Since irradiation experiments at K-State in the Flour and Feed Milling department have been exclusively on wheat, Dr. Milner states that "As yet we have found no changes in wheat caused by the irradiations which would lead to useful applications. However, the fact that so little is known about the effect of these radiations on wheat encourages us to continue our search."

Recent findings on irradiation of other foods would indicate the wisdom of Dr. Milner's perseverance. Foods such as beef liver, fish fillets, chicken, pork, carrots, broccoli, and beans can be sterilized by radiation with virtually no change in flavor and appearance. But some food products, notably milk, processed

meats, citrus fruits, cheese, and strawberries, develop undesirable flavors when irradiated to such an extent that they are virtually unacceptable from the taste viewpoint. A number of scientists are investigating the nature of the chemical and physical changes induced by radiation, and already means have been developed to cope with them. It is encouraging to note that irradiation, properly handled, produces no dangerous or toxic material in the food. In fact, some foods, such as fresh oysters, which formerly could not be distributed, except locally, or stored for any length of time will become widely available for the first time.

Foods partially sterilized by a light irradiation may be cooked for a shorter time than normally required for complete sterility, thus permitting them to retain better flavor, appearance, and nutritive value. In a similar way, small so-called "pasteurizing" dosages of radiation which cause no undesirable changes in flavor and texture permit frozen foods to be stored without change for a much longer time.

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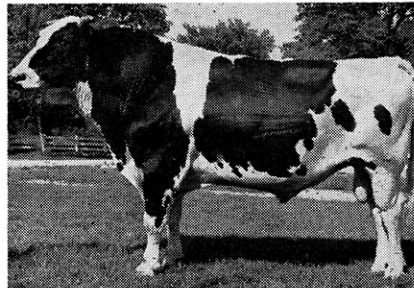
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Wheat Storage

by Lynn Perkins

STORAGE for this year's forecast bumper wheat crop may prove to be a problem for some farmers in the major wheat-raising areas of Kansas. Caught in a squeeze between last year's record crop of grain sorghums and this year's expected wheat crop of 2.3 million bushels of wheat, one of the highest in Kansas history, some farmers may be looking for temporary storage to tide them over until they can dispose of their grain.

It has been proved many times that when all costs are considered, grain can be more economically stored in commercial storage facilities than on the farm. This is not readily evident, since out-of-pocket costs are greater for commercial storage. Nevertheless "hidden costs," such as depreciation, taxes, spoilage losses, and interest charges on the investment, increase the cost of grain storage on the farm beyond the cost of commercial storage.

Regardless of the increased cost of farm storage of grain, many farmers may prefer to do so. The farmer who has decided to store his grain on the farm and does not have sufficient permanent storage to accommodate his crop is left with two alternatives: he may build new storage facilities or adapt existing buildings for temporary storage.

Temporary Storage

The most desirable of these two alternatives, from the cost standpoint, is the use of existing buildings.

Nearly every farm has several buildings that may be converted into granaries with a minimum of labor and expense.

Livestock sheds may be used satisfactorily with little conversion necessary. In preparing livestock sheds for the storage of wheat, the shed should be thoroughly cleaned of manure and bedding to destroy the hiding places of many insects. After the shed has been cleaned, a layer of plastic film is used to cover the floor and prevent barnyard odors from entering the grain. This type of shelter is quite sufficient for several months of storage.

Another farm building that may be easily converted to grain storage is the machine shed. If the shed has a concrete floor, the only conversion needed is to remove the machinery and sweep out the dirt. If the shed is of wooden construction, it may be necessary to follow an insect control procedure, but if the shed is metal, there should be little trouble with insects.

A silo may be used successfully for the storage of wheat, but it will require more work in readying it for use. A concrete floor will be needed, and extra brace rods will be required to enable the silo to endure the added strain. Also some type of roof will be needed.

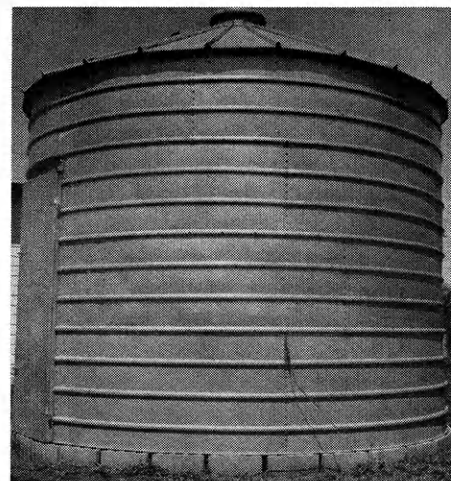
Another building that may be utilized is the horse barn. More insect problems may be encountered here, and some repair work will be required

to put the barn in shape for storage. It will have to be cleaned thoroughly and sprayed several months before harvest to get rid of insects.

There are many other buildings that may be used for storage, but only the more common buildings and those that may be converted relatively easily have been listed.

If the farmer prefers to construct additional permanent storage on his farm, he has a wide assortment of building materials, and many different plans from which to choose.

One of the most popular and least expensive types of permanent storage is the round-top steel bin. A bin can be purchased in sizes ranging up to 5000 bushels capacity. They may be erected for a cost of only 30 to 40 cents per bushel capacity, and are more portable than other types of



To provide permanent storage, a farmer can erect a steel bin for 35 cents per bushel.

permanent storage. Steel bins are prefabricated by several companies and are easily obtained and erected in all areas of Kansas.

Other Storage Buildings

There are many other types of buildings, both steel and wood, that are successfully used for wheat storage, but their cost of construction is almost invariably higher than for the round-top bin. All in all, the steel bin is more satisfactory for home storage of grain for several reasons. It is less expensive, more durable, requires less upkeep, and provides less refuge for insects.

Temporary storage can be obtained fairly easily on most farms whenever storage is needed for a short period of time. This storage is available with a minimum of outlay of money and labor and serves quite successfully.

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Professor F. W. Atkeson

Teacher

Judge

Leader

Showman

Sportsman



by Larry Odgers

YOU MUST stand tall, think tall, pray tall, and play tall if you expect to grow tall." William Danforth, for whom the K-State Danforth chapel is named, said this and firmly believed in it.

Prof. F. W. Atkeson must have believed in these words, too. Professor Atkeson grew tall in the eyes of the dairy world and educators.

He stood tall. If he believed in an ideal he stood behind it and used his voice to persuade others to believe in it.

Professor Atkeson thought tall. While other men were discussing a problem Professor Atkeson was pondering the solution. After the discussion Professor Atkeson would say, "Now let us stop and think for one minute." He usually had the answer to the problem.

Professor Atkeson prayed tall. When things got tough, he took time out to meditate for a few minutes.

Atkeson played tall. Hunting and fishing were his sports. He felt closer to life when he was on a river bank. Many of the achievements in his life were planned while fishing.

Professor Atkeson was well known throughout the nation as an accomplished dairy cattle judge. He was an official classifier for the Brown Swiss, Jersey and Holstein-Friesian breeds and had judged all breeds of dairy cattle.

Atkeson probably classified more cattle of different breeds than any other man in the United States.

He also has judged and classified cattle in South America. He was the official Brown Swiss judge at the 1956 National Dairy show of Colombia, South America. He judged and classified Holsteins at the 1948 Colombia, South America, show.

Before he became head of the K-

State Dairy department, Atkeson headed the dairy department at the University of Idaho. While he was there he was in charge of the Idaho university herd. Under his direction this college herd became famous as a show string and as a top-producing herd.

During his 14 years at Idaho he judged most of the state fairs in the

(Continued on page 18)

One of Professor Atkeson's last public appearances before his death was to receive the "Outstanding Kansas Dairyman" award, which was presented by Glenn Beck, Ag Experiment Station director, at the Dairy Progress days. Mrs. Atkeson also attended the event.



Agriculture in France

by Elin McCandless and Larry Greene

EDITOR'S NOTE: Miss McCandless and Mr. Greene were IFYE's to France last summer and were willing to write about their experiences there and how people of that country live compared to our own country. We hope to have other IFYE's write on the countries they visit.

FRANCE is a country of many cities and towns, of plains and mountains, of rivers and forests extending far in all directions. It is a land of over 43 million people—a land three times as large as the state of Kansas with twenty times as many people. The French, although separated from the U.S. by an ocean and a different language, have many things in common with us. One of the basic industries is agriculture.

We were privileged to live in France with farm families for four months last summer as International Farm Youth Exchange delegates. This program is designed so that farm youth from the United States can go to other countries to live and work with farm families, and rural young people from those countries come to the U.S. to see first hand the American way of life while living on our farms. This opportunity to learn another way of life by living it promotes understanding and appreciation of another country and its people. We would like to relate some of our experiences in relation to French agriculture.

Farming Major Occupation

Forty per cent of the French people live on farms and about a



Elin McCandless, right, works in the field with her host mother and sister hoeing and thinning beets. French homemakers play an important role in helping their husbands.

third of France's working population is engaged in agriculture.

When most people think of a foreign country and its farm machinery, they think of all horse-drawn and hand equipment. In France all types of machinery are available. They use mostly small tractors and implements because of the majority of small farms. Some of the farms have been handed down and divided between the sons for so many years that the farms are quite small and a tractor of any size would be too large and expensive to operate.

On the small farms, a number of the products are used right on the

farm so there is not a large income to support the upkeep and cost of new machinery. Many times there is no machine to do the job, so hand labor is the only choice. For example, the beets that are grown for livestock feed have to be planted, thinned and weeded by hand. Many times cabbage will be planted in seedling plots and then transplanted into the fields by hand.

Implements Small

There are two American tractor companies in France besides the three or four French companies. These

companies make only the small-size tractors and implements. If a farmer desires a larger piece of machinery he must make a special order or buy an imported one.

Dairying is important in France. The herds vary in size from 12 to 50 cows. The cows are kept in pastures a short distance from a village, since most farm homes are in the villages. Two of the more common breeds are the French Frisonne and Normande. The first breed is similar to the Holstein-Friesian. Artificial insemination is used quite extensively, with one service costing about \$3.50.

Milking machines are quite common in France. Hand milking is still used on the small dairy herds. The whole milk is sold to a co-operative to be made into cheese, butter and other dairy products. There are some 200 different kinds of cheese manufactured. Milk, as a general rule, is not used as a beverage except for hot milk and coffee for breakfast.

The dairy barns are usually cleaned twice a day and the manure and straw are put on a compost pile near the barn. In the winter the compost is used for fertilizer.

Wheat Major Export

One of the major exports of France is wheat. It is a soft-kernel grain that is quite low in milling quality, and is mixed with imported wheat to raise the quality.

France's wheat is about the same size as ours, with a longer beardless head. The yields average 10 to 20 bushels per acre higher than in the United States. The Chapell variety is the favorite; however, experiment stations are testing new varieties, bearded and unbearded, with the emphasis placed on milling quality, protein content and non-lodgers.

Self-propelled combines are used for harvesting. The grain is sacked rather than bulk handled.

In central France is the forestry and pasture area where the beef cattle belt is located. The only breed of beef cattle in France is the Charollaise. It is a large white animal that can be raised and fattened in three years as economically as we can fatten an animal in two years. Their maximum weight is around 1000 pounds.

When the animal is sold the price is about double the price we receive, accounting for the large amount of veal eaten. The veal is produced from dual-purpose animals.

Because the beef, pork and lamb are expensive, practically every farm has rabbits, chickens, geese, ducks and turkeys to supplement the meat in their diets.

French women play important roles in the agricultural life. Many times it is the women's work to milk, take care of the hogs and chickens, and do other farm chores. It is not unusual to see a woman working with her husband in the field, shocking wheat sheaves and hoeing a field of beans or potatoes. During the war, the women were particularly courageous and helped keep the country going when so many of their men were prisoners in Germany.

Production of Wine

Wine production is another important industry in France. Wine is produced both commercially and on the farms. The grapes for wine will be larger and more flavorful, while those for champagne will be smaller and more delicately flavored. The grapes for wine are picked in September and October.

The making of wine is sometimes done on the farms, but more often the farmer sells the juice to a co-operative or other business establishment. Farmers get their wine for everyday use from the co-operative for about 15 cents per quart.

The grapes for making champagne are grown mostly in the northeastern



Pitchfork size bales of straw are piled close to the barns, since much of it is used for bedding and for starting compost piles.

part of France. A vineyard will last for about 40 years. Each year the vines are sprayed and pruned. After 40 years, the vines will be taken out and the land will be planted to alfalfa or clover for approximately 10 years. After this time, the grape vines are planted again.

France is not the most modern nation as far as farming is concerned. There are a number of people to feed from such a small area. The farmers have an intense agriculture and much of the time their production rates are higher than that of ours. Perhaps we should look and learn from their producing abilities instead of pushing off onto them our modern equipment that they cannot always use.

Draft horses are a favorite tractor substitution on French farms when the farms are too small to support a tractor. The two-horse-in-line method of hitching is used somewhat.



"Vets" Gain Valuable Experience Through the

Ambulatory Clinic

by Ed Swiercinsky

THE LACK of facilities to care for sick animals 24 hours of each day has brought about the establishment of an ambulatory clinic in the School of Veterinary Medicine at Kansas State college. The function of this clinic is to care for animals that for many reasons are unable to

be brought to the veterinary hospital.

Some animals are too sick to be moved, large numbers of animals often are more economically handled on the farm, and during harvest and planting seasons the owner often is too busy to bring the animal to the hospital. According to Dr. W. H.

Hay, assistant professor of surgery and medicine, this clinic cared for more than 11,000 cases last year.

Here at Kansas State college there is no definite division in personnel in the large animal hospital clinic and the ambulatory clinic. There are five clinicians available for these combined services. The aims of both clinics are the same, but often the methods are considerably different. The methods may be very different on the farms where the lariat rope and various restraining techniques often become necessary. There are no operating tables on the farm, and there is a constant sanitation problem in performing surgical operations in either mud or dust.

One of the routine jobs of the ambulatory clinic is to test dairy cows for tuberculosis required by the Manhattan Milk shed. From left, Dr. W. H. Hay, Don Pohlman, Bob Parker.



Clinic as Class Work

In the ambulatory clinic each clinician has a group of five or six senior students and a college-owned car. This clinic is held from 1 to 3 p.m. each day except Sunday, but often due to the work involved and the distances traveled, these groups will not get home until after dark.

The ambulatory clinic has two main purposes. Foremost is the teach-

ing of future veterinarians. Every attempt is made to let the student examine the animal, arrive at the diagnosis, decide what treatment should be used, and administer that treatment if it is practical. The practicability of the treatment may be influenced by many factors. Is the economic value of the animal worth the cost of the treatment? Does the animal have a chance to live and if so will the animal be more valuable after the treatment is administered and the animal has recovered? Even if the treatment is economically advisable, it may not be immediately available, and a substitute treatment must be used.

Interns Render Service

The second purpose is to render service to the client and patient. Although every attempt is made to schedule the work during clinic hours, there is someone available for emergency work at all times of the day or night.

During the school year the clinic has a rotating intern system. Senior students are on duty from 5 to 10 p.m. Their duty is to treat cases that

require additional therapy and to assist in any emergency cases or ambulatory calls.

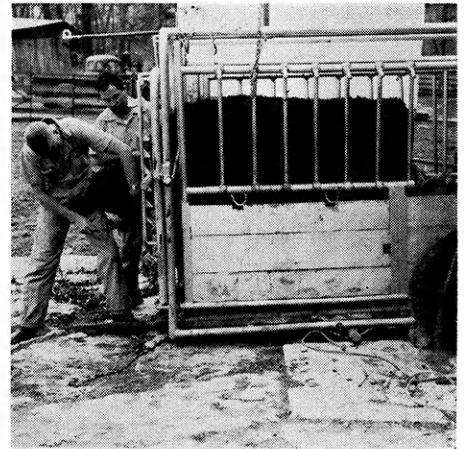
The clinic is responsible for the health of all college-owned livestock and also has a practice area of about a 12-mile radius.

Cases Treated

Of the 11,000 cases treated, more than 9,000 of these were cattle. There were about 1,500 head of cattle tested for tuberculosis and nearly 1,300 head tested for brucellosis. There were 770 pregnancy determinations, 160 ovariectomies (spaying), and about 250 sterility examinations.

Besides the automobiles, the clinic has three portable cattle chutes that are moved to the farms for routine work. Before the first chute was purchased (about 1946) an animal to be dehorned was tied to a fence or thrown to the ground. More than 900 head of cattle were dehorned last year. Most of this work was done in portable chutes, as was much of the other work. It is difficult to realize how the clinic got along without the use of these chutes.

Dr. Hay emphasized the fact that a large per cent of the clinic's work



These vet students, Bill Ogborn, left, and Don Fitzgerald test a cow for brucellosis.

deals with preventive medicine. Most of the testing programs are designed to detect and eliminate disease in a given herd or area. A few of these tests which are routine to the clinic include tuberculosis, brucellosis, leptospirosis, and mastitis examinations.

Some of the immunizations administered are blackleg, brucellosis, and leptospirosis in cattle; hog cholera and erysipelas in swine; and Equine Encephalomyelitis (sleeping sickness) in horses.

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New Conservatory

Serves Horticulturists

by Harlan Forslund

EXOTIC plants in the Kansas State college conservatory were enjoyed by over 150 people during the first two weeks after its opening on March 29, 1958. The visitors came from Turkey, England, Philippines, and 11 of the 48 states. The Colorado State university flower judging team also visited the conservatory.

Many Various Plants

Among conspicuous plants to be seen on a tour through the conservatory are the banana plant, wild ginger plant, ferns, red and blue passion flowers, bougainvilleae, crown of thorns, croton, hibiscus, rubber plant, and a large cactus collection, including a grafted cactus. The conservatory is the home of commencement decoration committee's plants which include many palms and fig trees. Several orchids have recently been added to the orchid collection. Other plants are planned for the conservatory. Just recently some conservatory plants from the U.S.D.A. bureau of plant introduction at Glendale, Maryland, were received for eventual display.

The opening of the conservatory is of special significance to many students at Kansas State college: the conservatory serves the botany and horticulture student in a manner similar to that served by a natural museum to the biologist and zoologist. The open conservatory provides the plant science student an opportu-



Many exotic plants can be observed in the conservatory. Among them are a banana tree, wild ginger, ferns, rubber plant, a cactus collection and different types of flowers.

nity to become familiar with many exotic plants that he otherwise could not have observed.

Plants Are Featured

The conservatory is open from 10 a.m. to 4 p.m. every day. A different plant is featured each week. Many times the featured plant is of special interest to everybody. The palm and Easter lily were featured the first two weeks because of the association of these plants with Palm Sunday and Easter.

Dr. Ray Keen, associate professor of horticulture, is in charge of the conservatory. Two laboratory classes and Horticulture club members assisted in preparing the conservatory for opening. One horticulture student takes care of the orchids as a hobby, since orchids require quite

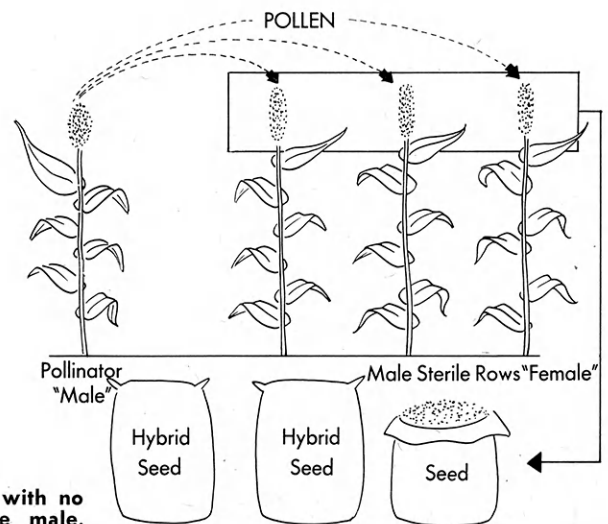
different care from other plants in the conservatory. Horticulture students propagated the free souvenir plants for high school and grade school students. It is hoped the conservatory will create more interest in plants and plant science and encourage some students to study horticulture and botany at Kansas State college.

Future Additions

Future improvements are planned for the conservatory. The bench over a small pool is to be removed and day-blooming water lilies will be grown in the pool. All the plants are to be labeled. As plants are added to the collection and improvements made, a tour through the conservatory should be even more enjoyable and educational.

Hybrids vs. Certified Grain Sorghums

by Richard Vanderlip



To get hybrid seed a female plant with no pistil is pollinated by a desirable male.

DO YOU have an 80 that you are thinking about planting to grain sorghums? Perhaps you are wondering what all this hubbub about hybrid varieties is. If so this may be of interest to you.

The 1957 grain performance tests, under the direction of Prof. A. L. Clapp, show that on the average the hybrid sorghums outyielded the standard varieties 30 per cent. The grain in these tests, however, was hand harvested at the proper time. "It is probable more lodging would have occurred in the hybrids than in such varieties as Westland or Midland if the crop had been left until it could be harvested by machine," Clapp said.

Disadvantage of Hybrids

Figures from the State Board of Agriculture show that only 11½ per cent of the 1957 sorghum crop was hybrid. Why, then, with the seemingly great advantage of yield, have the hybrids not replaced standard open-pollinated varieties?

The principal disadvantage to hybrids is that some varieties lodge badly. However, not all of them do.

Also, there is quite a spread in the price of hybrid and open-pollinated seed. The higher cost of seed should not be a limiting factor in planting hybrids, as the rate of seeding is so low that seed cost per acre is a small part of the expense compared to the returns.

Hybrid Seed Production

The higher price is due to the difficulty of seed production. The hybrid seed is the result of cross-pollinating a male-sterile parent and a normal parent. Risk and uncertainty of producing the hybrid seed is great. Male and female plants must bloom at the same time. Since the male-sterile plants, from which the seed will be saved, depend entirely on other plants for pollen, any other sorghum plant can contaminate the seed.

"We expect hybrids to replace open-pollinated sorghums much the same as hybrid corn took over the corn field, except much faster, because the change to hybrid corn has been so successful," Tom Roberts, assistant secretary of the Kansas Crop Improvement association, stated.

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Professor Atkeson

(Continued from page 11)

Rocky mountain and Pacific coast areas. He was an official judge at the Pacific-International show and also judged at the Canadian Pacific Dairy show at Vancouver, B.C.

Although he was famous for his dairy cattle judging, he was equally well recognized for his leadership in organizations. Professor Atkeson was one of the founders of the Purebred Dairy Cattle association. After the national association was established he proceeded to organize the Kansas Inter-Breed Dairy council. Many state inter-breed programs are patterned after the Kansas organization.

The Kansas Artificial Breeding

Service Unit was another of Professor Atkeson's unique contributions. The Kansas unit is one of the few self-supporting, non-profit, college-owned artificial breeding service organizations. Atkeson's sole idea was to improve the quality of dairy cattle in Kansas.

Atkeson was a teacher. Seldom a day passed but what someone somewhere profited by his teachings. He taught while in the judging arena, in his office, at a social function, and in his classroom. He taught his dairy seminar class zealously. He graded all of his test papers, and taught all the courses that time would permit him.

He taught not only dairying in his class but grammar, spelling, speaking and thinking.

The first assignment in any of his

classes was to learn to spell his name and that of each of the dairy breeds.

When Professor Atkeson made a statement, the student usually remembered it. Not because the student thought it necessary, nor because "Prof" said to remember it. But when "Prof" made a statement it was remembered.

Professor Atkeson was a great fisherman and game hunter. He welcomed the invitation to judge at one of the Rocky Mountain or Canadian shows, giving him an opportunity to do some deer or antelope hunting.

Judge, classifier, organizer, educator and sportsman, a small-built man with a big heart and individuality. Atkeson will be remembered for his spotted bow ties, his pipe, his wit, and his many friends in all corners of the nation.

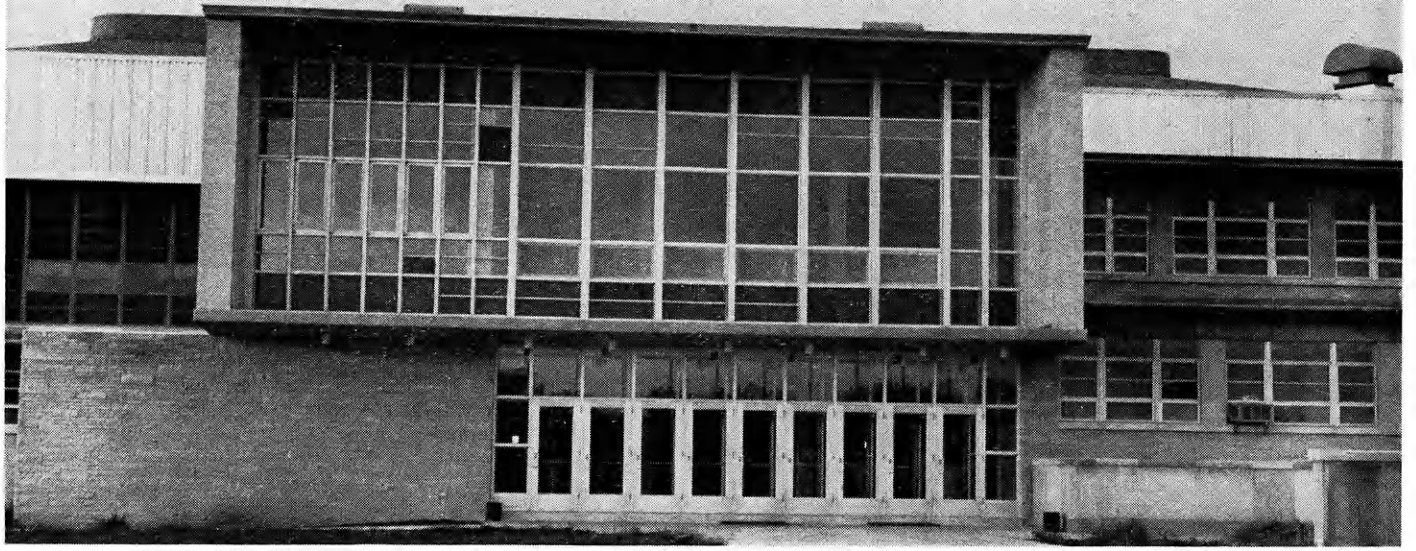
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HOME OFFICE
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New Home of Animal Husbandry

by Hal Ramsbottom

KANSAS STATE college's new \$1,250,000 Animal Industries building or "The Cow Palace," as it is sometimes referred to, is a dream that came true. This building that stands at the extreme north end of the campus houses the animal husbandry department.

For many years the department has been handicapped by a lack of facilities to compare with other colleges. Such a building has been in the talking stage since World War II but has now become a reality. Now it will be possible for extended research work and more graduate work can be offered.

Contrary to the opinion of some, this building will serve more people than other campus buildings. In addition to daily classroom work the building will serve the livestock industry of Kansas in many capacities such as Feeders' Day, type conferences, breed association sales, and various judging events.

One of the most striking features of the structure is its spacious arena, which is 80 feet by 200 feet, with a floor of red tanbark eight inches deep and a seating capacity of approximately 4,000. The arena appears much larger from the inside than from the outside. Pens for livestock and two wash racks are located under the seats behind the arena.

The arena will no doubt be used on various occasions for other campus activity. Just recently, Louis Armstrong and his band played a concert there sponsored by the Jazz club, and

the 30th Annual Little American Royal.

One of the most practical aspects of the building is its model packing plant. A modern, well-equipped killing floor with equipment similar to that used by large packing establishments makes this plant the last word in college meats facilities. Three well-arranged coolers as well as smoking, curing, and processing rooms are available when needed. Tracks have been assembled so that a carcass can be brought to the classroom directly from the killing floor or cooler to be used in class discussion or demonstrations.

This plant will be available to farmers or anyone wishing to have animals slaughtered and processed at a reasonable charge. These animals will be slaughtered and processed by the students as a part of their training in meats. With these facilities the meats department can offer its students the latest in meats training and research.

A nutrition laboratory behind the east end of the arena is also included in the structure. There are six stanchion-type stalls where various digestion trials will be performed and the results made available.

The faculty and extension specialists' offices are located along a runway on both upper and lower floors connecting the lobby and the classrooms. A conference room is at one end of the runway and a graduate study room at the other end.

There are seven large classrooms

located on the two floors. A small yet adequate auditorium seating approximately 300 is located on the southeast corner of the first floor. This auditorium will be used for talks, conferences, and on various other occasions.

Just inside the main entrance is a large lobby where trophy cases are displayed. These awards represent the winnings of former livestock, wool, and meats judging teams. A bulletin board is also located in the lower lobby. The second-floor lobby houses the Block and Bridle reading room. The reading room has a complete library of various breed magazines, papers, records, and yearbooks.

The dedication and presentation of the building to the college and to the animal husbandry department by McDill Boyd, chairman of the Kansas State Board of Regents, highlighted this year's 45th annual livestock Feeders' Day program, May 2 and 3.

The building is constructed of native limestone, except for the arena, fitting well into the campus pattern. It is the last word in modern design and architecture.

This structure will stand as a monument to those of the past who have devoted their lives to the improvement of the livestock industry of Kansas and should serve as an inspiration to those of the present and of the future. It is believed that these facilities will be able to accommodate the expected increase in enrollment of the future.

In the

Aggies' World

by Gary Sullivan

Van Horn Wins Fellowship

JACK VAN HORN, DH Sr, has received an \$1800 fellowship for graduate study in dairy husbandry.

The announcement was made by R. C. Morton, educational director at the Ralston-Purina company, St. Louis, Missouri.

Van Horn intends to do his graduate study in dairy cattle nutrition here at K-State.

Ralston-Purina awards ten fellowships to outstanding undergraduates studying in various fields of agriculture and veterinary medicine.

Van Horn also received the Borden Dairy award this year for the agricultural student with the highest grade average who has carried two or more dairy courses.

During his first three years of college Van Horn has maintained a 2.87 grade average.

College Judging Contests

Departmental clubs are sponsoring various judging contests for K-State students this spring.

The Block and Bridle club is sponsoring a livestock contest May 10, meats contest May 9 at Wichita, and wool contest May 6.

May 17 is the annual crops judging contest sponsored by the Klod and Kernel Klub.

GSD Initiates 38

The Kansas State college chapter of Gamma Sigma Delta, national honor society in agriculture, initiated new members at their annual banquet April 15 at the K-State student union.

New agriculture student members are Russell S. Adams Jr., Carl Dean Alexander, Donald D. Argabright, Earl E. Baugher, Reinhart B. Billiar, Arnold L. Bollenbacher, Orlan H. Buller, Earl E. Christy, Edward W. Combs, Leo L. Cram, Robert M. Dixon, Phillip L. Doctor, Wilbur J. Dunavan, Richard C. Frohberg, Moustafa A. Galib, Theodore J. Goering, Paul H. Hatfield, Jack F. Kersting, Norman V. Keyse, Janver D. Krehbiel, Harold J. Macy, Vernon R. McMinimy, Martin M. Meyer Jr., John R. Milton, Clinton F. Peirce, Lynn L. Perkins, Dale L. Reeves, Darrell T. Rosenow, Ray R. Schooley, Charles M. Schroeder, Elson F. Seitz, Gad Shefet, Mikel L. Stout, Therean L. Towns, Thomas W. Townsend, Terry N. Turner, Max A. Urich, Harold H. Van Horn Jr.

Speaker for the banquet was Dr. Henry L. Ahlgren, associate director of extension at the University of Wisconsin.

Ag Association Elections

Bryan B. Barr, AH Jr, was elected president of the Agricultural association at a recent Agriculture seminar.

Ronald Schultz, AH Jr, was elected vice-president. Ben E. Brent, AH Jr, won over Thurston Thiel in a race that called for a recount for secretary. Loy D. Reinhardt, AH Jr, was elected treasurer.

D. E. Glenn, DM Jr, won the position of Ag Week manager on a write-in vote. Glenn had a total of 366 votes of the 605 votes cast for the office.

Ronald McCune, AEd Soph, beat out write-in Loren Henry, AgJ Jr, for the assistant Ag Week manager.

KABSU Gets New Manager

New manager of the Kansas Artificial Breeding Service Unit is William J. Collins who replaced Earl L. Farmer.

Collins has been recently associated with the Northern Illinois Breeders' Co-operative and the Mississippi Artificial Breeding Association. Before coming to K-State, he was associate county agent in Teton county, Montana. He received his B.S. degree in dairy production from Montana State in 1948 and his M.S. in animal breeding from Cornell University in 1950.

Farmer has been given leave of absence to do graduate work at the University of Wisconsin.

Soils Judging Contest

University of Nebraska student soil judges took first place in an intercollegiate contest sponsored by the Kansas State College student section of the American Society of Agronomy.

This contest, the first of its type, was an experiment to see if a soil judging contest on a collegiate level is practical.

The University of Minnesota team was second. K-State entered a four man team, but the students did not compete for awards because of their familiarity with the area.

Presentation of awards was made at a banquet at the K-State Union.

Stainless Steel

Wins New Place as Tableware

Low Cost

Different Colors

New Designs

by Mary Jo Mauler

STAINLESS steel is now winning a new and respected place in the American home. This new place is being obtained by the new design in elegant patterns as well as being very durable and never tarnishing.

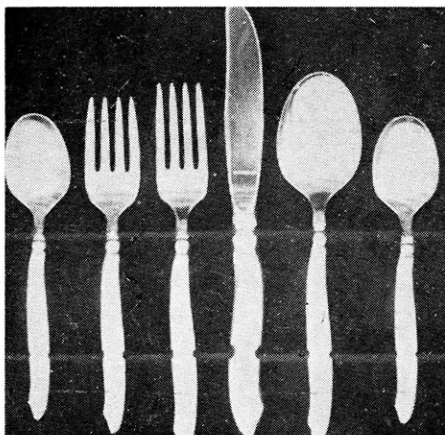
Introduced in 1928

Stainless steel has made many advances since it was first introduced in 1928. At this time, it was made to sell at low prices and as a result, the wearing quality was poor. The making of stainless steel tableware is quite expensive and difficult. Since it is such a hard metal to work, the costs of manufacturing are higher.

Alloys Added

The low cost of steel as compared to the higher price of silver makes it possible to buy luxury stainless steel tableware for about the same price as luxury silverplate. Chromium is added to make the material stainless. When nickel is added, the stainless steel is made more stainless. This addition also makes for a deeper color and a more beautiful finish.

Stainless steel is not being made to imitate silver tableware; however, today it is developing a beauty all its own and a contemporary design,



Stainless steel tableware is made in many different designs and with some variance in color that does not copy silverware.

which is leading to great popularity. The simplicity of stainless steel has led to its use for modern table settings, and has set it apart from all other tableware.

Does Not Tarnish

Besides its simplicity of design, stainless steel is resistant to corrosion and has contributed much to its added use. It will stain when left in prolonged contact with strong food acids, but if washed shortly after use, staining is unlikely.

When buying stainless steel, a homemaker should look for flaws and discolorations in the workmanship of the piece, as well as consider the beauty of the design. Some of the pieces have new shapes and depths which are considerably different from those of traditional pieces. It would be wise for the homemaker to handle all the kinds before making a choice.

Color and Pattern Varies

The color of the stainless steel may also vary from a lighter to a darker silver and from a yellower to a bluer steel color. The knife blade may differ in color from the handle and other pieces due to the use of a different alloy in the blade. Hollow knife handles may be used as a sales point and while they may affect the feel, the weight, the balance, and the appearance of the knife, they are not significant otherwise.

The homemaker should also see whether the pattern she has chosen comes in sets, place settings, or "open stock." Open stock means that pieces may be purchased individually and that other pieces other than those included in the sets, such as serving pieces and beverage spoons, may also be purchased.

Director's Desk

(Continued from page 4)

student credit hour. Furthermore, I feel we should resist pressures to prepare students for specific jobs for specific private industries. Most private industries expect to give on-the-job training to new employees, anyway.

If we can make our programs sufficiently basic and fundamental so that the graduate will have the resources to adapt to the situations in which he is likely to find himself, we will have done a good job. In our dynamic economy, no job is likely to remain static for very long. A student who has too high a degree of specialization along specific job lines and without the resources to adapt to new situations is likely to find himself, within a short period of time, in a situation where he doesn't fit.

I should like to return to a consideration of the undergraduate program, the graduate program, and specialization. Some 40 years ago when our extension and vocational agriculture programs were getting under way, a county extension agent or teacher of vocational agriculture was considered to be adequately prepared if he had successfully completed an appropriate four-year curriculum with a Bachelor's degree. With the relatively small proportion of the general population who had a high school education, let alone a college education, the extension agents and Vocational Agriculture teachers undoubtedly were prepared to transmit new knowledge and techniques to their clientele.

General Education Required

Considering the facts that (a) nearly all our youth now complete

high school and 40 per cent enter college, and (b) farming has become a much larger business enterprise and much more scientific in nature, there is real question as to whether four years of college work will adequately prepare the Vocational Agriculture teacher or the extension agent for his job in the future. The student preparing for these lines of work needs the general education, the basic sciences underlying agriculture, the agriculture and also the educational methods and the sciences underlying these methods (psychology, sociology, etc.). Perhaps it is time to move to a higher plateau and recognize that a fifth year (a dual degree or an M.S. degree) is necessary in order to acquire the needed professional proficiency for these positions. This same line of reasoning may apply to other areas as well.

Out of the Classroom

Looking down at the sick man the doctor decided to tell him the truth.

Doctor: "I feel I should tell you that you are a very sick man. I'm sure that you would want to know the facts. Now, is there anyone you would like to see?"

Bending down toward his patient the doctor heard him feebly answer:

Patient: "Yes."

Doctor: "Who is it?"

Patient: "Another doctor."

I once knew a man named Fesser
Whose knowledge grew lesser and
lesser

It at last grew so small

He had no smart at all

And now he's an engineering professor.

Bus driver: "So you are only five?
When will you be six?"

Small boy: "As soon as I get off
the bus."

"Mommy, what's a vampire?"

"Shut up and drink your blood."

Jimmy's mother, a believer in the be-a-little-gentleman-and-don't-fight school of upbringing, was trying to instill this noble outlook into her pugnacious son. "Jimmy, when that naughty boy threw stones at you, why didn't you come and tell me instead of throwing them back?"

"What good would that do?" snorted Jimmy. "You can't hit the side of a barn."

Student Nurse: "Every time I bend over to listen to his heart, his pulse rate increases alarmingly. What should I do?"

Doctor: "Button up your collar."

"Do you know," said the young, newly graduated student to an old farmer, "that your method of cultivation is a hundred years behind time?" Looking around he remarked: "Why I'd be surprised if you made a dollar out of the oats in that field."

"So would I," said the farmer, "it's barley."

First bride: "Does your husband snore in his sleep?"

Second bride: "I don't know, we've only been married a week."

Then there was the geologist who had the hobby of collecting stones and keeping them in his bathroom.

He had rocks in his head.

A group of prohibitionists looking for evidence of the advantages of total abstinence were told of an old man of 102 who had never touched a drop of liquor. They rushed to his home to get a statement. After propping him up in bed and guiding his feeble hand along the dotted line, they heard a violent disturbance from the next room—furniture being broken, dishes being smashed, and the shuffling of feet. "Good heavens, what's that?" asked the visitors. "Oh," whispered the old man as he sank exhaustedly into his pillow, "that's Pa drunk again."

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
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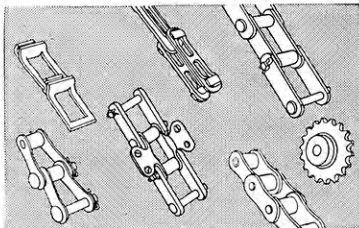
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and this  means
the best in chain

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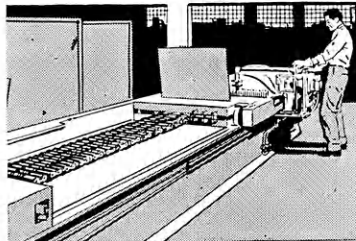
And on over 400 leading makes of farm equipment, Link-Belt is the chain specified. By giving designers the correct answer for any combination of requirements—strength, load, hp, speed—this complete line offers unmatched flexibility in applying chain to modern machines.

Since 1875 Link-Belt has worked with America's agricultural engineers to increase the efficiency of farm machinery. Then as now, the Link-Belt trade-mark  identifies the best in chains and sprockets.

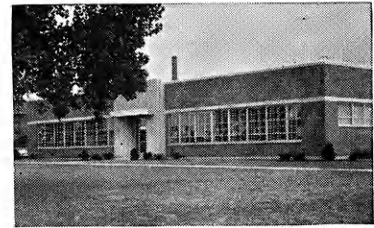
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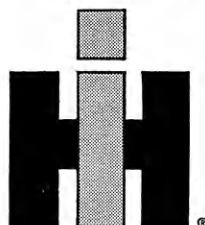


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