

Kansas State College
AG STUDENT

v. 32:2

DECEMBER

1955



Season's Greetings



Christmas is a thousand things.

It's a winter's night, and an angel song . . . a giant star, and a tiny stable . . . a manger, and straw, and swaddling clothes.

Christmas is a chime . . . a boy soprano, and *Silent Night* . . . carolers, and *The First Noel* . . . the tinkle of a bell on a sleigh, of a coin in a cup.

Christmas is Dickens, and Scrooge, and Tiny Tim. It's holly on the door, a candle in the window . . . the scent of pine, and the sparkle of tinsel.

Christmas is red and green, and blue and silver. Christmas is white.

Christmas is cards, and ribbon, and tissue paper. It's a trip home, an open latch, and a handclasp. It's giblets, and biscuits . . . cranberries, and mince-meat pie.

Christmas is cold and warmth . . . forgiveness, and a smile.

Christmas is a prayer . . . a renewed plea for an ancient hope . . . *For Peace on Earth, Good Will Toward Men.*

Copr. John Deere, Moline, Ill.

JOHN DEERE

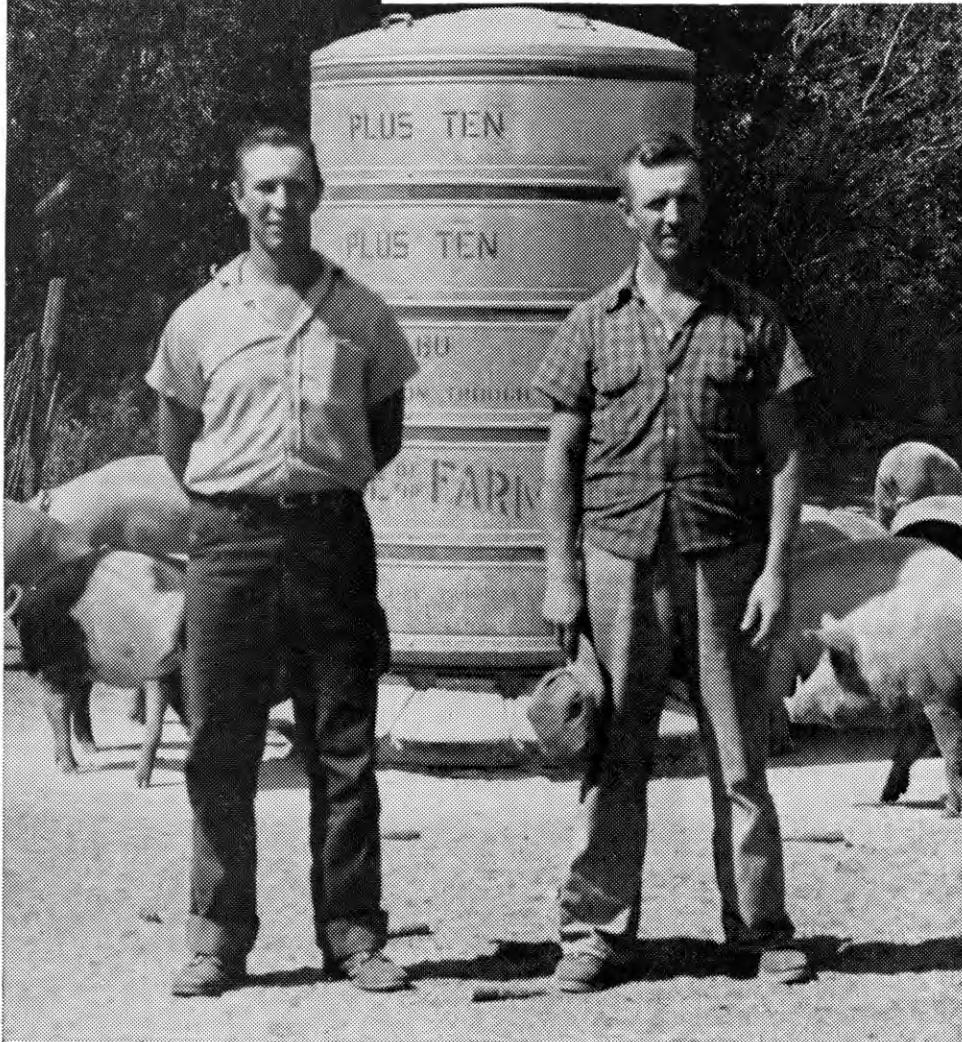


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"Total feed cost to market 749 Spring and Fall Pigs only \$8.60 a 100 lbs. pork"



Donald and Verne Long, with their father, farm 640 acres. Last year they had 159 acres in oats and 247 acres in corn. As an indication of the accuracy with which they keep their records, last year on the final audit by the University of

Minnesota only 78 bushels of grain could not be definitely accounted for out of a total crop of 21,305 bushels. MoorMan's congratulate the Longs on an excellent job of profitable pork production.

"When we tell folks our feed cost to produce pork is less than \$9.00 a hundred, some of them are, frankly, skeptical. But we're certain of the accuracy of our figures," say Everett Long and sons, Donald and Verne, Pipestone County, Minnesota. "We belong to the Farm Management Association of the University of Minnesota, and our books are audited regularly by them. Those audits make us account for every dollar of income and expenditure.

"Our pig and hog feed is mostly home grown. But we supplement it with MoorMan's Mintrate*. We figure the mixture of minerals, vitamins and proteins in Mintrate unlocks more of the growth-power in home-grown feeds and, as a result helps them produce more pork.

"Now as to production costs: In 1953 we marketed 316 Spring pigs. Our total feed cost was \$8.42 a hundred. Our 1954 Spring pigs cost a bit more for feed.—344 head had an average feed cost of \$8.91 a hundred. We only raised 89 Fall pigs in 1954 and the average feed cost for them came to \$8.48 a hundred.

"Here is the exact cost of that 89 head of Fall pigs, taken directly from our record book: Oats, 253 bu. at 65c—\$164.45. Corn, 671 bu. at \$1.40—\$939.40. MoorMan's Mintrate for Pigs—\$192.51. MoorMan's Mintrate 45 for Hogs—\$279.85. Dried Milk—\$49.70. Alfalfa hay—\$2.00. That adds up to \$1627.91—our total feed cost to produce 19,200 lbs. of pork.

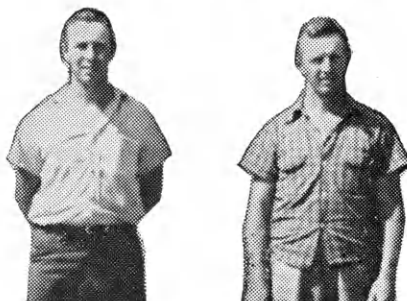
"Because most of our ration was our own home-grown feed, our out-of-pocket cost was only \$2.72 a hundred."

Thousands of hog raisers, like the Longs, will tell you that a Mintrate ration is the best way to make a profit from hogs—even on a low market. For MoorMan's Mintrates are more than just "feed." Mintrates are concentrated concentrates; put together in such a way that they help hogs literally wring more nutritive value from home-grown feeds—help produce rapid, economical low-cost gains.

If you believe your feed costs can be lowered—better see the MoorMan Man. He'll gladly show you how a Mintrate ration will help you make better use of your home grown feeds—give you lower production costs and faster gains. If a MoorMan Man doesn't call soon, get in touch with MoorMan Mfg. Co., Dept. 0612, Quincy, Ill. for complete details.

"We believe ours is an economical, money-making ration"

—SAY THE LONGS



"We figure, for our 1954 Fall pigs, that we used 2.8 bu. of oats per hog and 7.54 bu. of corn per hog. We put this lot on the market when they averaged 5½ months—at an average weight of 215.6 lbs. each. We give a lot of credit to Mintrate for our low-cost gains. Even though we hit a low market with this bunch, we were still able to make a good profit from them."



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"300"

THE KANSAS *Agricultural Student*

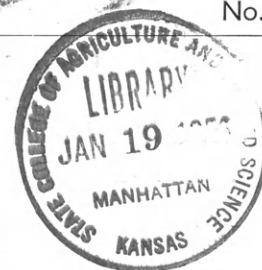
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December, 1955

No. 2

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We can forget some of the disagreeable things about winter when we get up some morning and a 'Christmas card' world greets us when we step outside. A freshly fallen snow, clinging to even the bare limbs of the trees, hides much of the drabness of winter.

Such a snow was this one that greeted all eager photographers late last winter. We had one or two pictures of that snow in our files but none seemed to fit the idea we had in mind, so we imposed, as usual, on our friends in the print shop and as usual they came through when we needed help.

This particular scene was recorded by Glenn Rice, KSC pressman. We thought he might have this particular picture available, as we have been on enough picture taking expeditions with him to know that he wouldn't pass up such an opportunity as this one. He hadn't, and came through with this beautiful scene of winter on the campus, although the campus can scarcely be recognized under this mantle of snow.

Our thanks to Glenn for being such an alert—and cooperative photographer. And a Merry Christmas and a prosperous New Year to all our readers.

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A Merry Christmas all year . . .

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The Kansas Crop Improvement Association

MANHATTAN, KANSAS

Chit Chat

By Clyde W. Mullen, Assistant Dean



Dean Mullen

THESE LINES are being written on Veterans' Day, November 11. They are intended to highlight service experiences of lads whose memories we revere on Veterans' Day. The experiences of Bill Winner are little different from the experiences of any man in World War II.

The following paragraphs are lifted from a News Letter we sent to men in the service during World War II. It began with a circulation among a score of lads—all Sears scholarship holders. We said to those first on the mailing list, "Show this letter to any lad who may be interested and tell him the way to get on the list is to drop us a line."

Four years later we were mailing to nearly four hundred service men out of the School of Agriculture. News of hundreds of lads was spread across its 250 mimeographed pages. Sixty-two of those names were finally listed on our Gold Star Honor Roll. Finis for them—gallant, beloved, remembered.

The following paragraphs will read almost exactly as they appear in the News Letter with quotes when we are, indeed, quoting from a letter. Only essential lines are lifted from each paragraph. Now, transplant yourself to the year 1942, soon after our boys began leaving the campus to enter upon a rigorous period of intensive training for World War II. Our service man, William H. Winner, pfc.

March 1, 1942—Glad to hear from you, Bill. How are the rest of the boys there at Corpus Christi? Are you making progress toward that Ensign's Insignia?

June, 1942—It is interesting to know you are now training to be-

come pilot of a dive bomber. We have the impression you and others in your training group are probably living as dangerously as any of the men from whom we hear.

Dec., 1942—So you are already in the Pacific looking for Japs. We wish you success.

Feb., 1943—We can tell from your letters, Bill, that you must have had a pretty exciting time when 23 gallons of oil blew out over your plane and took fire. Fortunate you crashed on land. We understand those rubber boats don't carry many modern conveniences, and a flyer feels a long way from home in one of the things.

June, 1943—Your APO and things you say in your letter tell us you are now operating from an island somewhere in the far, southwest Pacific. Presume you will be taking a crack at the Japs before long. Congratulations on your high morale.

Aug., 1943—So, it is now Lt. (jg) William H. Winner. Congratulations! Believe it or not, we are down to a prospective enrollment of about 100 in the School of Agriculture for next fall.

Oct., 1943—It is evident you are now seeing plenty of action. Sorry you have been hospitalized with malaria. We had a good laugh when you wrote, "Boy, I'll be glad to get back where there is laundry service. If I have to keep on doing my own laundry, I'll make some woman a good wife. One requirement—she must have a job and a good salary."

Dec., 1943—So you have a new plane, and its name will be Kansas Tornado 2nd. For the benefit of the other boys, we quote from your letter: "My other Tornado pulled me through a lot of action before it

finally caught more than it could take." Good luck, Bill, keep her nose up. (It was about this time that Bill was credited with a hit on a Jap freighter.)

Jan., 1944—Happy to know you are back on the coast and that you have married the Colonel's daughter. "I have been back on the coast for some time, and am about due for the same kind of duty I have already been through out there over the Pacific. One more time out, and I will be eligible for permanent shore duty."

Feb., 1944—What a thrilling experience—a personal citation in the presence of 3000 officers and men.

"In the name of the President of the United States, the Commander of the Southwest Pacific area, and the South Pacific forces, I take pleasure in awarding the Distinguished Flying Cross to Lt. (jg) William H. Winner, U.S. Naval Reserve, for services set forth in the following citation:

"For heroism and extraordinary achievement while participating in aerial attacks against the enemy as pilot of a torpedo bomber attached to the torpedo squadron operating in the Solomon Islands area during the period from April 26 to July 17, 1943. Lieutenant Winner executed many damaging missions against fortified positions during the above mentioned period. He successfully completed, in strongly defended enemy harbors, three extremely hazardous mine-laying operations which are definitely known to have severely damaged at least two enemy vessels; and bombed at night and severely

(Continued on page 24)

PRE-SCHOOL NURSERY

Gives Coeds a Chance To Study Child Development

By Doris Wierenga

IMAGINE A house full of 30 to 40 pre-school children! This is the daily attendance at the Kansas State college Child Development laboratory.

Three groups of children 2 to 4 years old are enrolled at a time. There are 10 to 15 children in each group. Each group is composed of children of uniform age and similar interests. The school director and teacher interview parents and children at the school before a child enrolls.

Children are admitted to the nursery school on the basis of date of application, sex, and age. A medical

examination is required. There is no limit to the time a child within the age group may participate in the laboratory program.

Morning session at the nursery school is from 9 to 12:45. The afternoon session is from 2 to 4:45. There are an older and a younger group in the morning. The younger group goes upstairs and the older group stays on the first floor.

The laboratory period is divided into two parts. The first hour is for playground activities. In the fence-enclosed back yard children swing, play in sand, drag blocks with ropes,

play on wooden barrels, climb bars, or ride tricycles. The equipment is all child size.

During stormy weather the children play in the garage or in the basement. There are boxing gloves, tumbling mats, bars to climb, scooters on skates, and a slippery-slide in the garage. A small teeter-totter, tricycles, and sand tables are in the basement.

After the play period, the children come in the house and wash their hands for snacks. Popular snacks are one-half banana and milk, apple sauce and milk, grape juice and graham

Teeter-totters, barrels, slippery-slides, and other equipment amuse pre-school children. All these playthings keep the student teachers busy.



crackers, and a jelly sandwich and milk.

The story hour, following, is a period for relaxation. The remainder of the laboratory time is spent in creative activity of the child's choice. A child may spend time dancing, painting, playing records, or playing with clay, blocks, puzzles, or musical toys.

Lunch Served

One of the morning groups stays for lunch. Typical lunch menus are: baked potato with cheese, stewed tomatoes, celery strips, bread and butter, pineapple chunks, and milk; or liver, green beans, cottage cheese, bread and butter, banana halves, and milk.

Christmas season is a favorite of the children. One group of the children takes a little wagon and goes to the store and selects a Christmas tree. They haul the tree to the house and make decorations for it. In painting class they paint spools, make paper ornaments, paint nuts, and make ornaments from pipe cleaners for the tree.

Christmas Party

The last day before Christmas at the laboratory is the Christmas party. Everyone gathers around the tree and sings Christmas carols. Refreshments are Christmas cookies and milk or juice. The older children may help put icing on the cookies.

The child development laboratory is a supplement to the home. It provides for the child's physical well-being by protecting his health and safety. A registered nurse inspects every child when he arrives. Nutritious meals and snacks are served. Children are given space to play and to use their bodies. There is a regular time for rest and relaxation.

Help Bashful Children

Every child is made to feel needed and wanted. When a bashful child sees how much fun a group of children is having, he usually enters the fun. He will probably become accepted by the group and make friends.

Children learn to play together

and get along with other children. The equipment and material enable the children to play together. The teacher helps a child become an accepted member of a group. A child learns to get along with other adults besides his parents.

The laboratory satisfies educational needs of the pre-school child by providing equipment and materials that are stimulating and interesting. Material such as clay, paint, blocks, and

building. In 1939 the present house, three blocks from the campus, was first used for the children. The house is furnished with low tables and small chairs. Low hooks are placed in the hall for the children to hang their coats on.

College girls can get an idea of development of pre-school children at the child development laboratory. K-State girls in Child Guidance classes work at the laboratory one



Wholesome, appetizing meals are served to children at the nursery. Supervisors teach children to get along with fellow playmates and adults through friendly association.

music records allows a child to express his interests.

"It is interesting to me to watch the individual changes within the group," Ruth Kohr, home economics junior from Salina, said. "In a week's time I can see the change in a child from a shy child to a leader. The children make friends and become accustomed to the laboratory routine," she said.

The child development laboratory is one of the oldest student-training schools in the United States. It was established in 1926 as a laboratory for college students to observe young children. By seeing how children are alike and how they are different, a student learns to understand and help them. Then, children and adults can be happier together.

First laboratory classes were held in Calvin hall, the home economics

morning or afternoon a week. The girls observe the children in all their activities, help them at rest time and lunch time, and may do some story telling.

Fifty-five girls are enrolled in Child Guidance I class this semester. About 25 home economics nursing students will bring the spring total to 80.

Home economics graduates of K-State with special courses in family and child development are prepared to be staff members of a nursery school, or do parent counseling, research, or teaching. The home economics school has about 25 girls majoring in family and child development. Many graduates who are now homemakers believe the child guidance classes have helped them in managing their own family and home.



Four top scientists discuss creative thinking before fellow research men and engineers at a Joint Technical Conference held in French Lick, Indiana, by Standard Oil and its affiliates. Panel members were, left to right above, E. L. d'Ouville, G. W. Ritter, P. C. White, and T. A. Abbott. Moderator was Joseph K. Roberts, left inset, general manager of research and development for the parent company.

The Very Idea!

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niques for stimulating creative thinking.

Groups of our scientists now meet in informal and relaxed creative sessions. Through "brainstorming" and similar devices, they contribute fresh, new thinking to the solution of specific problems. These men are creative by nature, and they "pop" even more ideas, faster, at sessions where one idea stimulates another.

In such an atmosphere of progress, young scientists and engineers find great opportunities to make positive contributions and build interesting careers.

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KANSAS AGRICULTURAL STUDENT

FAMILIAR LANDMARK GONE

Fire Destroys Beef Barn and Contents Valued at \$100,000

By Larry McGhee

A BLACKENED stone skeleton is all that remains of the K-State beef cattle barn, located northeast of the campus, after an estimated \$100,000 fire last summer shortly before school started. Many thousands of dollars worth of equipment and feed were lost or ruined when the barn, in use since 1914, was gutted by fire.

The fire was discovered by herdsman Keith Fiscus about 10:30 a.m. on Sunday, August 28, after the regular morning feeding routine.

Fire Spreads Quickly

Fiscus said he had left for a short while after feeding the cattle, and when he returned, the fire was falling through the ceiling into the stalls that housed the cattle. He, with the help of three veterinary medicine students, led the cattle out of the center of the barn first, then started clearing the wings. By this time the ceiling had fallen in the center, and the heat was intense. By the time the cattle were out of the wings, the fire was too far along to save any of the equipment. As it was, Fiscus suffered superficial burns on his head and the back of his neck.

Seventy head of show cattle were in the barn at the time of the fire, including Bardolier Mere K, a multi-thousand dollar bull, and Kileen Mere 10th, who later was champion bull at the state Aberdeen-Angus show and sale on November 3 at Hutchinson.

Much Equipment Lost

Several thousand dollars worth of supplies and show equipment were lost in the fire, besides nearly a year's supply of straw and prairie hay in the

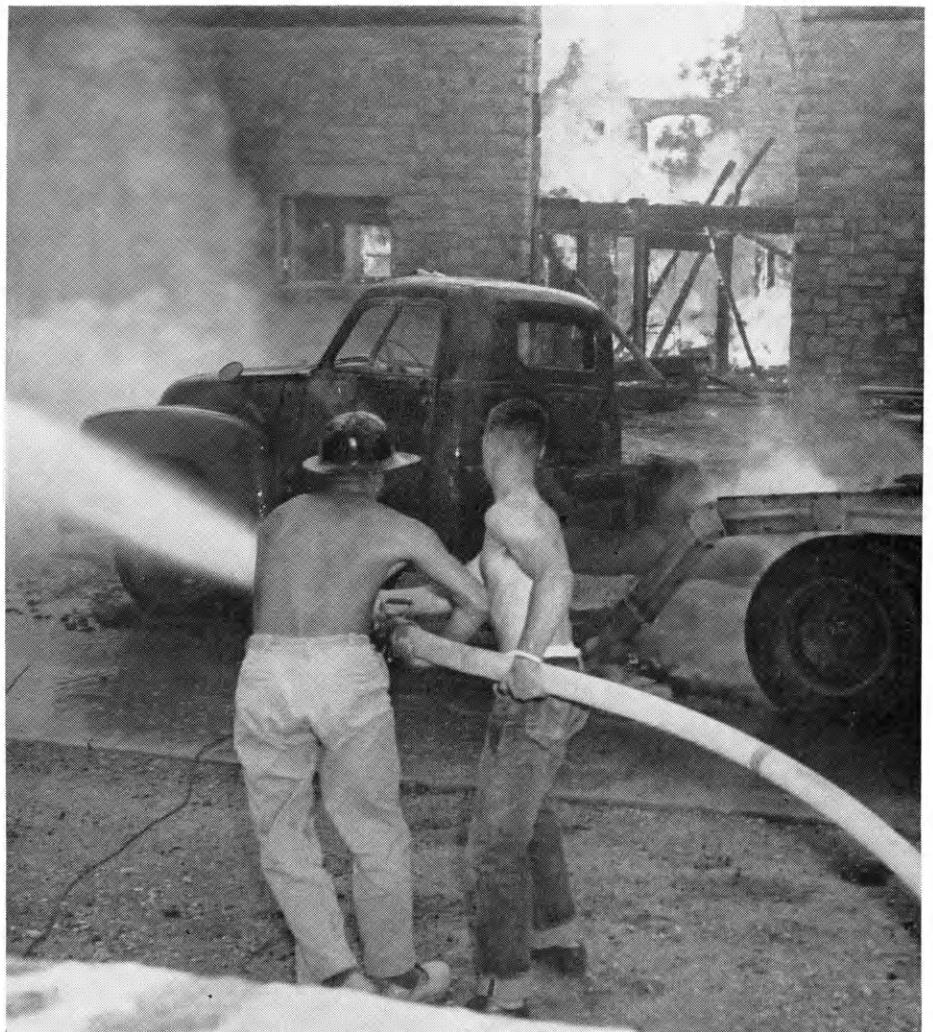
loft. Two trucks, a 200-ton silo full of silage, 12,000 bushels of grain, two roller mills, a hammer mill, a feed mixer, an elevator, scales, an auger, and six conical grain bins were among the items lost in the fire. However, the two trucks have been rebuilt and are now in use.

It is thought that the blaze started either in or directly behind the stu-

dent rooms on the second floor almost in the center of the building. The cause is unknown, but there is a possibility that it was due to faulty electrical wiring. The college fire department was called, but could do nothing, as the fire was too far along when discovered and reported. Fire was still smoldering in piles of feed two weeks later.

(Continued on page 26)

Two firemen, handling one of the College fire department's big hoses, bring the stream of water around to play on a burning truck. College students assisted in fighting the fire.



WINDBREAKS SAVE MONEY

Farm Shelter Belts Reduce Feed and Fuel Costs by 30%

By Ray Lippe

THOSE ICY winter winds that can be expected soon can be more than a physical discomfort. They can cost you needless money in increased fuel bills, needless money, that is, if you can plant a good windbreak of trees around your home. The soil conservation service conducted tests, the results of which show that a good windbreak can reduce fuel bills up to 30 per cent for a farm home.

Many Benefits

Just as important perhaps as the reduced fuel bills are the benefits derived from having a good windbreak around the barns and feedlots on the farm. Some livestock producers quite successfully use trees as the only protection for cattle during the winter. A windbreak around the farmstead also keeps snow from drifting into feedlots and other farmstead working areas.

Not only do windbreaks stop winter winds, but they slow down the hot, dry summer winds also. Windbreaks are generally used to protect gardens, orchards, and to prevent dust from blowing or drifting. The trees provide cover and food for wildlife, beautify the farmstead, protect shrubs and flowers, and provide posts, poles, and firewood.

Location Is Important

Location of the windbreak is of major importance. In Kansas most of the prevailing winter winds are from the north or northwest. Thus, the widest windbreaks need to be planted to the north and west of the farmstead for maximum winter protection. To break the hot, dry, sum-

mer winds, trees are set on the south and west, as most summer winds in the midwest are from the southwest.

Early spring, soon after the frost leaves the ground, is the best time to plant trees. With this in mind, preparations for the planting need to be started at least six months before planting. The site should be plowed or cultivated in the fall.

For western Kansas summer fallow is recommended. Soddy areas need to be worked at least two years before planting. Prepare the soil as you would a seedbed for drilling wheat.

Plant on Contour

Whenever possible, tree rows should follow the earth's contours to prevent soil erosion and to store extra moisture. In many situations it will be

necessary to plant rows up and down hills. In this case the planting site should be terraced before planting and the rows run over the terraces.

Select Proper Trees

Selecting the proper trees will be a big step toward a successful shelter and windbreak. An ideal tree must grow rapidly, give year-around protection, reach its maximum height quickly, and have a long useful life.

The innermost and outermost rows in the planting should have dense branches down to the ground. This prevents the wind from sweeping out the leaf and twig litter under the trees, and this is important in holding moisture, maintaining a loose soil, and in returning available nutrients to the soil after decomposition.

Any number of rows of trees can

Extension specialist inspects a recommended type of windbreak that stops drifting snow.





A farmstead and feed lot kept free of snow by the proper use of shelter belt planning.

be planted; however, the average farm owner finds that about six rows of trees will usually do an efficient job. Spacing between rows is mainly determined by the size of the cultivation equipment to be used in tilling operations. The closest spacing is recommended for the east-

ern sections of the state, with eight feet as the minimum width.

Trees should be planted closely together in the rows to form a dense growth and to allow for those trees that may die. Wide spacing usually results in less height and less protection, since the rows may never be-

come heavy enough to form a tight barrier against the wind. Shrubs need to be not more than four feet apart to be effective. Intermediate and tall-growing hardwoods can be planted from eight to ten feet apart, and evergreens will do well when spaced six to seven feet apart in the rows.

A windbreak for Kansas recommended by Harold Gallaher, extension forester at Kansas State college, is the following combination. Row one (the outside row), lilac, honeysuckle, or spirea. Row two, medium evergreens such as red cedar, Rocky Mountain juniper, or Norway spruce. Row three, tall evergreens which include ponderosa pine, Austrian pine, or Scotch pine. Row four, intermediate hardwoods like the thornless honeylocust. Row five (the inside row) could be Russian olive, mulberry, Osage orange, or any of the shrubs listed under row one.

A good windbreak is a worthwhile investment for any farmstead located in the midwest area where winds blow frequently and strong. It is an attractive addition to a farm, being a thing of beauty as well as of utility.

"See You ...

at the Can"

MERRY CHRISTMAS AND
A HAPPY NEW YEAR

The COLLEGE CANTEEN



SOIL FERTILITY LOSSES

Are Encouraging Farmers To Obtain Accurate Soil Tests

By Arnold Appleby and Gary Yeakley

A DECLINING level of soil fertility in Kansas will become more serious each year, unless something is done by the farmers to prevent it. Soil tests conducted on the agronomy farm during the period from 1911 to 1951 prove that the fertility level of the soil in Kansas is decreasing steadily. Every good land-management program must include use of fertilizers.

An increasing interest in fertilizing has been shown by Kansas farmers for several reasons. An increased knowledge of the value of fertilizing has helped many farmers start a good soil-building program. State and federal agricultural programs have made additional information available to the farmer. Use of fertilizers has increased yields substantially, thereby proving to doubting farmers that supplementing the natural fertility of their soil is profitable.

Fertilizer Demand

Acreage allotments have brought fertilizers into increased demand. Many farmers have offset the reduction in acres allotted by using fertilizer to increase the yield on the acreage planted.

Fertilizer increases crop yields and is an aid in combating soil erosion by producing a more rapid growth and a heavier crop residue left as soil cover. Also, increased yields reduce the amount of cultivated land necessary in the farming program. Severely eroded fields may be taken out of cultivation and planted to grass or some crop which will check erosion.

Methods of fertilizing, or perhaps

the sources of fertilizer, to be considered on most farms are green-manure crops, commercial fertilizers, and available or home-made fertilizers.

Soil Improvement

A green-manure crop is grown to be turned under for soil improvement. Soil is improved by the added organic matter. A legume is a desirable green-manure crop because it will add nitrogen and organic matter to a soil. Green-manure crops do not add mineral elements, however.

Farm manure is a commonly available, though frequently mishandled, fertilizer. It has been stated that less than one-half the actual value of manure is realized because of improper handling and storing. Manure stored in a way that permits sunlight and rainfall to reach it soon becomes oxidized and leached of its nutrients. Manure should be spread on the field as often as is possible and it should be thoroughly mixed with the soil when it is applied.

Stored manure should be kept covered to protect it from oxidation as much as possible. Bedding may be used to absorb liquid manure, which is high in fertilizing value.

Manure Furnishes Nutrients

A ton of fresh manure furnishes an estimated ten pounds of nitrogen, five pounds of phosphoric acid, and ten pounds of potash. Composition will vary according to handling.

Fertilizers should be used according to soil needs. The three main constituents of a commercial fertilizer are

nitrogen, phosphorus, and potassium. Other plant food elements are present in a good fertilizer.

In Kansas, nitrogen is the most frequently needed element. Nitrogen is made available to plants in either ammonia or nitrate compounds. Topsoil contains 1500 to 7000 pounds of nitrogen per acre. Nitrogen promotes rapid plant growth and increases protein content.

Some soils in eastern Kansas are deficient in phosphorus. Rock phosphate must be applied in liberal amounts to be changed to available forms for use by plants. Superphosphate is available to plants at the time of application, but often becomes tied up with other elements, making it unavailable to plants.

Phosphorus Hastens Maturity

Phosphorus in fertilizers is generally in the form of mono-calcium phosphate. This element hastens plant maturity, increases winter hardiness, and stimulates early root formation, growth, blooming, and seed formation.

Kansas soils are generally high in potassium, although some areas in southeastern Kansas may be somewhat deficient. Potassium is applied to soils as potash. Potash increases plant vigor, disease resistance, and grain plumpness. It also helps to produce a stronger straw, and improves winter hardiness.

Lime may be added to a soil to neutralize acidity. An acid soil will not support proper plant growth. Lime is applied according to the amount of acidity to be corrected.

Crushed limestone is probably the cheapest source of lime.

Proper application means getting the fertilizer where it will do the most good. The method of applying the fertilizer depends upon the crop, kind of fertilizer, soil type, the date, equipment available, and rate of application.

Sow Fertilizer

An effective method for grain crops is to sow the fertilizer with the seed at time of planting with a combination grain and fertilizer drill. Care should be taken so that nitrogen and potassium are not applied in excessive amounts because they may cause damage to the germinating plant. Heavy applications may be broadcast, which consists of spreading fertilizer uniformly over the soil surface and working it into the soil.

Side dressing is applying fertilizer along a crop row after the crop has started growing. Side dressing of nitrogenous fertilizers may be made at any convenient time during fall, winter, or early spring. Fertilizer is commonly applied by an attachment on a drill, plow, lister, deep-furrow implement, or with a fertilizer drill.

Apply Ample Fertilizer

Fertilization will probably be unsuccessful unless enough fertilizer is applied. A deficiency of certain elements may be indicated by "hunger" signs in a plant. A sickly yellowish-green color, slow and dwarfed growth are signs of nitrogen deficiency. Purplish leaves, stems and branches, or small, slender stalks, lack of stooling, and low yield may indicate phosphorus deficiency. Potassium deficiency is indicated by streaked, spotted, and curling leaves, premature loss of leaves, and poor root development.

These deficiency signs show up only when there is a major deficiency of an element; however, they are not always reliable. Hunger signs do not determine the amount of fertilizer to apply.

Accuracy Pays

An accurate and economical method of determining which elements are needed and where they should be applied is by soil testing. The depart-

ment of agronomy at Kansas State college maintains a soil-testing laboratory to provide farmers with a soil-testing service.

Glenn Hardy, extension specialist, emphasizes that soil testing is not restricted to general fertility tests. Other tests include amount of salts and alkali in a soil, the advisability of irrigating, and a test for quality of irrigation water.

A general fertility soil test is designed to determine if economical crop-yield increases can be obtained by using lime and fertilizers and, if so, to estimate the amounts to apply. Analysis for available phosphorus, potassium, soil acidity, lime requirement, and organic matter is included in the service.

Collect Soil Samples

An important phase of soil testing is collecting soil samples. If samples are not collected properly the soil test may be of no practical use. The following procedure is recommended by the department of agronomy at Kansas State college.

Samples should be taken from dry fields. Tools needed are a soil-sampling tube, soil auger, or tiling spade, a notebook and pencil, a clean pail, and a number of pint-size ice cream containers.

Divide each field into areas of uniform soil conditions. This may be done by checking closely the soil conditions and differences in slope or erosion, or by observing ease of tillage, crop growth, and yields on different parts of a field. If some sections of the field have been cropped, fertilized, or limed differently from others they should be sampled separately.

Sample at Random

Obtain three or four samples of soil to a depth of six inches from random areas of the first field, being sure all portions of the area are sampled. Get at least three samples from each acre. If a 20-acre field with uniform soil conditions is to be sampled, get at least 60 small samples. More samples are preferable.

Each sample should have soil representing each depth between zero and six inches. This may be accom-

(Continued on page 24)



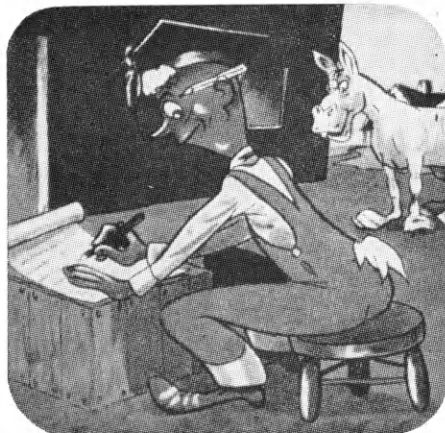
Divide farm into fields for sampling.



Take composite sample from each area.



Sample to plow depth.



Fill out information sheet.



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KANSAS AGRICULTURAL STUDENT

WOOL JUDGERS WIN FIRST

While Many K-State Teams Compete in Contests

By George Atkeson

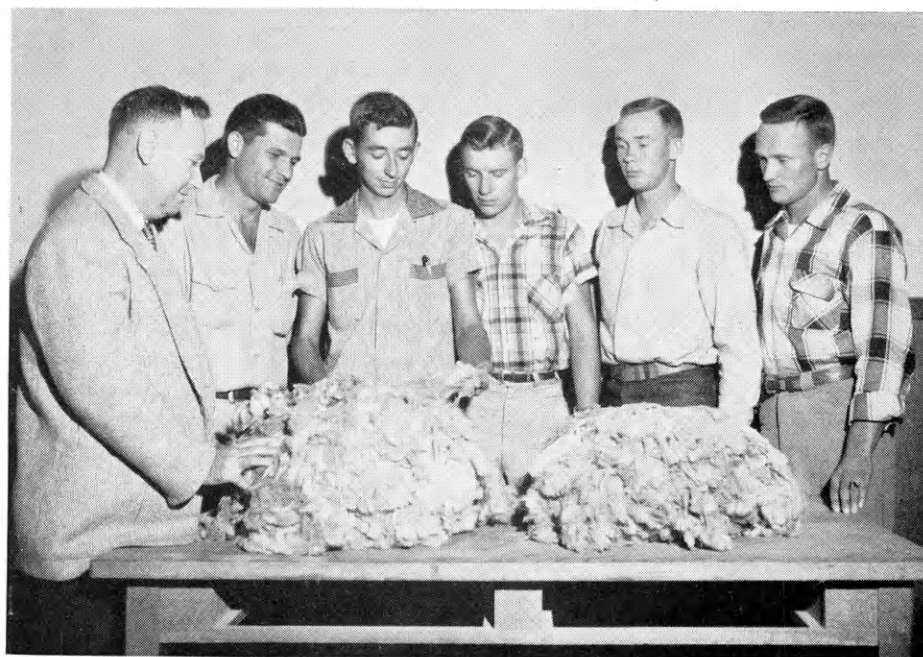
MAKING A judging team at Kansas State college takes a great deal of time, practice, and even some of the student's money. However, every fall, a large number of students compete for the various teams that represent Kansas State college in national contests.

Since the Dairy Cattle Judging Team is the first group to compete in a collegiate contest each year, much of that team's work is done before school starts in the fall. Under the coaching of Dr. G. B. Marion, the junior and senior team members judged many herds in the state, and also cattle at the state fair. The most important contest of the year was held as part of the National Dairy Cattle Congress in Waterloo, Iowa, on October 3, 1955.

The members of the senior team, representing Kansas State college this year, were: Bob Bozworth, DH Jr., Leavenworth; Rodger Hoyt, DH Sr., South Salem, N.Y.; George Atkeson, DH Sr., Manhattan; and Ancel Armstrong, DH Jr., Trent, Texas, alternate.

Among 34 teams, Kansas State tied with Colorado A. & M. college for ninth. The team from Cornell university won first place. The Kansas State team was tenth in Holsteins and seventh in Jerseys. In individual placings, Cornell again was top, with Dick Keen being high man among the 102 contestants. George Atkeson placed sixth in judging all breeds and Rodger Hoyt placed tenth. Atkeson also placed fifth in Jerseys and eighth in Holsteins. Hoyt placed third in Jerseys.

The week following the Waterloo contest, the junior team consisting of: Gilmore Dahl, AEd Jr., Everest;



K-State's Wool Team won first place in the wool judging contest at the American Royal this year and was the first judging team to take a first this year. From left to right, Coach T. D. Bell; Roy Henry, AEd Sr, Blue Mound; Jackson Todd, AH Sr., Manhattan; Duane Johnson, AH Jr., Sterling; Leon Sucht, AH Jr., Rozel; George Atkeson, DH Sr., Manhattan.

Kenneth Kirton, DH Jr., La Harpe; Ancel Armstrong, DH Jr., Trent, Texas; and George Atkeson, DH Sr., Manhattan, alternate, headed for the International Dairy Cattle Show at Chicago, Illinois. To make the trip more interesting, the Kansas State group joined the Missouri judging team at Columbia, Missouri. At Columbia, both teams judged at the famous Foremost Guernsey Farm, which was given to the University of Missouri by Mr. J. C. Penney. In order to keep their eyes sharp, the teams traveled to Wisconsin, where they visited Voegili Brothers' Brown Swiss herd and Shodel Jersey Farms.

In the contest of 16 teams, Kansas State placed second, only a few points behind winning Illinois. Kansas State was first in Ayrshires, second in Jerseys, sixth in Brown Swiss, and seventh in Milking Shorthorns.

All three of the Kansas State team members were in the top ten individuals of the entire contest. Kenneth Kirton was high man from Kansas State, placing third; Ancel Armstrong placed fifth, and Gilmore Dahl tenth. Armstrong also placed first in Milking Shorthorns, seventh in Holsteins, and seventh in Ayrshires. Kirton placed third in Guernseys, fourth in Ayrshires, and fourth in Jerseys. Dahl's placings were: sixth in Ayrshires, ninth in Brown Swiss, and tenth in Guernseys.

The judging teams representing the Animal Husbandry department this year have made their usual good showing. At the American Royal Livestock Show in Kansas City, the Kansas State Intercollegiate livestock team coached by Assoc. Prof. Don Good placed second—beaten only by the Oklahoma A. & M. team. Mem-

bers of the team who participated in the contest October 15 were: Donald Bigge, AH Sr., Stockton; Robert Dickinson, AH Sr., Gorham; Bill Ericson, AH Sr., Marquette; Mark Drake, AH Sr., Rock; Bobby Moore, AH Sr., Marquette. Three other prospective team members who made the trip were: Donald Hunt, AH Sr., Arkansas City; Richard Baker, AEd Sr., Hays; and John Allison, AH Sr., Merriam.

With 22 teams in the contest, Kansas State won permanent possession of the traveling Quarter Horse trophy, by placing first for the third year in succession. As a team, they also placed second in beef cattle, fourth in sheep, and eighth in hogs. As individuals, Mark Drake and Bill Ericson placed sixth and ninth, respectively, in the entire contest. Ericson placed second in sheep, Robert Dickinson first in Quarter Horses and second in beef cattle, Bobby Moore and Donald Bigge tied for fifth in Quarter Horses, and Bigge was sixth in beef cattle. The team's next big contest will be the International Livestock Show at Chicago.

Also judging at the American Royal this year were two other teams from Kansas State College—the meats team and the wool team. The meats team coached by Asst. Prof. Ralph Soule entered the Royal contest on October 18, competing with 15 other teams. Members of this year's team included: Francis Menghini, PrL Jr., Pittsburg; Joe Roesler, AH Sr., Claf-lin; Walter Martin, AH Jr., Opolis; and Ray Zimmerman, AH Jr., Olathe. The Kansas State team was high team in beef grading and classification and third in lamb judging. McGinty was high man on beef grading and classification and Roesler was fifth in lamb judging. This team, like the livestock team, will travel to Chicago for the International Livestock Show for its next contest.

The Kansas State Wool Team returned from the American Royal with the satisfaction of being the first team to win a contest in the school of Agriculture this year. Also, this is the first time the Kansas State team has ever won the contest in the nine years it has been held. Five teams entered the contest, which was held at the Mid-west Wool Marketing Cooperative on October 17.

The team placed high in grading fleeces, high in judging commercial fleeces, and third in judging breed fleeces. Team coach was Dr. T. Donald Bell, and the members were: Roy Henry, AEd Sr., Blue Mound; Jackson Todd, AH Sr., Manhattan; George Atkeson, DH Sr., Manhattan; and Duane Johnson, AH Jr., Sterling, alternate. In the entire contest, Henry placed second, Todd was sixth, and Atkeson was seventh. Todd was high man in judging commercial fleeces, while Henry placed fourth. In grading fleeces, Todd was second and Atkeson was fourth. In judging breed fleeces Henry and Atkeson tied for fifth. The next contest for the Wool Team is the National Western Stock Show, held at Denver, Colorado.

Even though competing for a place on a judging team at Kansas State college takes a great deal of time and effort, it is part of the education an individual should receive while at college, since it teaches him self-reliance in making decisions, and to express himself convincingly in giving reasons for his decisions.

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Across from
the Campus

Candy-making Fun

for the Christmas Holidays

By Bev Sargent

WANT TO HAVE friends in to share seasonal festivities? How about a candy-making party? The guests can help crack walnuts, pop corn, and measure ingredients for the Christmas confections. Then, this same candy will make delicious refreshments.

You'll probably have enough candy for your guests to take some home. If there is still more, pack it in pretty metal or cardboard boxes as gifts for neighbors and friends.

Unless you have an extra-large kitchen you'll need to keep your guest list small. Two or three couples are probably all you'll be able to invite. Be sure you have an apron for each.

Popcorn is popular throughout the autumn and winter seasons; but popcorn balls are especially so for Christmas. Pop three quarts of corn in a heavy aluminum sauce pan or skillet. Shortening is not needed because fat from the popcorn will keep the kernels from sticking together when you try to form the popcorn balls.

Pick out and discard any "old maid" kernels which do not pop and any other imperfect pieces of corn. Next, prepare the syrup.

Popcorn Ball Syrup:

- 2 cups white corn syrup
- 3 teaspoons vinegar
- 1 teaspoon salt
- 2 teaspoons vanilla extract

Combine corn syrup, vinegar, and salt in a two-quart sauce pan. Cook, stirring occasionally, until a candy thermometer inserted into the syrup reads 250 degrees F., or until a little syrup dropped in cold water will form a hard ball; add vanilla. Rub a small amount of butter or margarine on the palms of your hands; then form the corn into three-inch balls.

For a special Christmas touch, form some of the popcorn balls around the straight end of a red and white striped candy cane. These balls will make attractive items to hang on your Christmas tree.

Popcorn balls may also be formed over the lollipop end of an all-day sucker. These make nice gifts for carolers and other young visitors during the holiday season.

A differently flavored popcorn ball can be made by omitting the vanilla extract from the syrup recipe and adding one-half cup of red cinnamon candies. A few drops of green vegetable color in the regular recipe will give popcorn balls a pale, pretty tint. For a new flavor treat, roll freshly formed ball (while the syrup is still sticky) in shredded coconut.

Home-made chocolate fudge is a favorite of everyone. Care during the cooking and cooling processes will give a creamy product with tiny crystals. The candy should be cooked in a smooth-surfaced, two-quart sauce pan and should be stirred with a wooden spoon.

Chocolate Fudge:

- 2/3 cup milk
- 1 1/2 oz. squares unsweetened chocolate
- 2 cups sugar
- 1 tablespoon corn syrup
- dash of salt
- 2 tablespoons butter or margarine
- 1 teaspoon vanilla extract
- 1 cup broken nut meats

Combine milk and chocolate, place over low heat, and stir until chocolate is melted and the mixture is smooth. Stir in sugar, corn syrup, and salt. Cook gently, stirring from the bottom occasionally, to 236 de-

grees F., or until a little of the candy dropped into cold water will form a soft ball. Remove from heat; add butter. Without stirring, cool to lukewarm. Beat until thick and no longer glossy. Stir in nut meats. Spread in a buttered pan and cut into squares. This makes about 1 1/4 pounds of candy.

Of course you'll have a taffy pull; no candy-making party is complete without one. Here is molasses taffy with a wonderful flavor:

- 3 cups sugar
- 1 cup molasses
- 1 cup hot water
- 1 tablespoon vanilla
- 1/2 teaspoon cream of tartar
- 1/2 cup butter or margarine
- 1/4 teaspoon soda
- 1/2 teaspoon vanilla

Combine sugar, molasses, and vinegar in a three-quart sauce pan, and heat. When mixture begins to boil, add cream of tartar. If chewing taffy is desired, cook until a little of the candy dropped in cold water will separate into threads and will crack or break when crushed with your fingers, or when it is about 280 degrees F.

For hard taffy, cook until the mixture turns brittle when dropped into cold water, so it will not stick to a person's teeth. When candy is nearly done, add butter and soda. Pour into oiled plates when done.

When cold enough to handle, flavor with vanilla and pull. When the candy becomes light colored and porous, stretch into a rope. Cut into pieces one inch long with scissors. Place on oiled plate to cool. This should yield 125 pieces.

If you have an energetic group of guests you'll still have time to make

this last delicious candy, a new-type nut brittle.

Variety Nut Crunch:


- 1 1/4 cups granulated sugar
- 3/4 cup butter or margarine
- 1 1/2 teaspoons salt
- 1/4 cup water
- 1/2 cup unblanched almonds
- 1/2 teaspoon soda
- 1/2 cup shelled peanuts
- 1/2 cup chopped walnuts

In a two-quart sauce pan mix sugar, butter, salt, and water. Boil, stirring often, to 290 degrees F., or until the mixture become very brittle when dropped into cold water. Stir in soda and nuts. Pour into a buttered pan, 15 by 10 inches. When cool, break into serving pieces. Yields 1 1/2 pounds.

Prof: "I'm letting you go ten minutes early today. Please go quietly so as not to awaken the other classes."

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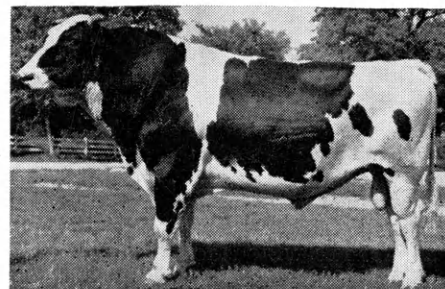
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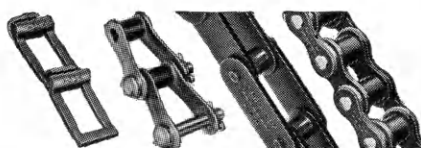


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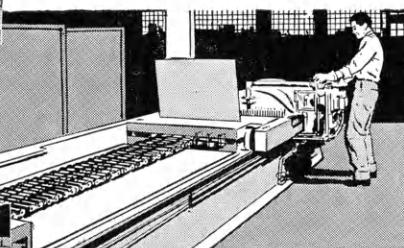
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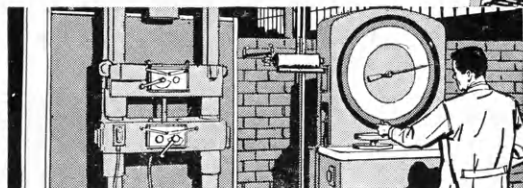
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Studying Pays Off

By George Atkeson

KEEPING HIS nose in a book paid off for Lloyd Christie, DH Sr., the 1955-56 winner of the \$300 Borden award. The award is given each year to the senior with the highest grade average among students in agriculture who have completed at least two dairy husbandry courses. After three years at K-State Lloyd had a grade average of 2.65.

Lloyd's name will be added to a bronze plaque with former Borden winners, in Waters Hall, and he will receive a certificate of merit.

Christie is a member of Phi Kappa Phi, national scholastic fraternity, and Alpha Zeta, national agricultural honorary. He has been active in Ag school functions and is never too busy to give a helping hand. He has held several offices in the K-State Dairy Club, and has been a top contender in the Little American Royal each year. Last fall he was co-editor of the Kansas State Dairy Student, a yearbook put out by the Dairy Club. Lloyd was also a member of the college dairy products judging team this fall.

Those of us who know Lloyd as a true Aggie are happy to see him obtain such high recognition. Lloyd at present plans to continue his studies toward a master's degree.

Previous winners of the Borden Award in Agriculture are:

- 1946—Robert J. Flipse, Colby, Kansas
- 1947—Cecil R. Siebert
- 1948—John B. Sjo

- 1949—Harold A. Ramsey
- 1950—John F. Slaven
- 1951—Donald E. Love
- 1952—J. E. Zimmerman
- 1953—Richard E. Brown
- 1954—William Bergman

Flipse went to Michigan State college where he obtained his M.S. and Ph.D. degrees in dairy cattle nutrition. He is now Associate Professor of Nutrition in the dairy husbandry department of Pennsylvania State university. Siebert is farming at Pretty Prairie, Kansas. Sjo obtained his M.S. degree in agricultural economics at Kansas State college, and served on the staff here for several years. He is at present on leave taking graduate work at Michigan State college toward his Ph.D. degree.

Ramsey obtained his M.S. and Ph.D. degrees at North Carolina State college and is now on the staff of that institution in dairy cattle nutrition. Slaven is farming at Wellsville, Kansas. Love is on the K-State extension staff as county agricultural agent in Cloud county. Zimmerman is a lieutenant in the United States Air Force, stationed in North Africa. Brown and Bergman are also lieutenants in the Air Force, Bergman in Missouri and Brown in Texas.

The activities and accomplishments of these Borden Award winners since graduation at Kansas State indicate that this award is a good index of future capabilities of those receiving this recognition.

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December
1-3-8-10-15-
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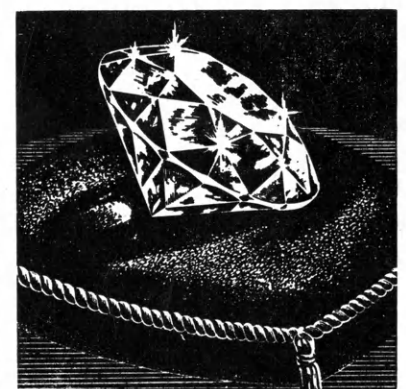
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CHIT CHAT

(Continued from page 7)

damaged one enemy cargo vessel in a well-defended enemy harbor. His actions further contributed materially to the destruction of four destroyers and two auxiliary vessels, and to the severe damaging of one light cruiser and two destroyers. His courageous conduct was in keeping with the highest traditions of the United States Naval Service." Signed—W. F. Halsey, Admiral United States Navy

March, 1944—(By this time our news letter was beginning to report more and more loss of life and casualties. Lieutenant Winner was yet on the Pacific coast, training a squadron to be initiated into fighting along the outposts in the far Pacific. Total enrollment in the School of Agriculture was now down to 33.)

April, 1944—(This time it was Bill's wife who wrote.) "Bill expects to be back in the Pacific area soon, and it will be about 6 weeks before he will again see combat. While on the coast, he has learned to pick winners at the races. One afternoon just before he left, he picked 4 winners out of 5 races."

August, 1944—(Quoting from Bill's letter.) "I have been on three hot missions, and am about ready to start on a fourth—a night mission this time, and night missions are no fun."

October, 1944—(Again, Bill's wife wrote to say in part,) "Bill is out in the big show again, and he says we won't be hearing from him for some time."

March, 1945—(Then came the letter from Jack Perry who had been flying off Bill's left wing.) "Bill was leading his squadron on an enemy airfield. Flak was so intense and accurate that the flight had spread out in an evasive maneuver. I was keeping an eye on Bill's plane until the pushover for the bombing dive. It was sometime during the dive that Bill was badly hit by ack ack. One wing was shot away. At three thousand feet the plane was spinning wildly. No one saw a parachute. Bill never had a chance."

May, 1945—(Another letter from Bill's wife to say in part,) "Bill has

been awarded the Gold Star in lieu of the second Distinguished Flying Cross and citation." (Then followed line upon line reciting numerous valorous achievements of Lt. (jg) William H. Winner, a grand old scout.)

To Bill Winner and all your fallen comrades of the past, we salute you in solemn memory this November 11, 1955.

Farmer Brown had a new mule that he couldn't teach or tame, so he took the animal to a professional mule trainer.

The trainer immediately grabbed a two-by-four and beat the mule unmercifully about the head and along the flanks.

"Stop!" cried Farmer Brown. "Are you trying to kill my mule?"

"Listen, mister," said the mule-trainer. "First thing you got to do in training a mule is to be sure you got its attention."

SOIL TESTING

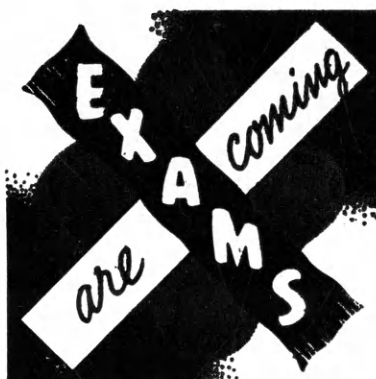
(Continued from page 15)

plished with a soil tube, soil auger, or tiling spade. If a spade is used only a portion of each thin slice should be taken. Otherwise the pail will be full before a sufficient number of spots have been sampled. Place all samples in the pail.

Break all lumps in the soil. Mix the soil by stirring it by hand for several minutes. Mix the soil from the bottom of the pail upward.

Fill a pint-size ice cream container with soil from the pail. In doing this, take small handfuls of soil from different parts of the pail.

Mark the side of the container clearly with name, county from which the sample was taken, home address, and a number. Record the number in a notebook along with a description that will permit an exact location of the sampled area at a later date. It may be desirable to draw a rough map of the area.



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Repeat the above procedures for each area of each field to be sampled, numbering the samples consecutively.

Samples can be delivered to a local county soil-testing laboratory or placed in a strong box and sent to: Soil Testing Laboratory, Department of Agronomy, Kansas State College, Manhattan, Kansas. The name, address, county in which farm is located, soil type, legal description of area sampled, and the number of samples enclosed should be sent on a separate form.

If the samples are to be sent to the college laboratory they should be collected and sent at least six weeks before the land is to be planted. There is a possibility of delay at the

laboratory, and there may be an even longer delay in getting the fertilizer needed. It will usually be advantageous to collect samples in the fall for land to be sown the next spring and to collect samples in the spring for fall-sown crops.

Mr. Hardy emphasizes using proper methods in collecting a soil sample. Under no circumstances should soil samples be sent in unless they have been taken correctly. He said that improper selection and handling of soil samples may give a misleading test result.

Although soil testing can be beneficial to crop production and soil management, a farmer should realize that crop yields are not controlled en-

tirely by the amount of plant food supplied. Other factors include climatic conditions, slope of land and degree of erosion, presence or absence of excessive salts or alkali, drainage, texture, and physical condition of the soil. Fertilizers cannot replace good soil management; they can only supplement it.

The city girl was visiting a farm boy. They saw a cow and a calf rubbing noses.

"Oh," said the love-smitten farm boy, "that sight makes me want to do the same thing."

"Well, go ahead," replied the girl. "It's your cow."

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The stone walls were still standing, but the 41-year-old barn was completely destroyed.

Familiar Landmark

(Continued from page 11)

One barn was originally used for all animal husbandry purposes here at the college. It was located near where the present Willard hall now stands. This barn was torn down in 1914, and the materials, plus \$25,000 appropriated by the college, were used in building the barn which burned.

"In rebuilding we hope to replace the old building with two separate units: a beef cattle barn to be located on the hill some distance north of the old building, and a grain ele-

vator, feed storage and processing plant, to be located near the barn," said Dr. Rufus Cox, head of the animal husbandry department. The plans will be patterned after the barn on the Turner ranch near Sulphur, Oklahoma. The ranch is owned by Roy Turner, former governor of Oklahoma. Architects' drawings are not available yet.

The show cattle are now kept on a farm northwest of Manhattan, which was recently purchased by the college. Some of the cattle were kept for a time in some empty stalls at the Veterinary clinic before being moved to the farm.

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