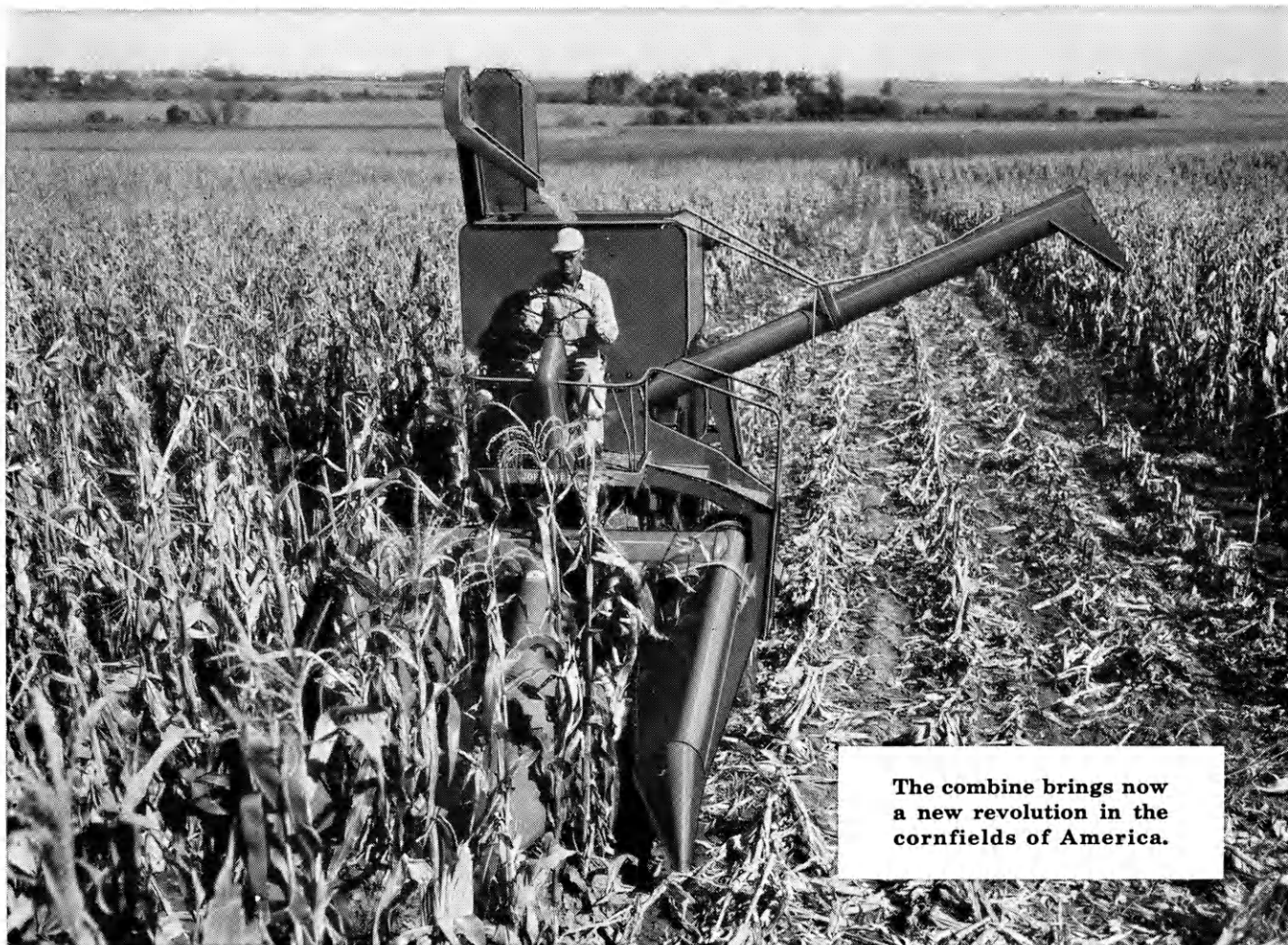


*Kansas State College*  
**AG STUDENT**  
OCTOBER 1956



**Keep Grain Dry** page 10





The combine brings now  
a new revolution in the  
cornfields of America.

## Shadows Across the Corn Lands

**Back in 1924**, a warm October sun cast three shadows of destiny. The first shadow was that of Fred Stanek of Ft. Dodge, Iowa, toiling to win the first national corn-husking contest.

On exhibition nearby, one of the new mechanical huskers cast its shadow—and picked corn three times as fast as did Champion Stanek.

Nine thousand miles away, in far-off Australia, a machine which husked and shelled corn in one operation cast still another shadow for the future. "This complete harvesting machine," it was said, "will not only reduce corn harvesting costs to a minimum, but it will eventually prove to be one of the most notable inventions of all time."

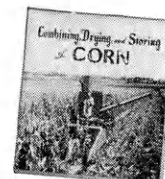
What of the three shadows today?

There are no more hand corn-husking contests.

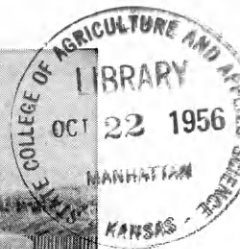
A boon to agriculture, the mechanical picker eliminated one of the hardest, most back-breaking, time-consuming farm jobs. The corn picker of today is greatly improved over its prototypes of 1924 and its shadow has by no means disappeared from the Corn Belt. In this mechanical age, however, many farmers are looking for an even more efficient method of harvesting and storing corn. They want to save more corn in the field, speed the harvest, and reduce storage and handling costs.

So it follows that the corn combine, whose shadow was first seen in far-away Australia, foretells the modern trend. The corn combine has arrived and with it comes greater efficiency and easier harvesting; as predicted in 1924, it is reducing costs—perhaps even more than was envisioned. This third shadow, in this year of 1956, creeps ever more rapidly from cornfield to cornfield. It is becoming a familiar sight in the American midlands—and wherever corn is an important crop. Farmers are finding themselves completing their corn harvests earlier and easier, as the autumn seasons come and go.

"Combining, Drying, and Storing of Corn" is the title of a new educational booklet published by John Deere. The author is George E. Pickard, Professor of Power and Machinery at the University of Illinois. You may have a free copy of the 36-page booklet by addressing your request to John Deere, Moline, Illinois.



**JOHN DEERE**  
MOLINE, ILLINOIS



**Almost Indestructible.** 95-bu. NEW IDEA No. 17 is the biggest, huskiest ground driven spreader on the market. Its steel end-gate and wide steel flares, running the length of the box, take the shocks of mechanical loading and come back asking for more.

## The roughest, toughest spreaders of them all

*New Idea spreaders give you finest shredding, widest spreading... and a full year guarantee.*

For over 56 years, NEW IDEA has produced quality manure spreaders to fit your farming needs. They do the job best. That's why farmers have bought more NEW IDEA spreaders than any other make.

**Built stronger to last longer.** These NEW IDEA spreaders have a clear pine box, completely treated with water-repellent Penta-preservative. Heavy gauge steel flares and end-gate that stand up under the slam and bang of mechanical loading. Long wearing Phenolic bearings are acid resistant. Long lasting high-pressure Neoprene oil lines remain flexible, won't crack or break under rough usage. NEW IDEA spreaders have low upkeep costs, longer life, and greater value at trade-in time.

**Finest shredding.** These NEW IDEA spreaders are engineered to do your spreading job best. New bigger upper cylinder has "U" shaped teeth, that shreds the manure finer and gives more even distribution to the paddles.

**Widest spreading.** Paddles that can be replaced individually are mounted on a large diameter distributor shaft. Paddles are shaped to fling the finely shredded manure over the widest area—more uniformly.

**Full Year Guarantee.** With these NEW IDEA spreaders, your investment is protected. If any part proves to be defective within a year, the part will be exchanged free of charge.

**See a NEW IDEA Spreader now.** There's one that just fits your farm. Your local NEW IDEA dealer will be happy to give you more facts on these spreader models. Or, if you prefer, mail the coupon below for free detailed literature or new manure handling booklet.

*Best idea yet... get a New Idea*



**Makes spreading days shorter.** This giant 125-Bu. No. 19 NEW IDEA PTO spreader can do the big jobs easiest. New clutch makes possible disengaging distributor and cylinders independently of conveyor for easy cleanout.



**For economy and convenience.** The 70-Bu. No. 18 is the lowest priced spreader in the NEW IDEA line. It can be purchased with new or used rubber—or buy it on hubs and use wheels from your NEW IDEA one-row corn picker.

**NEW IDEA** FARM EQUIPMENT COMPANY,  
DIVISION *AVCO* DISTRIBUTING CORP.  
Dept. 1992, Coldwater, Ohio

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☐ 95-bu. spreader      ☐ Hydraulic loader  
☐ 70-bu. spreader      ☐ Booklet on Manure Handling

Name

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# THE KANSAS *Agricultural Student*

Vol. XXXIII

October, 1956

No. 1

## In This Issue

## ON THE COVER

Chit Chat .....	Assistant Dean C. W. Mullen	6
Market Clean Eggs .....	Ronald Bergren and Fred Saenger	8
Grain Drying Techniques .....	Arnold Appleby	10
Living Fences .....	Clark Wilson	12
Club Directory .....	Don Miller and Walter Lewis	14
Diet, Don't Starve .....	Judie Ross	16
Intercollegiate Judging .....	Clayton Herman	18
Community Celebration .....	Don Miller	22

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Kansas has long been famous as a wheat state. Marketing quotas and acreage allotments have made it necessary for farmers to seek a substitute for wheat. Milo, or other grain sorghums, seems to be a logical choice.

Machinery used for planting and harvesting wheat may be used for planting and harvesting milo, thus saving a capital investment in new machinery when switching from wheat to milo.

At current market prices there is a wide spread between price of wheat and milo. Feeding experiments show milo may be worth 95 percent of the feeding value of corn. This means cash crop wheat acres could be diverted to milo for livestock feeding.

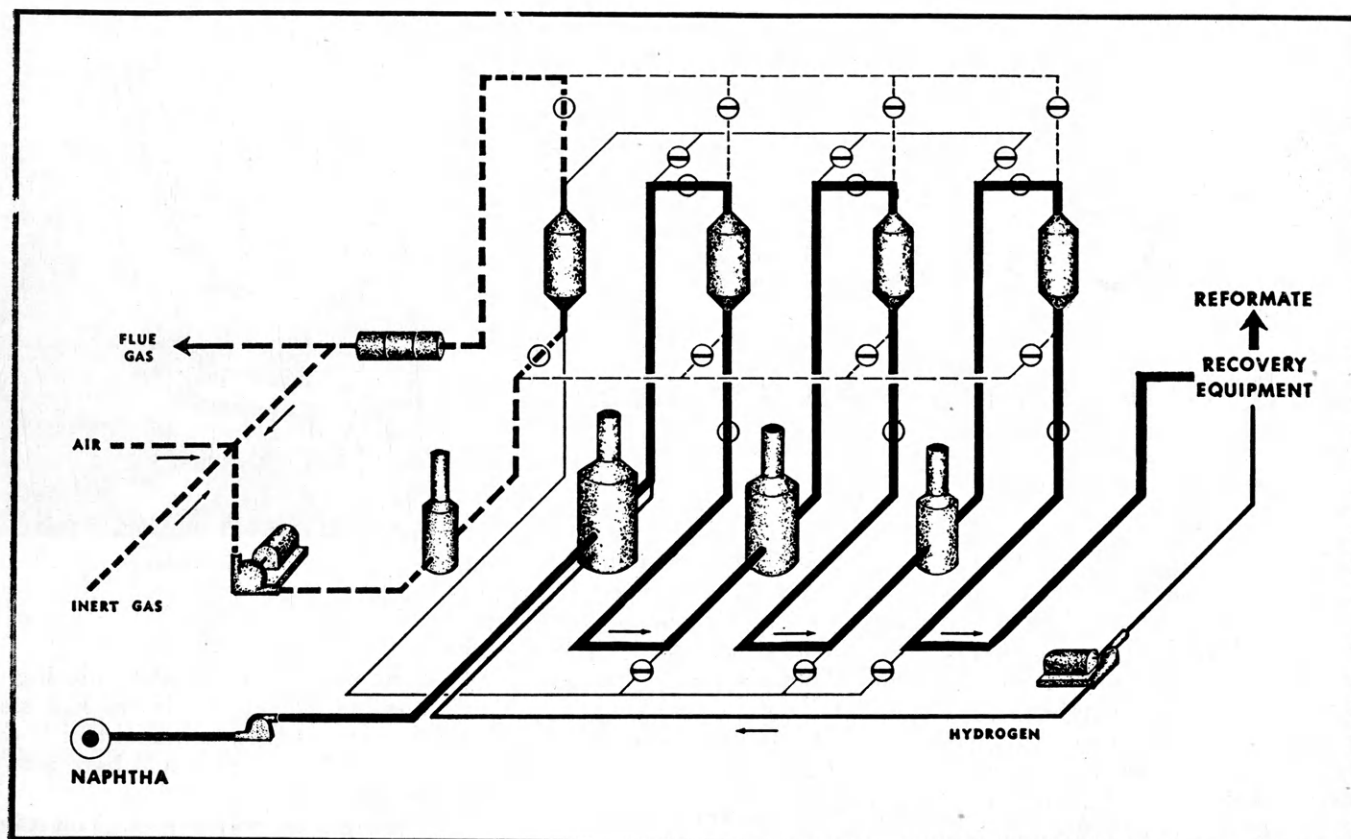
The cover photo was furnished by Allis-Chalmers Farm Equipment company, which is a typical example of a Kansas farm producing milo instead of wheat.

PHOTO CREDITS: Allis-Chalmers, cover; Lynn Perkins, 8, 9, 9; USDA, 10, 11, 11; Eshbaugh, 12; J. R. McLeland, 11; Gary Haynes, 18; KSC News Bureau, 20.

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The diagram, with a minimum number of reactors, illustrates cyclic regeneration. Piping arrangement permits the swing reactor to substitute for any other reactor in the system. High activity of catalyst is maintained—without interrupting production—in the ULTRAFORMING process.

## HOW TO KEEP \$1,000,000 WORTH OF CATALYST ON THE JOB

When you have a million dollars' worth of platinum catalyst in a single refinery unit, you hope you can keep it steadily on the job. That's too much money to be standing around idle. Also, you'd like to keep the catalyst working at high efficiency.

Most catalysts lose activity with use. The platinum that "reforms" 40-octane gasoline to 100-octane gasoline is no exception. And the higher the octane number, the faster the catalyst loses activity.

For years activity could be restored only by taking the catalyst out of the unit and sending it away for special treatment. To keep from having too many of these shutdowns, refiners had to operate at relatively low octane numbers.

Standard Oil research scientists came up

with a better answer. They developed a new type of platinum catalyst, and they learned how to regenerate it repeatedly—while it is still in the unit. When a swing reactor is provided, the unit need not even be shut down. The new process is called ULTRAFORMING.

During a year of ULTRAFORMING at Texas City, one reactor was regenerated 53 times. The unit is still producing 100-octane gasoline.

ULTRAFORMING also gives high yields of by-product hydrogen. The hydrogen can be used in upgrading other oil products. Or, it can be reacted with nitrogen from the air to make ammonia.

ULTRAFORMING is only one of the many major achievements credited to the scientists who have made careers at Standard Oil.

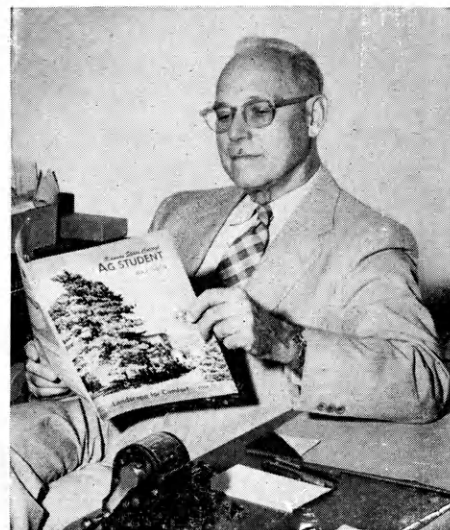
# Standard Oil Company

910 South Michigan Avenue, Chicago 80, Illinois



# Chit Chat

By Clyde W. Mullen, Assistant Dean



Dean Mullen

**P**RE-ENROLLMENT brought 181 new students to the campus for assignments between July 9 and August 10. The load was not heavy on the various departments and no doubt those students got better and more considered assignments than they would have gotten on the assignment floor. And it lightened the load on the assignment floor so that the regular enrollees got better service for their fall enrollments.

Now, to see how pre-enrollment works when six thousand students attempt to pre-enroll for the second semester.

## Interesting Summer Vacation

It is not easy to write this column without reference to our vacation trip of 5,600 miles into the Northwest. High spots included the Tetons, Yellowstone Park, Grand Coulee, Virginia City (a restored frontier town from saloon to livery stable), Seattle, around the Olympic Peninsula, Portland, up the Columbia River valley, Salt Lake City, Bryce Canyon, Zion Park, and Manhattan.

In 1941 we made a similar trip of 6,200 miles. Cost, \$200. This trip of 5,600 miles cost \$600. Meals, motels, and gasoline are up in price, if you didn't know it.

The animal that we saw dead most frequently on the pavement was the porcupine. But we didn't see a single one alive.

Fifteen years ago, it was pheasants we saw most frequently on the pavement, victims of speeding automobiles. This year, we saw not a single dead pheasant; although we saw a few live ones. Is it a case of "Survival of the dodgiest"?

It was a woodchuck that came on-

to the porch of our cabin at the foot of the Tetons and stole the leather case for our binoculars. We didn't recover it, either. Mrs. Mullen heard the old boy chirping on the porch and we later saw him peeking out of his woodpile, but no evidence of a leather case.

## Fishing at Its Best

Some of Idaho's paved roads extend for miles and miles over desolate and barren hills. To keep the motorists awake, many road-side signs have been erected, sic:

"If your wife is determined to learn to drive, don't stand in her way."

"Cowboys, remove your spurs before entering nudist area."

"Ain't this monotonous?"

Subduing a 10-pound king salmon hooked at a depth of 185 feet in Puget Sound was an exciting experience for a country boy from the plains. There were also 185 feet or more of anchor line trailing from the bow of the cabin cruiser. The king circled the boat three times, and fortunately each time he went outside the anchor line. It takes several minutes to reel in 185 feet of line, slacking off now and then to ease a rainbowed pole.

It was a moment of high elation when someone finally netted the old boy at boat-side and plopped him into the fish crate. Our catch for the morning: three salmon, five haddock, and one eel. Eels fool you into believing you have a real catch, until they come within sight. And watch 'em! They will poke you with a spike in their tails if you try to save your hook. We know. Better cut the line.

Our first ski-lift ride was taken at Jackson Hole the day before a lift cable had broken somewhere in New

Hampshire, killing and injuring a number of people. If we had seen that article first, it is doubtful if the boys in Wyoming would have gotten our \$1.50.

Here is the way it goes. You stand on a little concrete block. A moving chair comes slowly toward you from the rear. As it reaches you, the attendant says, "Sit." The cable never stops. The chair swings a bit as you are at once whisked away up the side of a mountain, above tall pines and over deep gulches. At first, you are inclined to look down. You soon conclude that is no way to see the sights. You look about, over and above the trees, and up the long, long cable to the power house at the top. It is a grand experience, going up.

At the top you step off, and are surprised at how high you are, and how snaky the Snake river looks, as it squirms its way across its valley. It is pretty cold. You don't know whether it is chill, or just what it is that makes your knees a bit shaky.

Time to descend. The chair comes at you again. "Sit." It seems to move faster up there. So quickly you are swept up and toward the brink of the cliff, and within a couple of seconds you are in space. It would be 100 feet to an unsafe landing! There is no belt in front of you, no rest for your swinging feet. The chair tips back slightly. You snuggle back and try to feel secure. How can there be so much perspiration in the palms of your hands, when you are so cold. Then you meet another chair on your

(Continued on page 17)





## *A 5c pencil is a money-saving tool*

This man with a pencil is entering on a record-sheet the egg production from a special lot of hens—an egg-production test at the Moorman Research Farm. The record shows age of the birds, what they are fed, and their daily egg scores. It is just one of the many tests going on all the time at Moorman's; tests aimed at developing the best possible feeds for farm livestock—hogs, beef, dairy herds, poultry.

That priceless 5c pencil!—It's a "must" at Moorman's. Only by accurate records can we make certain that Moorman's Mintrates will do the best possible job for feeders—helping their animals and fowls to convert home-grown grains

and roughage into meat, milk and eggs—faster, at lower cost.

Equally, it's a "must" for you—the most valuable tool on the farm. For only accurate records of feeding costs can point out to you which products are money-makers and which are not.

### ***Moorman's\****

Since 1885—71 years of Friendly Service  
\*Trademark Reg. U.S. Pat. Off.

—a business dedicated to helping farmers make better and more profitable use of the feeds they raise themselves.





Ray Morrison, KSC poultry husbandry professor, is putting clean eggs in the cooler.

## For Greater Profit

# MARKET CLEAN EGGS

By Ronald Bergren  
and  
Fred Saenger

**T**WO WOMEN entered a market to buy groceries. When they came to the fresh egg counter one woman started to pick up a carton of eggs; the other woman immediately said "No, you don't want those eggs; they look like they have been washed." So she picked a carton from the other end of the pile and went on her way.

This brings up a problem of poultry men. Is there a difference between a fresh, washed egg and a fresh, clean, unwashed egg, either in looks or quality? Also, can a housewife tell the difference across a counter? Possibly eggs on the other end of the stack were washed too.

There have been articles written about marketing washed eggs. Some people think a washed egg should not go through regular marketing channels, while others can see no reason why they should not.

### Produce Clean Eggs

Within the last year much work has been done to produce clean eggs. Since each egg contains over 7,000 tiny holes, the problem of marketing a good-quality clean egg is great. For more than a year there have been egg-washing machines on the market that may be an answer to questions asked about washed eggs.

The poultry department at Kansas State college has been investigating washed-egg marketing. Prof. Ray W. Morrison is in charge of a project

being conducted with an egg-washing machine at the College poultry farm.

This washer is an air-agitated machine that washes a basket of about 10 dozen eggs in 3 minutes. After washing, eggs are rinsed off and allowed to dry for a few minutes, then put into a cooler. This procedure puts clean eggs in the cooler about 15 minutes after gathering. If this doesn't help toward maintaining egg quality and marketing clean, fresh eggs, nothing will, Morrison believes, unless of course there is someone there to pick an egg up when a hen lays it. Every egg is laid clean; it gets dirty afterwards.

Air agitated means eggs are blown in the water so they float and move constantly about in the water. They never leave the basket. If eggs are put in at 110° F to 120° F, none will be broken. A mild detergent used in the water helps wash eggs. A sanitizer seals pores of the egg against bacteria.

Like everything else there are a few things which must be watched closely in order to obtain good results from washing. Water must not be used too long, for three to five baskets, depending on how dirty they are. The water should not be too hot, as it will injure eggs internally. Water that is too cold will contract the shell and allow bacteria to enter.

Eggs should be washed immediately after gathering, because eggs that are held and allowed to cool may crack

when put into warm water. Eggs held for a short storage time can be successfully kept at 55 degrees in a cooler.

Work being done at Kansas State shows damage from egg washing is practically eliminated by proper procedure and careful management. Value of labor saved by machine washing is tremendous.

### Test Hatching Eggs

Tests were run on washing hatching eggs at J. O. Coombs and Son hatchery, Sedgwick, Kansas. Results showed there were no ill effects from washing. In a few cases hatchability was higher from washed eggs. This means that when proper procedure is followed an egg is not harmed by washing. As far as being able to tell a washed egg from a clean, unwashed egg, with this new machine there is practically no difference in appearance.

There is no substitute for sanitation and there is no shorter way of marketing clean, fresh eggs than by machine washing. Don't try to make a shorter way by letting down anywhere along the line, or the whole operation will blow up, Mr. Coombs said.

Marketing washed eggs is rapidly growing and requires cooperation from everyone in order to produce a good egg and do away with many ideas detrimental to the method. More experimental work is being



done at Kansas State college, as well as hatcheries and farms throughout the state, which may produce newer and better ideas for marketing clean eggs.

Demand for high-quality eggs is growing, and is likely to continue to grow for some time to come. If producers are to receive full benefit they must know what constitutes high quality in eggs, how such eggs can be produced, and how they should be marketed.

Eggs are among the most delicate and perishable food products. They are subject to rapid deterioration, and are easily affected by unfavorable surroundings. In food value, flavor, and general attractiveness, they are better when first laid than at any later time. Because consumers are quick to discriminate against poor eggs, it is important not only that the right kind of eggs be produced, but that they be handled to reach a consumer with the least possible loss of their original quality.

### Maintain Quality

Because of the differences in geographical distribution of poultry and human population, it is important to maintain quality of poultry products between production and delivery to a consumer.

Quality in eggs, with reference to food value or market desirability, is measured by external appearance,



Louvers in gable ends of K-State mating house provide ventilation by allowing moist air to escape. A pole-type, open-front laying house is recommended for commercial farms.

candling, odor, flavor, and physical character of the opened egg.

Characteristics of eggs that make it difficult to observe before eggs are opened include odor, flavor, and color of yolk. Since eggs will quickly absorb odors, it is important that they not be in contact with any materials that might cause an undesirable odor or flavor.

Color of yolk is almost entirely a matter of feeding, though it appears to be influenced somewhat by laying rate of a hen. Liberal use of xanthophyll-bearing feeds, such as fresh or dried green roughage and yellow corn, will result in production of deep yellow yolks. Feeding rations in which these materials are restricted will cause production of pale yolks.

A change in nesting arrangements

often helps prevent soiled eggs. Each four or five hens need at least one nest. Compartment-type nests should be at least 2 feet wide and 10 feet long for every 100 hens. More than a minimum amount of nesting space may reduce number of broken eggs.

It is essential to provide clean litter in nests. Prairie hay is probably the best material that can be found on most farms. The hay is not easily broken up and hens will not easily scratch it out of nests. Straw is probably used more than any other nesting material. Combine straw is rather short and is easy for hens to scratch out of nests. Thin or dirty litter should be replaced. If neither of these litters is available, sand, peat moss, ground corn cobs, shavings, sawdust, or other available material may be used for litter.

### Gather Frequently

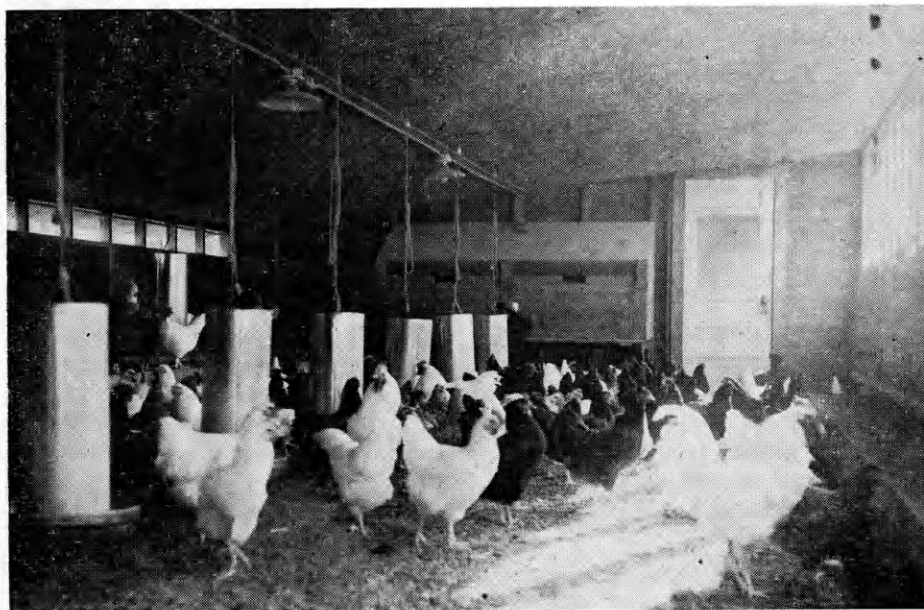
Frequent gathering prevents dirty eggs and saves time when getting them ready for market. Eggs must be gathered often during the day to stop rapid deterioration of the interior quality. An egg that is gathered soon after it is laid and placed in a cool moist room will hold its quality much longer.

Hens will lay approximately two-thirds of the eggs by noon each day. A good schedule for gathering eggs is at 9 a.m., noon, and from 4 to 5 p.m. During hot weather, especially when 100 degrees or above, eggs should be gathered more frequently. Eggs should be gathered and held over night in a wire basket to facilitate thorough cooling before casing.

Best-quality eggs are produced when hens are confined all the time.

(Continued on page 19)

Clean litter built up to 6 or 8 inches, automatic waterers, and compartment-type nests 2 feet wide and 10 feet long for every 100 hens are prerequisites for producing clean eggs.



OUTSIDE AIR  
INTAKES

FAN

SHELLING TRENCH

Most farm bins can be readily adapted for drying grain with unheated air. Installation of a duct or tunnel system will enable you to dry and store grain in a prefabricated general-purpose building, as above. Distribute grain evenly over the ducts before starting fan.

# GRAIN DRYING TECHNIQUES

## *for Storing High Moisture Seed*

*by Arnold Appleby*

**A**N IMPORTANT problem encountered by grain producers is storing of their products. Many people have the idea that a farmer's worries are over when a crop is harvested and placed in a bin.

However, it should be realized that many thousands of bushels of grain are lost each year through rotting and heating. This loss is minimized or completely erased by many farmers through using drying equipment. Grain can be dried by mechanical ventilation with either heated or unheated air. Each has its own value in a particular drying set-up.

The heated-air system has several advantages. It can dry the wettest grain, can dry regardless of weather conditions, has a shorter drying time, and has a higher drying capacity per fan horsepower. However, it has a higher initial equipment cost, involves fuel expenses, creates some fire hazard, and requires considerable supervision.

On the other hand, an unheated-air system requires little supervision, has a lower initial equipment cost, entails no fuel expense, and there is no fire hazard. However, it is dependent on weather conditions and has a slow drying rate, usually several weeks, which increases the danger of mold-growth damage.

In general, the unheated-air system is more practical with the weather conditions and production practices of Kansas and surrounding states; therefore, it is this type that will be discussed here.

According to G. L. Kline, USDA Agricultural Marketing specialist, there have been very few experiments completed in Kansas in regard to grain drying. By supplementing these tests with results from other states, some general recommendations have been set by the U.S. Department of Agriculture.

When filling a bin, spread any cracked grain and foreign material

uniformly through the batch. Do not allow it to accumulate in spots.

Select ventilating equipment that will provide required air flow at resistance pressures corresponding to depth of grain through which air passes. Equipment should be capable of operating continuously at a constant rate for periods of two to four weeks, without frequent maintenance.

Provide for uniform distribution of the drying air through the grain. There should be no appreciable loss in pressure in the duct system or perforated floor. Air may be either drawn or forced through the grain.

Supply air at a rate that will complete drying before the grain is damaged by mold growth or other causes.

Start drying immediately after harvest and continue until the moisture content of the grain is reduced to a safe storage level. The drying period may extend for two to four weeks, or perhaps longer in cool or wet weather.



For safe storage, dry shelled corn and small grain to about 13 percent moisture. If dried to only 14 or 15 percent, grain can be stored safely for only a few months during the cooler part of the year. Moisture content can be checked by testing samples with a grain moisture tester of a type used by local elevators.

### Supply Air Continuously

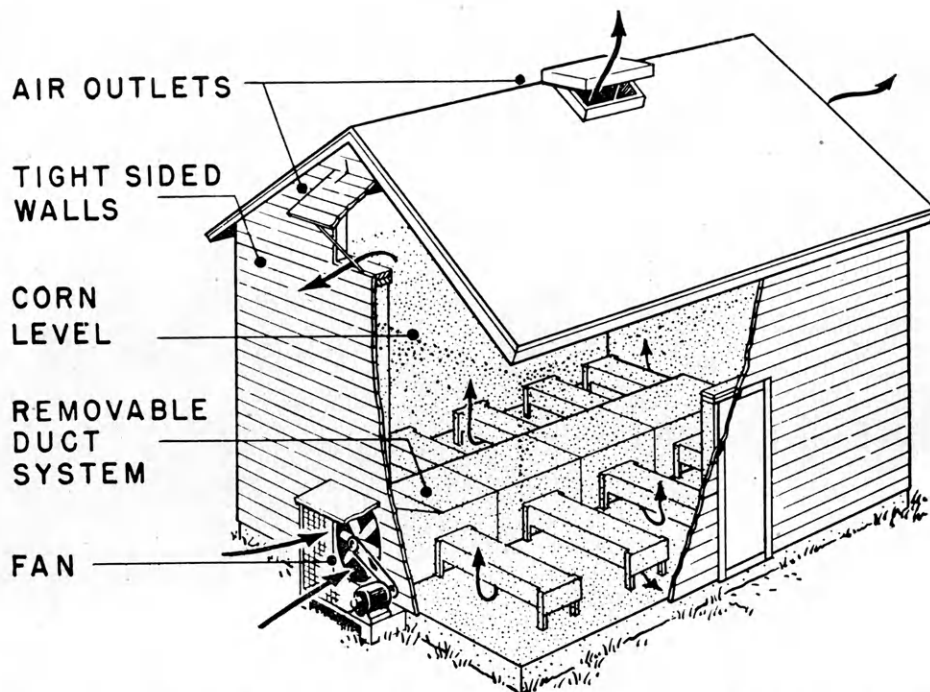
When moisture content of grain is above 15 percent, supply air continuously, day and night. To reduce the moisture further after it has reached approximately 15 percent, limit ventilation to periods when relative humidity is less than 70 percent. Relative humidity will normally be below 70 percent between 10 a.m. and 6 p.m. on clear days.

Many types of structures may be used for drying and storing grain. However, there are a few requirements that should be met. A bin should be properly located, structurally sound, and weather-tight. It should keep out ground moisture, should be convenient to fill and empty, should be convenient to inspect, fumigate, and clean, and should keep out rodents and birds.

Size of fan and power unit will depend on conditions of the drying job. For example, a 3-horsepower motor is recommended for use in a bin 18 feet in diameter with grain 6 feet deep. Electric motors are recommended for use in drying grains. Gasoline engines may be used, but more labor will be required to attend and maintain them than for electric motors.

Drying costs will include both operating cost for power and labor and overhead cost of equipment. Power cost will depend on initial moisture content of grain, weather conditions during drying period, and depth and kind of grain ventilated. At three cents per kilowatt hour, power cost in well-designed drying systems is usually between one and four cents a bushel.

R. I. Lipper, agricultural engineer at Kansas State college, mentioned the success of Fred Yarrow, a certified seed grower near Clay Center. Mr. Yarrow, before installing a vapor barrier in his bin, had to feed approximately the bottom two inches of grain. Now, after putting in a



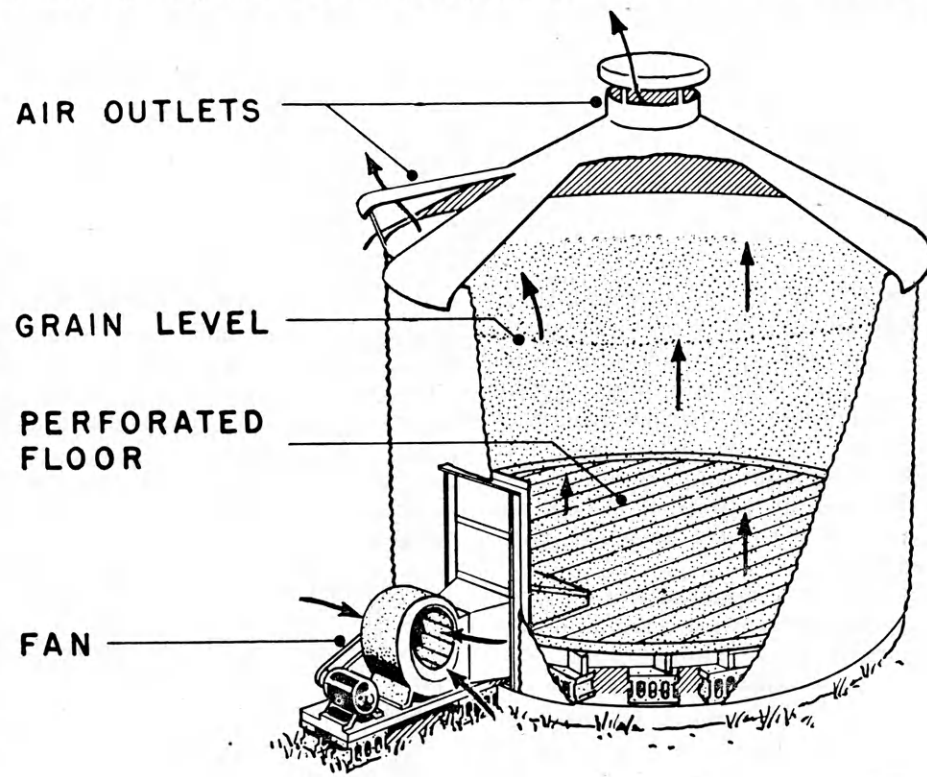
Rectangular bin with duct system. For uniform air distribution fill the bin with grain to a depth of three feet. The main duct could be along one side instead of the middle.

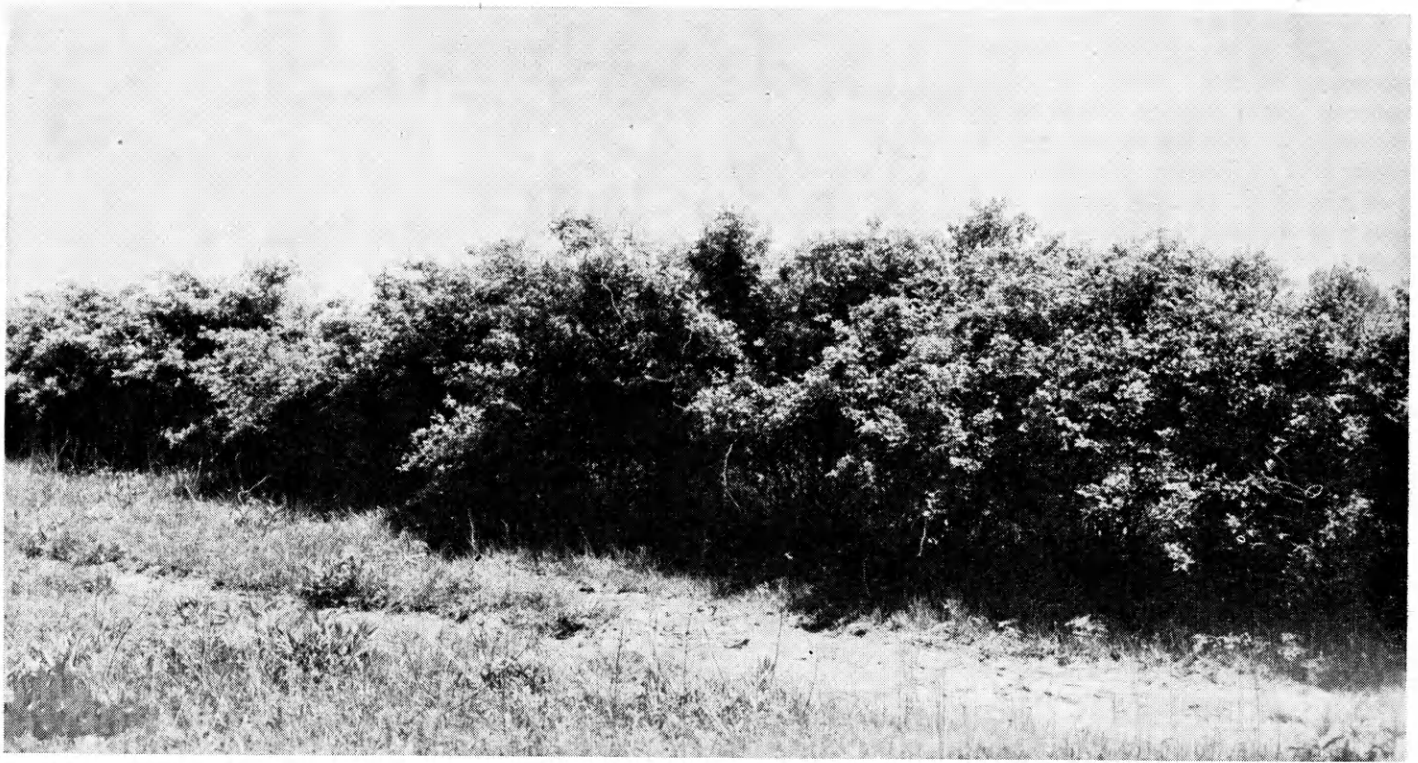
duct system, all of the seed is undamaged and may be sold.

Drying grain by mechanical ventilation is becoming more important as rapid harvesting methods increase. It is valuable not only when a farmer

is faced with emergency handling of high crops, but also as a part of the regular crop-management program. It fits in smoothly with modern production, harvesting, and handling methods.

Circular metal bin with false floor of perforated metal. When the floor is covered with an even layer of grain four to ten feet deep unheated air will be distributed uniformly.





Multiflora rose planted around lower edge of pond on Belknap Farm, one mile south and one mile east of Labette City, Kansas. Living fences need no wire, require no hard-to-maintain braces to follow contour lines, do not require trimming or pruning. They grow fast.

## *LIVING FENCES* Protect Wildlife

by Clark Wilson

**M**OST wildlife needs several kinds of cover. Cover must conceal nests and young, provide shade from the hot sun and shelter from chilling rains. It must allow escape from enemies and it must protect against snow, sleet, cold, and wind in winter. A farmer can provide all of these in his fence row with very little added expense.

Fences have taken several different forms at different times and in different parts of the United States. Pioneers in wooded areas put their excess timber to work in the form of rail fences.

When the midwestern prairies were

being settled something else had to be found because timber was scarce. Osage-orange hedges were an ingenious solution in many places. In some areas, farmers disposed of unwanted stones and stumps by using them to build fences.

### Cover Close to Food

Fences are helpful to wildlife because they provide cover close to a farmer's fields where food can be found.

Barbed and woven wire fences are easy to construct. Unless a landowner allows native shrubs to grow in

it, wire fence furnishes no cover for wildlife.

Now, a new kind of fence is being brought into the picture. It is a living fence of multiflora rose. It promises to be a real boon to wildlife.

Many ideas about maintaining "clean" fences to control insect pests or weeds are going out the window. Modern studies of wildlife relationships show that woody fence rows have many advantages for a farmer.

### Beneficial to Wildlife

Woody fence rows harbor fewer harmful and more beneficial kinds of wildlife than do grassy fence rows,



on general farms. On truck farms and farms producing small fruit and orchard crops, woody fence rows may be hazardous because they may harbor insects detrimental to these crops and may help spread diseases common to woody plants. Danger is slight, however, if recommended spraying programs are practiced.

Woody fence rows fit best where fence lines will not be changed, as between cropland and pasture, along property boundaries and streams, or around large gullies, ponds, and odd areas. Hedges are being used more extensively as contour guide lines between crop fields or on terraces and diversion dikes.

### Use Shrubs for Fences

Multiflora rose is an outstanding shrub for use in fence rows and hedges wherever it can be grown. It is capable of forming a living fence that requires no wire, needs no hard-to-maintain braces to follow contour lines, does not require trimming or pruning.

It is fast-growing, attractive, makes good wildlife cover, and has some value as an emergency wildlife food. For more detailed information about multiflora rose see U. S. Department of Agriculture Leaflet 256, "Multiflora Rose for Living Fences and Wildlife Cover."

Where multiflora rose cannot be grown, one of the following shrubs will produce good hedge or fence row cover: red cedar, gray dogwood, American hazelnut, bayberry, silky cornel, highbush cranberry, bush honeysuckle, autumn olive, Russian olive, sand cherry, wild plum, trifoliolate orange, or squawbush.

These shrubs will not tap soil moisture to reduce yields of adjacent crops; neither will they shade crops appreciably.

### Planting Procedures

When planting living fences of multiflora rose or hedges of other shrubs it is important to start right with thorough ground preparation. Mark the location with stakes, then plow a backfurrow, making two rounds with a two-bottom plow. Smooth with a harrow.

Open a new furrow on the ridge of the backfurrow in spring, then set the plants, holding them in place with a handful of soil. Plow another furrow to cover roots completely. Pack

soil around roots with the tractor wheels.

You can speed growth of hedge by plowing down one pound of complete fertilizer, such as 5-10-5 for every 40 feet of row. Shrubs also respond well to mulching. Use strawy manure, plain straw, old stack bottoms, sawdust, wood chips, or stalks.

### Mulch or Cultivate

If you have no mulching materials, cultivation the first two years is essential. If your hedge runs up and down hill, you should use mulch in-

stead of cultivation. Otherwise you are likely to have excessive erosion.

### Plant Fence Rows

For fence rows in which you don't want to grow shrubs, you can make an improvement for wildlife with sericea lespedeza or sweetclover. Throw a furrow to the fence row in the fall. In late winter or early spring broadcast 30 pounds of sericea or 15 pounds of sweetclover per acre.

Existing fence rows composed of shrubs, trees, and vines can be made neat. Competition with crops can be reduced by cutting trees.

This rickety wire fence affords no protection to wildlife. If shrubs are not desired for fence rows wildlife improvement may be made by sowing lespedeza or sweetclover.



# CLUB DIRECTORY

by Don Miller and Walter Lewis

**V**ARIOUS clubs at K-State offer extra-curricular activities for students interested in agriculture. Many ag students gain valuable experience from these clubs.

This may not be a complete list but it offers a range of selection so every ag student may find at least one to suit his interests.

## ALPHA ZETA

An agricultural scholastic honorary organization. President, Ray Zimmerman; vice-president, Ancel Armstrong; secretary, Tom Kirkemide; historian, Arnold Appleby; sergeant-at-arms, Earl Weiss; faculty advisors, Dr. Paul Sanford, Dr. G. B. Marion.

## BLOCK AND BRIDLE

For those interested in the livestock industry and its promotion. They meet on the first and third Tuesday of every month. President, Walt Martin; vice-president, Jim Flanders; secretary, Jim Gammell; corresponding secretary, Roger Fedde; marshal, Alan Henry; Agricultural Council member, Estell Schultis; treasurer, Dean Peter; reporter, Milt Shirley; faculty advisor, D. L. Mackintosh.

## CHAPARAJOS CLUB

This organization is for those interested in horsemanship and rodeo work. President, Joe Coyle; vice-president, Harry Hobson; secretary, Sondra Hodgson; treasurer, Jim Carlson; corresponding secretary, Dorothy Craft; reporter, Dale Hodgson; faculty advisor, Carl Menzies.

## AGRICULTURAL ASSOCIATION

President, Walter Martin; vice-president, Virgil Norton; secretary, Gilmore Dahl; treasurer, Jack Van Horn; Ag Barnwarmer manager, Ray Zimmerman; assistant Barnwarmer

manager, Paul Faidley; faculty advisors, Milton Manuel, Norman Collins.

## AGRICULTURAL ECONOMICS CLUB

President, Dewayne Hamilton; vice-president, Alan Linnebur; secretary, Dale Smith; treasurer, Hosea Harkness; corresponding secretary, Jim Collins; Agricultural Council member, Carroll Lewis; faculty advisor, J. A. Hodges.

## COLLEGIATE 4-H

President, Leon Sucht; vice-president, Jim Windle; secretary-treasurer, Marilyn Pence; song leader, Kathy Schultis; pianist, Betty Johnson; reporter, Pat Clary; corresponding secretaries, Loy Reinhart, Pat Todd, Emma Lou Douglass, Betty Sellers, Emily Douthit; faculty advisor, J. Harold Johnson.

## DAIRY CLUB

This organization for dairy majors and others interested in dairy work meets on first and third Tuesday of every month. President, Ancel Armstrong; vice-president, Dolan Leverton; treasurer, Dwight Haddock, Agricultural Council member, Bob Bosworth; Dairy student editor, Ray England; assistant editor, John Milton; reporter, Jack Van Horn; faculty advisor, Keith Huston.

## ENTOMOLOGY CLUB

This organization is open to anyone interested in entomology. President, Robert Simpson; vice-president, Wayne Berndt; secretary, Linda Qui; treasurer, Fred Knapp; advisor, D. A. Wilbur.

## EXTENSION CLUB

President, Philip Parker; vice-president, Carrol Spencer; secretary, Ludwig Bezemek; treasurer, Norma

Lee Brown; corresponding secretaries, Lois Adams, Ross M. Nelson; sponsors, Naomi M. Johnson, Elmer Blankenhagen.

## GAMMA SIGMA DELTA

This group seeks to encourage high standards of scholarship and leadership in fields of agriculture. President, A. L. Clapp; vice-president, C. O. Johnston; secretary, Byron Miller; treasurer, L. R. Quinlan; advisor, W. G. Amstein.

## HORTICULTURE CLUB

President, John Hendrickson; vice-president, Martin Meyer; secretary, Harlan Forslund; treasurer, Bob Foster; program chairman, Walter Boughton; advisor, C. V. Hall.

## AG EDUCATION CLUB

President, Virgil Norton; vice-president, Neal Coyle; secretary, Don Canfield; treasurer, Delmar Rieger; reporter, Fred Toplikar; sentinel, Marvin Shoemaker; parliamentarian, Lowell Satterlee; Agricultural Council member, Terry Fanning; faculty advisor, Howard Bradley. This club is composed of those planning to teach agriculture in high schools.

## KLOD AND KERNEL KLUB

An organization for those interested in the crop and soil phases of agriculture. President, Don Carlyle; vice-president, Art Armbrust; secretary, Jim Beauchamp; treasurer, Elson Seitz; corresponding secretary, Dwayne Dahl; Agricultural Council member, Clinton Pierce; parliamentarian, Clyde Beck; faculty advisors, J. A. Hobbs, Ernest Mader.

## MILLING ASSOCIATION

President, J. Brent Adair; secretary, Daniel Chajuss; treasurer, Gary Swenson; sergeant-at-arms, Brent

(Continued on page 17)



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# Over Weight?

## Diet, Don't Starve

by Judie Ross

**T**HE WAY to a man's heart may be through his stomach but a wise woman knows that to keep his heart, she must remain slim and attractive for him.

Not only will she keep her man but she will also keep her good health. Studies show that excess fat puts an extra burden on the heart and blood vessels of a person's body.

Overweight is a social problem at any age, and usually affects morale and self-confidence. Normal weight promises greater comfort, better health, longer life, and a more attractive appearance.

### Plan Reducing Diets

Although prevention is easier than cure, an overweight person can become trim. A smart woman should plan reducing diets that are more or less an "everyday" procedure, built around familiar foods, and customary eating habits of the family.

A common sense approach helps. It makes special preparation of diet foods practically unnecessary. It avoids much of the embarrassment and inconvenience that is usually associated with dieting. And best of all it plans for a basic pattern of eating that will be continued after excess weight is lost.

Reduced food consumption is generally a good method of dieting. But remember, this reduction should be planned very carefully. To be safe one should eat adequately. This means smaller amounts of a large variety of foods to insure getting enough of all the nutrients for good health.

Safe reducing is a fairly long-time project (about two pounds per week

is a safe rate of loss). Variety keeps the diet from getting tiresome.

Each food in a reducing diet should contribute more than calories. It should provide minerals, vitamins, and possibly protein. This means that such extras as cream, sugar, and rich desserts, which carry concentrated calories but do not provide many other nutrients, should be avoided.

One reducing plan stresses high protein, a larger breakfast, and allows more fat in a diet. These features have "staying qualities" which seem to help control appetite. This plan wards off a hungry, empty feeling, and a nervous, tired condition that often goes with a reducing routine.

A general meal plan in this diet is:

#### Breakfast

Grapefruit ( $\frac{1}{2}$  medium) or orange juice ( $\frac{1}{2}$  cup)  
Eggs (2, cooked any way)  
Bread (1 slice)  
Butter ( $\frac{1}{2}$  tablespoon)  
Milk ( $\frac{3}{4}$  cup)

#### Lunch

Meat ( $\frac{1}{4}$  pound)  
Vegetable ( $\frac{2}{3}$  cup) or salad (1 cup with small amount of dressing)  
Milk ( $\frac{3}{4}$  cup)

#### Dinner

Meat ( $\frac{1}{4}$  pound)  
Vegetable ( $\frac{2}{3}$  cup with  $\frac{1}{2}$  tablespoon butter)  
Fruit ( $\frac{1}{2}$  cup, unsweetened or in light syrup)

### Don't Skip Meals

Meals should never be skipped. A full breakfast is an important part of the plan. One vegetable should be from the green leafy or yellow group.

Meat can be varied to suit one's taste: hamburger, lamb, steak, roast beef, chicken, or fish. Avoid salted meats such as ham and bacon, and use a minimum of salt in other foods. Cheese may be substituted for meat.

Another diet is planned with whole milk, but skimmilk may be used if preferred. One-half tablespoon of butter for each cup of skimmilk may be substituted for whole milk. Tea or coffee, unsweetened without cream (unless skimmilk is used instead of whole milk for drinking), may be added to meals. Tea or coffee should not replace milk.

These meals are simple and can easily make a basis for family meals or can be chosen readily from a restaurant menu when eating out.

### Allow Enough Time

Amount of food eaten may be adjusted slightly to lose weight. However, allow enough time on a diet to determine if eating less food is necessary.

Don't expect too much change the first few days. The body needs time to start using stored fat for energy. About two pounds a week is a safe rate for losing weight.

Weight loss may not be regular, but more like stair steps. One may go along without losing much for awhile, then lose rather rapidly. That's why it takes will power and persistence. To find out how one is doing, he should weigh about once a week at the same time of day when wearing the same type of clothing.

Encourage those reducing not to give up. An interesting hobby or activity may be a diversion from eating. Activities make time pass more quick-



ly and help a person develop new interests. If possible, a dieting person should cultivate friends who are trying to lose weight. Older adults will need a doctor's advice as to amounts of exercise they can undertake.

A human body needs adequate fuel at all times. Damage to the body and nervous system, as a result of improper dieting, can be permanent. Make sure your recommendations include a consultation with a doctor beforehand; then follow a safe and sensible reducing diet.

There is no easy way to reduce. Be careful of buying products which promise reducing miracles. While some of these are harmless, they are effective only because they kill the appetite, thus cheating the body of needed nutrients. No such product should be used except upon a doctor's prescription. The one accepted way to lose weight is to EAT LESS.

## Directory

(Continued from page 14)

Nolte; faculty advisor, J. A. Shellenberger.

### PLOW AND PEN

President, Gary Neilan; vice-president, Phillip Young; secretary-treasurer, Gary Yeakley; advisor, Lowell Brandner. This is an organization for agricultural journalists.

### POULTRY SCIENCE CLUB

President, Bill Brethour; vice-president, David Munger, Agricultural Council representative, David Munger; secretary, Frank Cunningham; treasurer, Joe Horton; reporter, Maynard Esau. This organization of poultry majors meets in Union 208 first and third Thursday of each month.

## Chit Chat

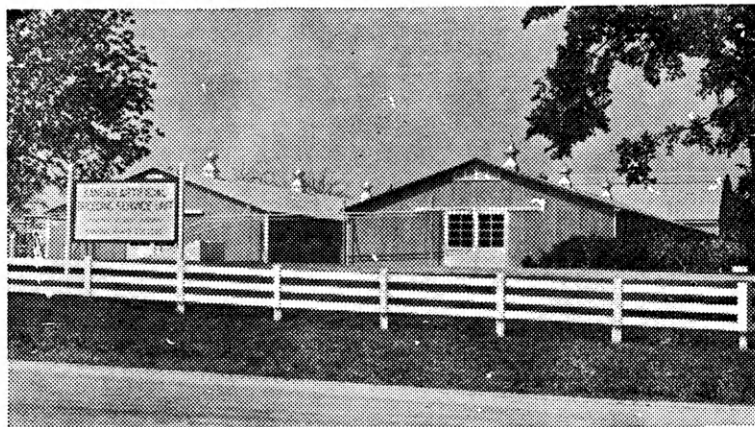
(Continued from page 6)

right coming up. A little girl calls out, "Ain't this fun?"

Your response is, "Yes, aaainn'tt it?"

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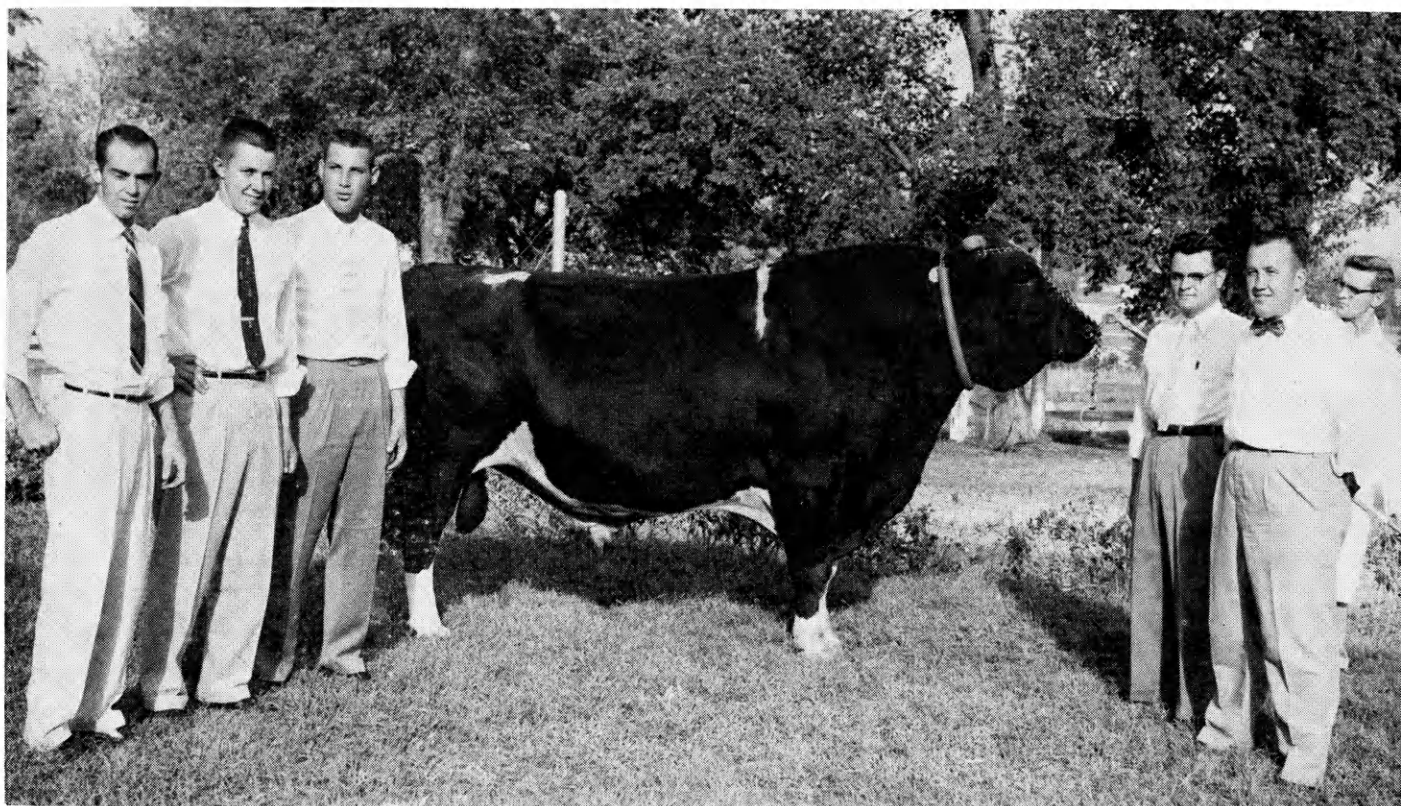
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Members of the Kansas State college dairy cattle judging team (l-r) are Ancel Armstrong, DH Sr; Kenneth Kirton, DH Sr; Donald Harris, DH Sr; Dr. Marion, coach; and L. C. Garrison Jr, DH Sr. Jack Snider of KABSU is holding the bull.

Many Students Try for Positions As

## *Intercollegiate Judging Gets Under Way*

*by Clayton Herman*

Kansas State college student dairy judges topped teams from seven other schools in the Midwest in winning the fourth intercollegiate dairy judging contest at the Kansas State Fair at Hutchinson September 17.

The K-State team was high on Ayrshires and Jerseys, second on Brown Swiss, third on Holsteins, and sixth on Guernseys.

In the entire contest Kenneth Kirton, LaHarpe, was second; and Ancel Armstrong, Trent, Texas, third. Kirton was high man on Ayrshires, Armstrong was high on Jerseys, and L. C.

Garrison Jr. of Pratt was high on Holsteins.

K-State also was high team in a separate Milking Shorthorn contest, with Garrison first and Kirton second.

At Waterloo, Iowa, October 1 the team placed fifth in the national judging contest among 33 teams. The team, coached by G. B. Marion, placed first judging Brown Swiss, fifth in Holsteins, ninth in Jerseys, and ninth in Ayrshires.

Kenneth Kirton placed eighth in the contest, third in Ayrshires, seventh in Brown Swiss. L. C. Garrison was fourth in Brown Swiss. Ancel

Armstrong placed sixth in Brown Swiss.

Other judging teams getting warmed up for fall competition are wool, coached by T. Donald Bell; livestock judging team, coached by Don Good; and the meats team coached by Kenneth Boughton. These teams will meet their first intercollegiate competition at the American Royal in Kansas City during October.

Ray Morrison, coach of the poultry judging team, will pick four students and one alternate from Poultry Judging laboratory class to represent K-State at the International Livestock Show in Chicago during November.



## Market Clean Eggs

(Continued from page 9)

Hens allowed to run outside during wet weather will track mud over eggs and make cleaning necessary.

Built-up litter in a laying house will help reduce dirty eggs. Hens will be less likely to carry manure on their feet to nests.

In sections of Kansas where wheat production is heavy, straw may be used for litter. Straw makes good litter if it is properly used. Start with 2 or 3 inches of litter when pullets are housed. Add 2 or 3 inches of straw every three or four weeks until there are 6 to 8 inches of litter on the floor. Regardless of litter used, it must be kept dry. It should also be removed at least once a year and the house given a thorough cleaning.

### Cover Droppings Pits

Covering droppings pits or boards with wire helps produce clean eggs.

Use of automatic waterers with wire-covered platforms will not only help keep eggs clean but will increase egg production by increasing water consumption.

Hens need adequate ventilation in a laying house. Plans for Kansas pole-type laying house call for one square foot of open-front space for each ten square feet of floor space. This will admit about the proper amount of air to collect moisture given off by hens. Louvers placed in gable ends of a house allows warm, moist air to escape.

Dirty eggs should be cleaned before marketing. Steel wool may be used to remove dirt from slightly soiled eggs. This does a satisfactory job unless the eggs are extremely dirty.

### Cool Eggs Rapidly

Cool eggs rapidly and hold them in a cool, humid place. The more rapidly an egg can be cooled to 50 to 55 degrees Fahrenheit, the slower the deterioration of that egg.

Moisture is also essential to maintain quality in eggs. An egg-holding room on a farm should be equipped so moisture can be added as necessary. Relative humidity in an egg-cooling room should be about 75 per cent.

Eggs packed with small ends down

will not crack easily during transit to market. Use of new cases, fillers, and flats will help keep eggs clean. A complete lid, properly nailed in place, prevents eggs from cracking while in transit.

Eggs should never be hauled in the back of a jolting truck or trailer. If it is necessary to haul eggs in a truck or trailer, they should be set on straw, old blankets, or some substance that will pad the shock of rough roads. A good place to haul eggs is on the back seat of an automobile. Covered cases will protect eggs from sunshine, rain, or extremely cold weather while they are on their way to market.

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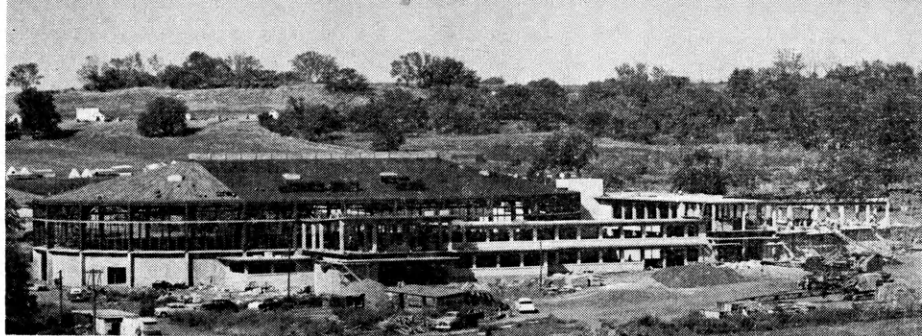
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Beginning to take shape is Kansas State college's new \$1,300,000 animal industries building. The huge arena at left is 150 by 266 feet, and will seat 3,500. Partially enveloping the arena at the far right is an L-shaped two story wing which will house offices, classrooms, an auditorium, and a miniature packing plant.

The building is being constructed of reinforced concrete, with native and Bedford limestone. The upper portion of the pavilion wall will be aluminum paneling.

Workmen are rushing to close the building in by cold weather so that finish work can go ahead. It should be completed for use by the fall of 1957.

The current project is just the first part of a building which eventually will accommodate the dairy and poultry, as well as animal husbandry, departments.

A bid of \$79,232 was the lowest among five Manhattan construction companies seeking the job of building a new animal husbandry barn at Kansas State college.

The T-shaped barn is to be erected northwest of the veterinary research laboratory and about a mile north of the main campus. The structure will house 28 holding pens, have living quarters for boys working with the animals, space for housing show and experimental equipment, and a room which will serve as a classroom and for record-keeping.

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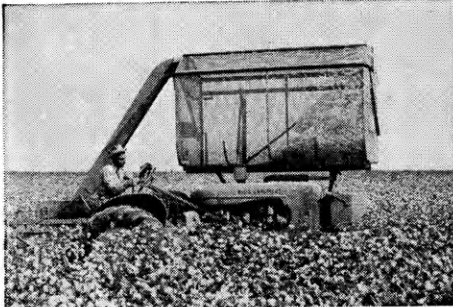


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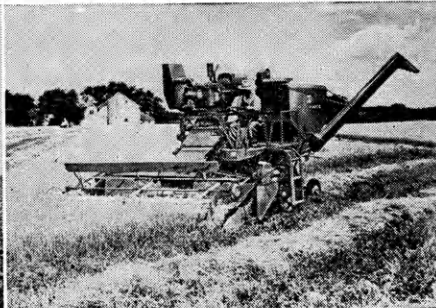


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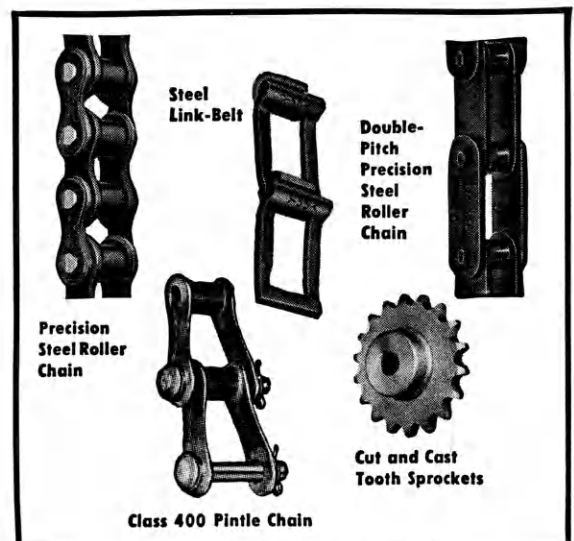
Often the problem is speedily solved as a result of experience with similar applications—or may be so complex as to require the use of our extensive engineering and research facilities. Whatever the solution, it means longer chain life plus a more productive piece of equipment.

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14.061



# A Farm Community Celebrates a Holiday

by Don Miller

**L**ABOR DAY in most Kansas communities means only a day's vacation when stores are closed or a last bit of freedom for kids before returning to school.

This evaluation, however, doesn't apply to folks who live near Hoisington when September rolls around. For years these people have been observing Labor day with one of the largest celebrations held anywhere in the state.

Traditionally, merrymaking is key-noted by a parade. Horses, 4-H floats, bands, queens, and clowns file down Hoisington's crowd-lined main street each Labor day morning. On the scene is a carnival with rides and stands that can satisfy those once-a-year desires.

Of course local folk operate stands to help satisfy thousands of fun-loving spectators.

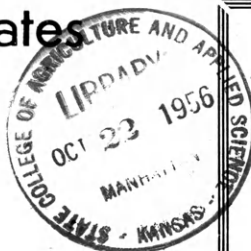
Entertainment seems to reign throughout the two days, some of the festivities having begun the night before.

A rodeo has been featured for the past several years and seems to give an added Western touch to the celebration.

This year Minnie Pearl and other "Grand Old Opre" stars presented a special outdoor program for those who didn't want to dance to the music of Sonny Powell's local swing band.

During the day, street entertainment included a free talent show that featured everything from music by the Ozark Valley Boys to tap-dancing grade-school girls in short dresses.

Reigning over the throng were a queen and her attendants, who were previously chosen by voting.



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