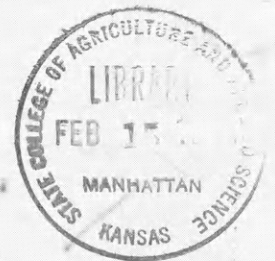


b+
copy

Kansas State College
AG STUDENT

February 1956

3213





Why
so fussy
about
a fence row

?



MORE THAN ONCE Harry has been chided for the pains he takes lining up a fence row. With all the precision of a navigator he sets the course of that fence, and he doesn't let it vary an inch. You can see him out there, directing the placement of each single post, his eye sighting along the row with the accuracy of a marksman.

To those who kid him about being so fussy, Harry offers some cold logic. It's true, says Harry, that it isn't always necessary to have a fence row just so—that, as long as a fence is strong enough to hold back stock and straight enough to separate fields, it'll do. But, he says, being particular is a kind of

habit with him, and making exceptions whenever it's convenient might spoil him—might break his good habit and make it tough to be particular when it *is* necessary.

Now we of John Deere can see Harry's viewpoint. In fact, we subscribe to his homespun philosophy, and practice it every day. We've found it pays to be particular in *every phase* of manufacturing—that striving for perfection in *everything* makes it easy to do a precise job when the tolerances are close.

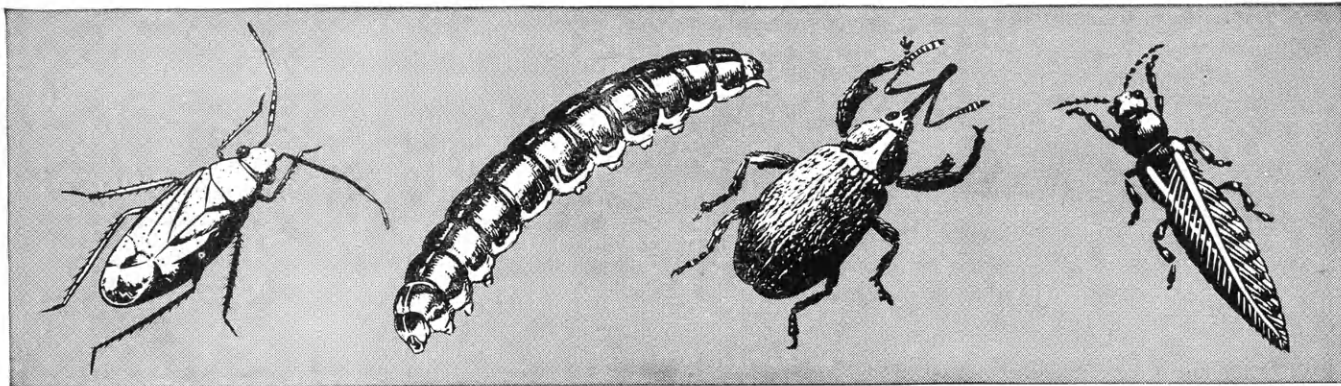
That's why, we figure, we can count so many *particular* farmers like Harry among our customers.

JOHN DEERE

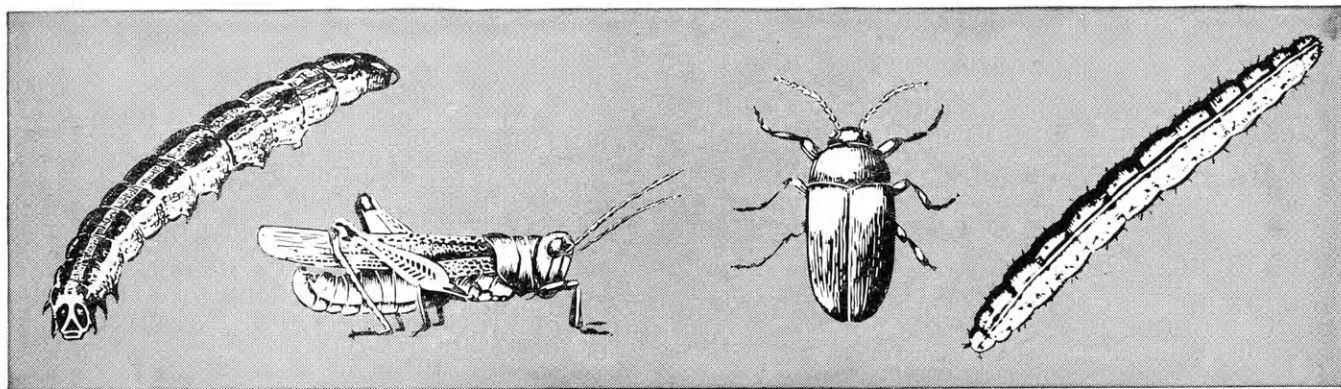


Moline, Illinois

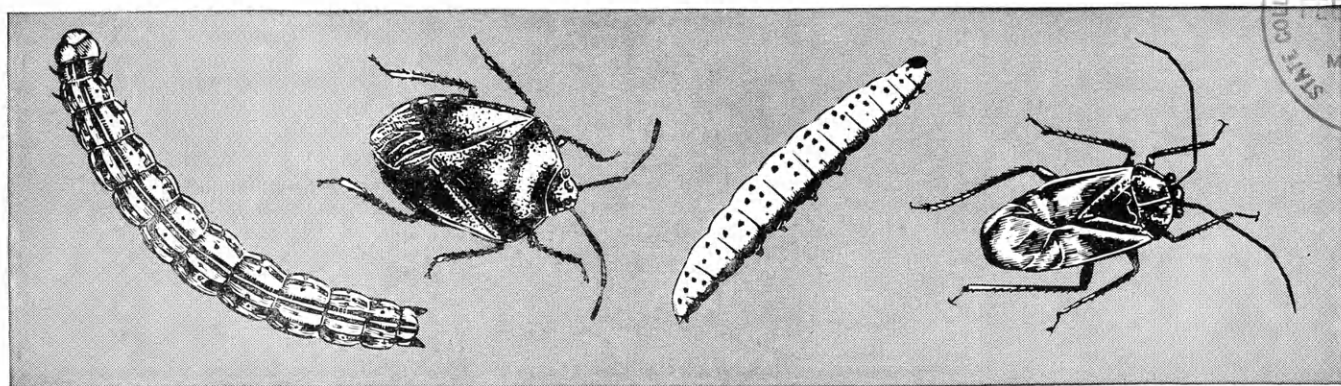
TOXAPHENE IS RECOMMENDED FOR



EFFECTIVE, ECONOMICAL CONTROL



OF MORE THAN 200 INSECT PESTS



STATE COLLEGE OF AGRICULTURE
LIBRARY
MANHATTAN
KANSAS



HERCULES POWDER COMPANY

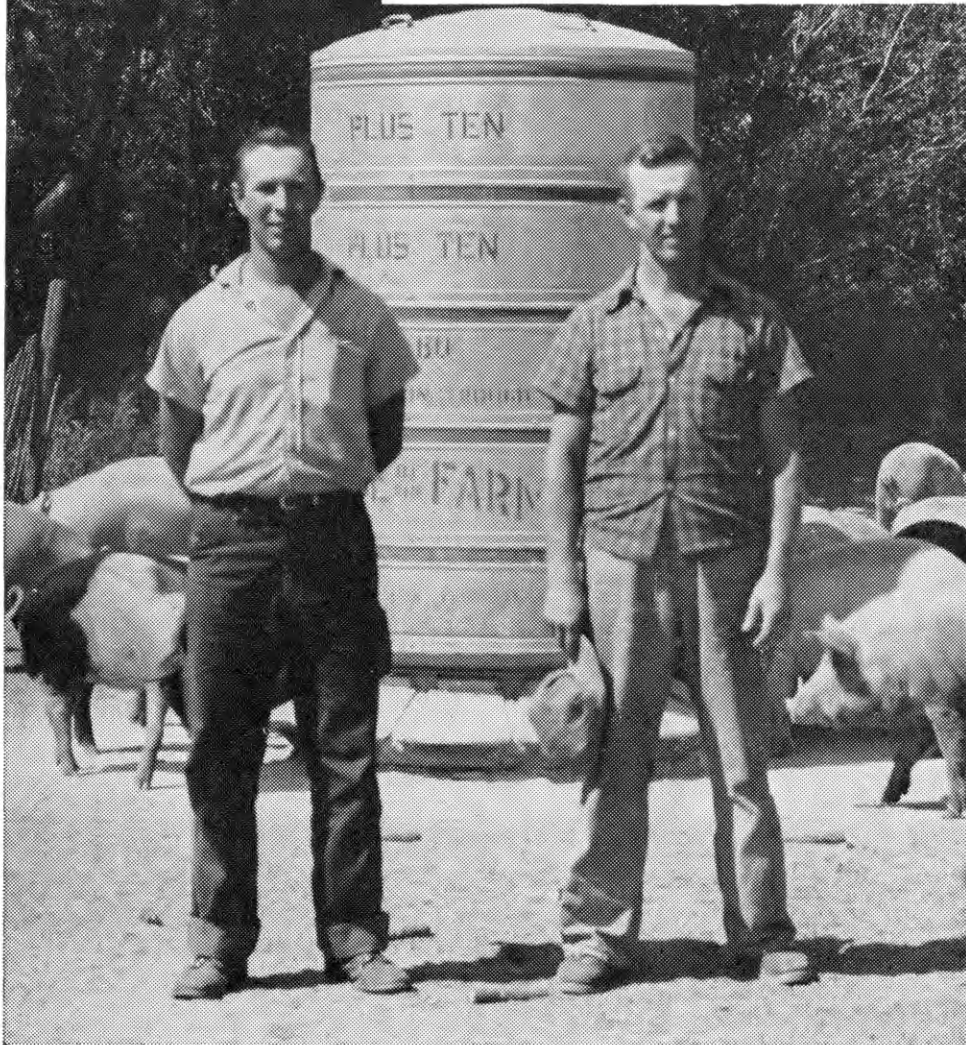
INCORPORATED

Agricultural Chemicals Division, Naval Stores Department • 920 Market St., Wilmington 99, Del.

NX56-1



"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. 062, 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."



MoorMan's*
Since 1885—70 Years of Friendly Service

**MINTRATE
45 FOR HOGS**

—one of 10 mineralized protein and vitamin concentrates that help livestock and poultry make better use of home-grown feeds.

*Trademark Reg. U.S. Pat. Off.

KANSAS AGRICULTURAL STUDENT

THE KANSAS *Agricultural Student*

Vol. XXXII

February, 1956

No. 3

In This Issue

Chit Chat	Dean Mullen	7
Land Judging Schools	Phillip A. Young	8
Farm Ponds	Ray Lippe	10
Tractor Gadgets	Roe Borsdorf and Lowell Satterlee	12
Bandaging Skill	Bev Sargent	14

Photo Credits: John Burgess, cover, 10, 14, 15; O. W. Bidwell, 8; Jack Maupin, 9; Robert Ecklund, 11; KSC Extension Publicity, 12, 13, 13.

Editor's Notes

With a change in magazine staff personnel we'd like to take this opportunity to commend the previous staff for a well-done job. We will attempt to live up to the high standards they have set.

The former editor, Robert Ecklund, has accepted a position with the K-State journalism faculty staff. Congratulations, and best of luck.

We'd like to remind all of you Aggies that the magazine is yours and you are welcome to write stories and offer story ideas. If you have any complaints about the magazine we want to hear them, too. Feel free to drop around any time you feel like expressing yourself.

We will accept comments, praise, or criticism from all readers. Drop us a line and let us know what you think of the ag mag.

After a lot of hard work and uncertain confidence, we proudly present our first issue.

On the Cover

Cold winter weather is welcomed by ice skating enthusiasts as demonstrated by Marilyn Adams, elementary education sophomore from Salina.

If more ponds were built, they would not only decrease erosion, but they would have many other uses besides catching silt and precious water.

Nearly every farm could benefit from a pond. It would not have to be elaborate or expensive. Pleasure from using it for sports such as swimming, boating, fishing, or ice skating would be worth its original cost.

Fishing in a pond is not only a sport or a pastime. Fish are good food. If a pond is stocked with edible varieties, fish can decrease a grocery bill besides supplying entertainment for the family and friends.

EDITORIAL STAFF

Clayton Herman Editor
Ray Lippe Associate Editor
Larry McGhee Assistant Editor
Gary Yeakley Assistant Editor

BUSINESS STAFF

Phillip Young Manager
George Atkeson .. Asst. Business Manager
Hayes Walker III .. Asst. Business Manager

Circulation

Elaine Olson Manager

Photographer

John Burgess

Reporters

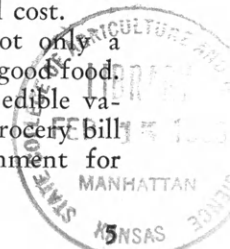
Beverly Sargent Arnold Appleby
Gary Neilan

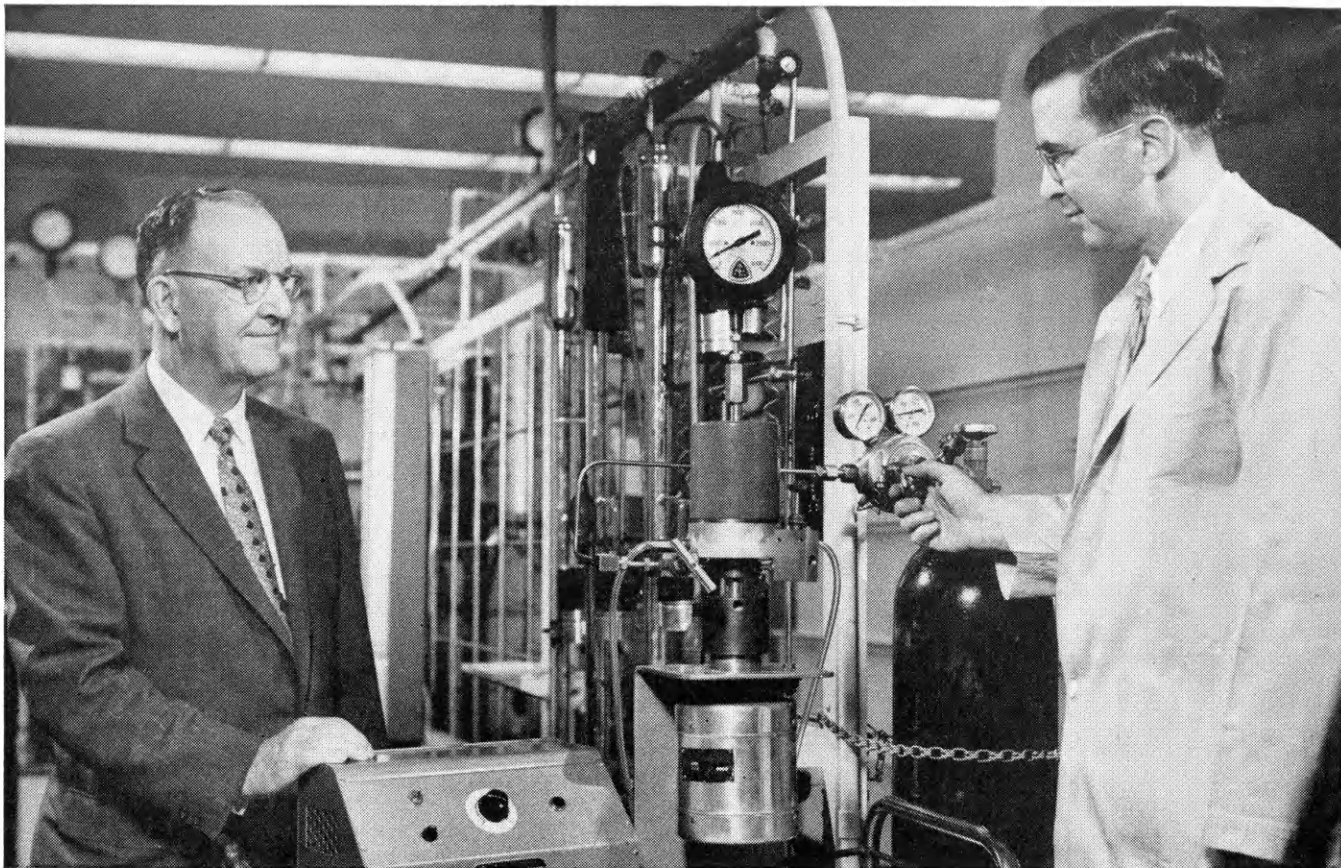
Faculty

Lowell Brandner Adviser

Published by the Agricultural Association of Kansas State College of Agriculture and Applied Science, Manhattan, Kansas, in October, December, February, March, April, and May. Subscription rates \$1.50 a year; 2 years, \$2; single copy by mail 30c, at office 20c.

Entered as Second Class Matter, November 9, 1945, at the Post Office at Manhattan, Kansas, under the Act of Congress of March 3, 1879. Accepted for mailing at special rate of postage provided for in Section 1103, Act of October 2, 1917, authorized November 9, 1946.





Dr. Ward Kuentzel and Dr. Edmund Field, co-inventors, observe operation of the new Magne-Dash autoclave in Standard Oil's Whiting research laboratory.

Orders for inventions taken here

MODERN RESEARCH creates a need for brand-new types of equipment. In petroleum laboratories, mixing up some stuff in a beaker usually isn't the answer. The research pioneer may have to use high temperatures and high pressures. If he must stir his mixture, he has a tough job. How can he prevent leakage past the shaft of the stirrer?

To meet this and other difficult situations, Standard Oil has set up a "Special Devices Program". A group of scientists creates the apparatus needed to solve today's problems.

An example is the Magne-Dash* autoclave.

It has a magnetically operated agitator, and no external moving parts. Leaks cannot occur. Research men now use freely the high pressures that lead to new plastics and other new products.

Like many other inventions made by Standard Oil scientists to solve our own problems, the Magne-Dash is licensed for production and sale by a maker of scientific equipment.

The Special Devices Program is just one of the creative activities at Standard Oil. Young scientists find it stimulating to work in such an atmosphere.

*Manufactured under Standard Oil license by Autoclave Engineers, Inc., Erie, Pa.

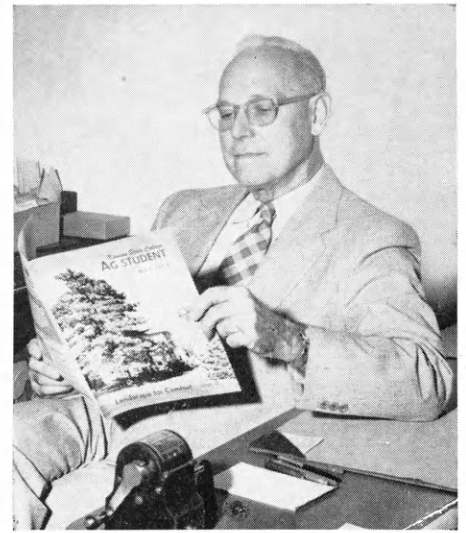
Standard Oil Company

910 South Michigan Avenue, Chicago, 80, Illinois



Chit Chat

By Clyde W. Mullen, Assistant Dean



Dean Mullen

THE NEW aggie reading room probably won't accommodate our studious students in another year or so. Already, at times, every chair and lounge is occupied by students studying, resting, or snoozing. It could be that before too long it is going to be necessary to add another table and another dozen chairs.

And students are to be commended for the wonderful job they are doing in returning magazines and papers to their proper places in the files.

Read Bulletin Boards

Automatically, with the use of the reading room, comes the bulletin board habit. Important notices are always posted on the main bulletin board. Placement opportunities are posted on the west board. Opportunities for scholarships and fellowships are usually to be found on the east board. Other general notices appear on the center boards.

Then, at intervals, there appears the easel on which are posted the "unclaimed" pieces of mail that have been returned by the College post office. It shouldn't be necessary to have to use this method of getting mail to students, but there are always a few who never seem to get the habit of calling for their mail at the post office in Anderson Hall.

So, it turns out that the mosaic emblem (wheat, wheel and sunflower) built into the floor of the foyer of Waters Hall marks the cross-

roads of the School of Agriculture, as all students make use of the reading room and the bulletin boards.

Frosh Lack Maturity

The great misfortune of freshmen is that most of them are in the age bracket of 16 through 18, and lack maturity.

The good fortune of veterans is that most of them are in the age bracket of 22 and older, and have attained maturity.

The objectives of an education and usually an employment target are more clearly apparent to the more matured persons.

We are not too surprised when occasionally a freshman flounders a bit in his first semesters on the campus. And he should not be too disappointed or frustrated if scholastic difficulties come to light at the semester's end. Even the maturity of a sophomore begins to have both a steadying effect, and a studying effect. Stay by it, lads. You'll grow up a lot in the next year.

Catalogs Scarce

Don't be too discouraged if you can't get your hands on a General College Catalogue. It is sometimes said that if a prospective student can read and understand a college catalogue, he does not need to go to college. If you were to get your hands on a general catalogue, it might turn out you do not need a college educa-

tion, and we wouldn't want you to find that out.

Study Effectively

It is poor motivation when a student studies hard and prepares all of his assignments on time because he FEARS he may make poor grades.

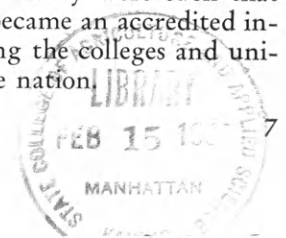
It is wonderful motivation when a student works hard and studies effectively because he desires an education. This student need have no uncertainties about how he will come out on his examinations. It is the target that counts.

Tribute to Waters

Returning to the reading room, the portrait recently hung at the south end of the room represents the likeness of Henry J. Waters, after whom Waters Hall was named.

Dr. Waters had been Dean of Agriculture at Missouri University. He came to Kansas State as president in 1909 and remained in that office through 1917. He left the College and became editor of the Weekly Kansas City Star.

It was during his administration at Kansas State that the institution really attained college stature. Requirements for admission were gradually raised until entrance units and status of the faculty were such that Kansas State became an accredited institution among the colleges and universities of the nation.



LAND JUDGING SCHOOLS

Teach Soil Evaluation

and Land Management

By Phillip A. Young

SOIL IS a building block for progress, prosperity, and a high standard of living in the United States, Harold B. Harper, extension soil conservation specialist at Kansas State college, said.

Chief support of life is the seven inches of topsoil that covers the earth's surface. This surface layer can be destroyed by careless land management, he warned. Soil is a residue of minerals, weathered rocks, and decaying organic matter produced by action of nature's forces such as sun, atmosphere, water, and plant and animal activity, he said.

FFA, 4-H'ers Attend

Last year 4-H club members and Future Farmers of America attended land judging schools to learn a greater appreciation of farm land management, Harper said. Land judging teaches appreciation of soil differences, land capabilities, and wise use of land, he said.

Land judging schools give young

These high school students learn to evaluate soil differences at a contest last October.



people a chance to evaluate soils by observing their characteristics, O. W. Bidwell, K-State agronomist, said.

A Kansas land judging school was conducted October 8, 1955, at Humboldt high school, Humboldt, by W. Gale Mullen, Allen county agent; Fred S. Knuger, Iola; Richard L. Googins, soil scientist, Yates Center; and Harper. M. B. Tinkler, vocational agriculture teacher, furnished facilities for the school.

Slides Shown

There were 65 high school boys participating. During the morning program, slides about land production and conservation practices were shown. Use of a land judging score card was discussed.

Score Card Shows Factors

Front of a score card shows factors used in judging land. Surface texture is marked as coarse, medium, or fine. Sometimes color of topsoil is observed in relation to subsoil, Harper said.

Movement of air and water in subsoil is studied from a hole dug in the soil. Depth of the surface is observed and classified by marking the proper square on the card. Slope is estimated and marked nearly level, gently sloping, or moderately sloping. Amount of erosion is determined from original soil depth.

Judged for Proper Use

Land is classified according to its capability and as to type of vegetation that should be grown. It is judged for proper use, as for crops, woods, pasture, or wild life.

A contestant suggests the most intensive cropping system that is safe for the land. A soil test is taken and the contestant determines amount of fertilizer or lime needed. He then suggests an appropriate soil conservation program, such as contour farming, terracing, or a drainage system.

Boys were divided into four groups to judge four fields. The groups judged each field in rotation until every group had an opportunity to judge the four fields. After judging, the groups summarized results and gave placings.

No Awards

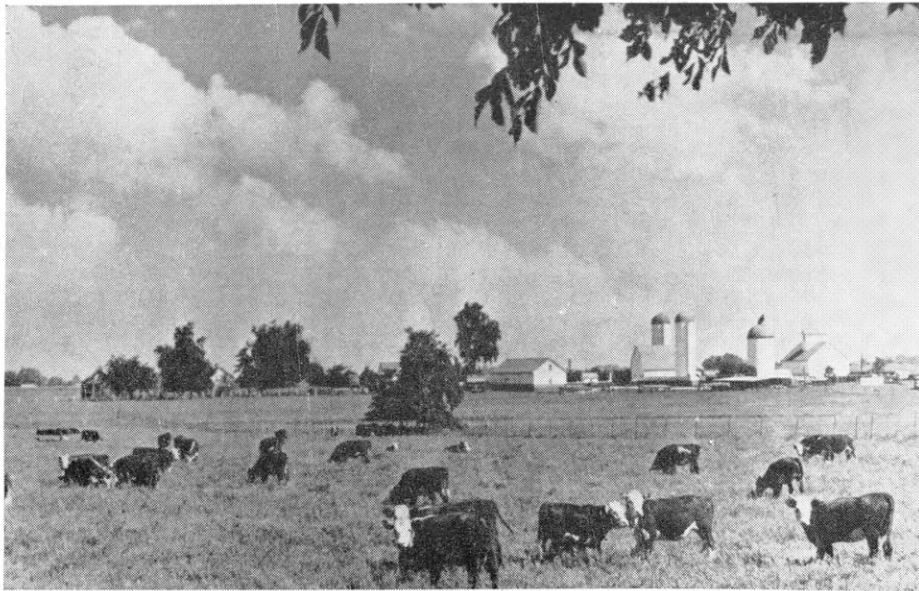
No awards were given at this contest. It was a method demonstration about principles of land judging. The boys met to learn land judging, Harper said.

Land judging is more than a soil science; it covers physical traits in planning for future needs of the land. Land judging is still in the developmental stage, but it has proven itself. These land judging schools teach 4-H and FFA members to understand the value of land, Harper said.

Another agency that has contributed to improvement of farm living conditions is Farm Foundation, F. D. Farrell, K-State agricultural economics department, said.

Foundation Provides Funds

The foundation, originated in February, 1933, provides funds to institutions, corporations, universities, and individuals to conduct research on economic and social problems of rural people, Farrell said. Research topics include land tenure, rural electrifica-



Improving rural society has been the goal of the farm foundation for the past 22 years.

tion, education, health, churches, public policies affecting agriculture, farm management, human relations, water resources, and consultative services.

Dr. W. H. Pine, economics professor at K-State, is a member of the land-tenure committee. Last year this group discussed problems of con-

servation on rented land, land prices, credit and tax assessments, and efficiency of land-tenure arrangements.

The group prepared three pamphlets: one was written on property assessment improvement and the other two on methods and problems of farm rental practices in the United

States. Plans for 1956 include preparing reports on becoming established in farming and conservation of rented land.

A committee on farm management, headed by J. A. Hodges, agricultural economics, and John H. Coolidge, agricultural extension, studied economic aspects of soil conservation. The group published pamphlets on profitable use of fertilizers, economics of cropping systems, and economics of forage evaluation.

In 1956 the group plans to prepare reports on managerial problems in feeding a dairy herd, economics of irrigation, and problems of a small farm. A project is planned to improve information for farm development and management.

Copies of these publications go to people in rural communities. Farm Foundation is supported by private endowments, Farrell said.

The Farm Foundation is not a pressure group and subject to laws like a government agency, he said, but it is free to operate in the best interests of rural welfare, thus making rural society a better place for this and future generations to live.

"See 'Yuh'...



at the Can"

The COLLEGE CANTEEN

CHAS. W. RAMEY, Prop.



FARM PONDS

for recreation

By Ray Lippe

MANY POUNDS of fish can be pulled from a farm pond if a little care is given to its management. Management of a pond for fish begins with species of original stock. It is a good practice to avoid stocking with carp, suckers, and other undesirable fish.

Thousands of fish are propagated each year at the state fish hatchery at Pratt. Approximately one million fingerling fish, of which about one-half are channel catfish and the remainder bass, crappie, and bluegill, are distributed each year to lakes and ponds of Kansas.

Fingerlings, fish about a finger-length long, are distributed by trucks with water circulation systems. The fish are taken to division points or county seats where a farmer may get them free.

Before stocking a pond it should be determined if the watershed is good enough. A good watershed should be in grass or other types of permanent vegetation to assure relatively clear water for livestock and fish.

If a portion of the area is cropland, this land should have a long rotation in which grasses or legumes are the primary crops. If a pond fills with silt the water supply for fish may be inadequate.

Another reason for having clean drainage water is that certain species of fish such as bass and bluegills are sight feeders and must be able to see their food. Clear water is also cooler because it absorbs less sunlight, contains more oxygen, and provides a more suitable environment for growing fish.

Ponds with less than one-half of a surface acre are not suitable for stocking fish. It is recommended by the Forestry, Fish and Game commission

that a pond should have at least one acre and usually not more than three acres of surface water. The water must be deep enough to supply adequate water during dry years and during winter months. At least five feet of water is needed to prevent winterkilling.

Get Adaptable Varieties

To determine species of fish desirable in a farm pond, three factors should be considered. First, adaptability to pond life, that is, they must be able to reproduce adequately in order to maintain numbers and must grow rapidly under pond conditions. Second, they must be desirable to fishermen for food or sport. Third, they must be able to maintain themselves in balance with their food supply and in balance with other species.

The greatest difficulty in selecting a species of fish is to get a combination that will stay in balance. Certain species such as bluegills, catfish, and sunfish reproduce so rapidly under pond conditions that they often become out of balance with their food supply.

Combinations recommended by the

Forestry, Fish and Game commission are based on fingerlings per surface acre of water. The commission suggests stocking with 100 bass and 100 bluegills for clear water; 100 bass and 100 bluegills, or 100 bass and 100 channel catfish for slightly cloudy water; 200 channel catfish alone; 100 bass, 100 bluegills, and 100 to 200 bullheads.

Most farm ponds stocked by the commission contain bluegills, sunfish, and large-mouth black bass. This combination is used because the bluegills utilize the natural food and are in turn used as forage by the bass.

Channel Cats Preferred

In Kansas, channel catfish are preferred by fishermen. They are adapted to nearly all pond water in the state, grow rapidly to edible size, have palatable flesh, take a variety of bait, and if growing vigorously offer considerable resistance at the end of a line.

Fish stocked as fingerlings in the fall can be taken the second summer. Bass are then 10 to 12 inches long; channel cats, 14 to 18 inches; and bluegills, 6½ to 7 inches. It is im-

These K-Staters find that a pond can provide enjoyment in the winter for ice skating.



portant not to fish bass and channel cats the first summer as they do not spawn until the second spring.

Channel cats seldom spawn in farm ponds; they must be restocked. About 50 fingerlings are added every other year. Catfish are taken from bottoms of streams and ponds, while bass and bluegills are caught near the surface. For this reason, one fishing for channel cats will seldom catch bluegills or bass.

Harvest Regularly

An important management practice is to harvest fish regularly. Fish become overcrowded and stunted, unless fish poundage in the pond is kept down. When a pond is stocked with more than one kind of fish, it is important that equal poundage of the different species be removed. Since bluegills ready to be taken weigh about one-fifth pound and bass about one pound, to remove them pound for pound, about five times as many bluegills as bass must be taken.

Sometimes visitors to a farm want to fish for bass only. This leaves a lot of bluegill and channel cat fishing



Who says fishing is for old folks?

for someone else. If the owner cannot fish as much as he would like, he should invite others to fish.

Professor Thomas B. Avery of Kansas State college, who has a farm pond, said, "It is a problem to keep the bluegills down." In a way, they are the best of the fish because a person can catch them almost any time of the day and almost any day of the year. They provide good fishing for women and children who often use cane poles and bobbers. On a fly rod, even a six-inch bluegill is real sport, he said.

Fence Cattle Out

Fencing a pond helps prevent silting by keeping cattle from trampling the banks. It also prevents cattle from polluting the water. Placing a fence 50 to 100 feet from the water's edge will keep cattle from the fishing and picnic area.

Most Midwest farm ponds need no fertilizers. The average Kansas pond will support from 200 to 500 pounds of fish per acre without fertilization. Rarely is more than this amount of fish per acre taken from a pond in one year.

To obtain fish for stocking write to the Forestry, Fish and Game commission at Pratt and ask for an application for fish. Requests should be in the office by September 1, because deliveries are made from September to December and usually a community is visited only once a year.

The commission suggests that the application be as complete as possible, with an accurate report on the size of the pond. If a customer is undecided as to species of fish desired, men at the hatchery will select them upon request.

Stock in Fall

Fish are stocked in the fall because the mortality rate is lower than when stocked in the spring. Another reason for fall stocking is so the hatchery will not have the expense of feeding the fish over the winter.

The commission refrains from stocking old pond waters because they have found that if fish have been in a pond for several years it is usually overpopulated. They will stock old ponds after they have been drained and fish removed.

Once fish have spawned successfully in a pond the population will be established and nature will turn out fish almost as fast as a person will be able to hook them, commission representatives maintain.

Ponds have many other uses besides supplying water and providing a place to fish. A pond site makes an ideal spot for an outdoor recreation area.

A pond may be used for swimming in summer and ice skating in winter. If a few shade trees are planted, the pond site will furnish an invaluable picnic area.

Hey FELLOWS

NEED A
BOOK
or
A PENNANT
or a
GISMO
for that
Lab?



COLLEGE BOOK STORE
Your Friendly Book Store Nearest The C. State
• AGGIEVILLE •

*For 34 Years
Style Headquarters
for
Kansas State's Best Dressed
Men and Women
Featuring—*

KUPPENHEIMER
BOTANY 500
KINGSRIDGE
CLOTHCRAFT
Suits

ARROW
Dress Shirts

ARROW & MCGREGOR
Sport Shirts

FLORSHEIM & FREEMAN
Shoes

STETSON
Hats

Stevenson's

317 Poyntz

The Store for Men and Women

TRACTOR GADGETS

Need Skilled Operators

By *Roe Borsdorf and Lowell Satterlee*



Cliff Hinkle, of the Standard Oil company, shows how to adjust a clutch pulley.

THE FARM tractor is a modern engineering marvel. In the past several years tremendous strides have been made in tractor improvement.

Today's tractor features use of hydraulic systems. Power steering saves effort in maneuvering a tractor under heavy front-end loads and increases safety when traveling over rough ground.

Mounted and pull-type implements are lifted from the soil by hydraulically controlled cylinders to replace hand or mechanical lifts formerly used. The newest power feature is hydraulically boosted brakes. Hydraulic pumps built into the transmission of the tractor enable an operator to use five cylinders by regulating the number of control units.

Present-day hydraulic systems use high pressure and small cylinders to eliminate bulky equipment. Live hydraulic systems permit an operator to use them without having to clutch the tractor.

Live Power Take-off

A live power take-off, with or without an independent clutch, is a feature which enables a farmer to move a tractor at low speeds or standing still without stopping the power take-off.

One tractor company has developed a "two-state" clutching system by using a live power take-off. When the clutch is depressed half way, the tractor stops forward movement and the power take-off continues to operate.

With the clutch completely down, both forward movement and power take-off revolution are stopped. The company has developed a power take-off to revolve proportionally to the ground speed of the tractor, or one engine revolution per minute.

As tractors become larger and more powerful, disc-type brakes are replacing band-type. Disc-type brakes present a larger surface for braking a tractor.

Power wheel-adjustment has been developed. The wheel is designed so lug bolts may be loosened. The clutch, when slowly engaged, permits the wheel hub to slip inside the tire and rim until the desired width is obtained.

Fast Hitch

Tractors may be purchased with three-point implement hitches. One called "fast hitch" allows an operator to remain on the tractor seat while hooking up a mounted implement. This hitch transfers weight from the force of the soil against the implement to the rear tractor wheels to produce traction.

A system of remote coupling allows use of larger implements than can ordinarily be mounted. A remote hydraulic cylinder and wheels on the implement are used for transport lift. Soil force against the heavier implement creates weight transfer to the rear of the tractor, giving it traction to pull a large implement.

Improvements are being made in transmissions. Agricultural engineers

have calculated work requirements into four ranges: heavy duty, 0 to 2½ miles per hour; heavy draft implements, 2½ to 4 m.p.m.; high speed implements, 4 to 6 m.p.h.; and transport range, 6 to 18 m.p.h.

The idea is to get a pattern of gears in these ranges that will fit the size of the tractor. An operator should be able to shift gears fast in these ranges, with minimum effort and loss of speed.

Closer ranges and greater speeds have been gained by a torque amplifier, a planetary-type transmission. This transmission produces more efficient engine loading due to increased forward speeds.

Keyturn starting, hourmeters, and tachometers are installed on tractors. Keyturn starting protects against thieves or anyone meddling with a tractor. Hourmeters indicate when maintenance is necessary. Tachometers gauge ground speed when spraying or applying fertilizer.

Lock Starter

Locking the starter when the transmission is in gear has prevented many accidents. Battery ignition has become popular in the past few years because it offers reduced maintenance. Tractors with high-compression ratios require 12-volt electrical systems to produce higher torque when starting.

There has been an increase in the number of different sizes of tractors being built to accommodate the increase in the different sizes of farms. Large tractors are powerful for oper-

ating large farms, while small tractors are light-weight and maneuverable for small farms.

Improvements in tractor engines include sodium-cooled and rotating exhaust valves, special alloy intake valves, and better metal in bearings.

Engines may be purchased in four fuel types: gasoline, LP gas, diesel, and distillate. Compression ratios of each type are being raised to take advantage of high-quality fuels now available.

With numerous sensitive, high-powered gadgets being installed on modern tractors, it is almost necessary to conduct clinics for farmers to become proficient in safe, efficient tractor operation.

"One of the best ways of obtaining correct and efficient tractor operation is to properly train the youth who are doing much of the farming today, and who will be farmers tomorrow," said John M. Ferguson, extension engineer at Kansas State college, when he and G. W. Ingraham, chief automotive engineer, Wichita division of Standard Oil (Indiana), originated the 4-H tractor program.

The program is designed to teach safety. In 1943 an extension agricultural engineer and a 4-H club leader from each state met in Chicago to begin the program.

Under the original plans the tractor program was set up on a county, or a community basis. Tractor clubs

consisted of members of several 4-H clubs. For example, if there were three 4-H clubs in a county, one tractor club could be composed of members of the three 4-H clubs.

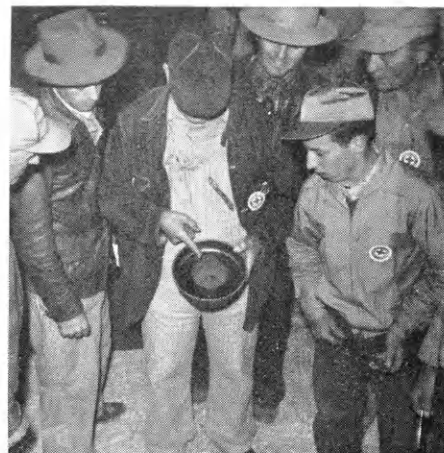
Leaders Selected

Leaders for the 4-H tractor project are selected on a scholarship basis to attend a three-day tractor clinic at the Kansas State Fair grounds at Hutchinson. These clinics are held each October to give the leader practical instruction in tractor servicing and maintenance.

Tractors for the clinic are supplied by local farmers and implement dealers. A representative from each tractor company serves as an instructor. The leader gains knowledge to teach fellow club members. Approximately 1,000 volunteer leaders have been trained in Kansas since 1943, Ferguson said.

Mileage to and from Hutchinson, food, and lodging expenses are paid by Standard Oil foundation. Leaders are fed and rooms are provided at the 4-H encampment building on the state fair grounds.

Each leader receives a tractor program kit which includes four workbooks designed to guide a member through the year's work. Each tractor club member is given a workbook of information, tests, and work sheets which apply to a member's tractor.



A green cross for safety is worn unless a safety rule is violated and the badge taken.

These workbooks must be completed for a member to receive credit for the program.

One workbook is machinery maintenance. Although machinery is not stressed in the program, it plays a vital part in the overall plan, Ferguson said.

To add interest to the project, a skilled tractor operators event is held at the state fair each year. Participants are county winners selected for quality of work completed during the year. Contestants must also have a 4-H record book completed.

There are two parts to the skilled operators event: a written test and a driving contest. Object of the contest is to exhibit safe driving. Speed is not emphasized. Contestants drive a tractor over a prescribed course, which includes several tractor maneuvers.

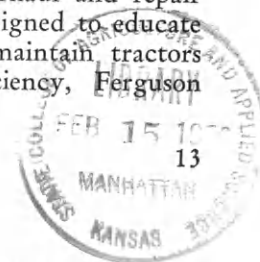
Robert LeHew, Brown county, 1955 winner, received a trip to the American Royal 4-H club conference in Kansas City, Mo.

An indication of the size of the program can be seen by the area it covers. The program is carried in each state, Alaska, Hawaii, and Puerto Rico. In 1955, 70,845 4-H club members were enrolled in the program in the United States.

Kansas maintains the strongest program of any state, with 2,176 members enrolled in the project in 1955.

The 4-H tractor program can be summed up in three words: "care, not repair." The program is not designed to teach overhaul and repair of tractors; it is designed to educate tractor drivers to maintain tractors for maximum efficiency, Ferguson said.

Club members learn to maintain tractors at maximum efficiency at a Hutchinson clinic.



Bandaging Skill

*Is Learned by K-Staters
Enrolled in Family Health*

By Bev Sargent

ACQUIRING skill in making functional, comfortable, durable, and attractive bandages is one of the objectives of students enrolled in Family Health at Kansas State college.

Approximately 60 K-State coeds and occasionally a male K-Stater enroll in the course each semester. The course is designed to train a homemaker in keeping a family well. Since sickness and accidents do occur in families, a student of family health also learns to care for the sick and injured.

Students usually enjoy bandaging, Miss Jennie Williams, instructor, said. They are usually amazed to discover how easy bandaging is.

All home economics teaching majors are required to take Family Health. The course is planned to give a prospective teacher material which she can use as she teaches in the areas of home living.

Bandaging also lends itself to demonstration work. Many students, who plan to be home demonstration and 4-H club agents, find the bandaging unit helpful.

Family Health students exhibit bandaging skill in a practical final examination. They are also tested on making an occupied and unoccupied bed and on giving a bed bath.

The text for the course, "Family Health," was written by Miss Williams in 1945 and revised in 1953. Before the text was available, students used mimeographed material and reference books, which make the course time consuming, Miss Williams explained.

Miss Williams earned Bachelor of Science and Master of Science degrees in education at K-State. Following her graduation she worked as a home demonstration agent in northern Michigan. She took nurses' train-

ing and became a registered nurse at Ann Arbor, Mich., making her well-qualified to teach a family health course.

"I would have stayed in nursing except for the long hours," she said. "At the time I was in nursing a nurse was expected to stay with her patient at all times. Most nurses worked 20 hours a day, sleeping in their spare time."

Miss Williams has taught Family Health at K-State since 1932.

Bandages serve several purposes. A bandage may hold a sterile dressing over a burn or wound. It may be used to apply pressure, as a tourniquet to stop bleeding; it may limit motion, as an arm sling; or it may give support or protection.

An arm sling is made by folding diagonally a piece of cloth one yard square, to form a triangle. One end of the triangle is put over the shoulder

on the side of an injured arm. The triangle point is placed even with the elbow, and extending past it. The third end of the triangle is put over the other shoulder.

The two ends are tied with a square knot at the back of the neck and the ends tucked in neatly. A sling should be tight enough to elevate the arm two or three inches above the level of the elbow.

Cloth which extends beyond the elbow is folded and tucked in so that extra material is out of sight, inside the sling. This fold is fastened with a tiny safety pin placed on the inside.

A rolled bandage is the most common type used today. It is applied by unrolling a strip of fabric over the part of the body to be bandaged, using two or more of seven fundamental bandaging turns.

Whenever possible the distal end of the part of the body being bandaged

First aid methods are being practiced by K-Staters enrolled in a Family Health class.





Sprained ankles and skinned elbows are no problem for these girls trained in first aid.

should be left uncovered so that blood circulation may be checked. If this distal part becomes pale or cold the bandage is too tight and should be removed and made again.

A circular turn is simple. It consists of unrolling a strip of fabric, with each turn going exactly over the preceding one. This anchors a bandage and is usually the first and last turn used in making it.

Spiral turns are used to bandage parts of the body that do not change in shape, such as the fingers. In a spiral turn each turn of the fabric ascends higher on the finger than the one before, overlapping one-half to two-thirds.

For oblique turns each turn ascends higher than the one before, but instead of overlapping the preceding turn uncovered skin is left between the turns. Oblique turns are used to

extend the bandage from one part of the body to another part.

In bandaging a finger, for example, the bandage might be secured with circular turns at the base, then with an oblique turn the fabric could be extended to the end of a finger.

Figure-eight turns are made by unrolling a bandage strip with the same pattern used in writing a numeral 8. This turn might be used to bandage above or below an elbow. The fabric would first be brought around the arm below the elbow, then crossed up and round the part of the arm above the elbow, forming a figure eight.

The spica turn is very similar to the figure eight except that one of the loops of the figure is gone around twice.

Spiral reverse turns are used when a part to be covered changes in size,

as the forearm. Spiral reverse is like a spiral in that each turn ascends higher than the preceding one and partly overlaps it. Difference is that on each turn the strip of fabric from which the bandage is being made is turned over. This turning over makes a cross design on the bandage. On a well-constructed bandage the crosses will be in a straight line to make a bandage fit.

A recurrent turn is used to bandage an end of a finger. A strip of fabric is placed along the front of a finger, over the end, and down the back. Three layers are applied this way, and then two circular turns are made at the base of the finger to secure the bandage.

These seven turns may be combined to bandage any part of the body. Bandages are fastened at the end by pinning with a small safety pin, by adhesive tape, by whipping the end down with a needle and thread, or by splitting the end of a bandage in two parts and tying them. Knots and pins should never be placed over a wound or where they may cause rubbing, Miss Williams said.

With Old Man Winter on His Way

WINTERIZE YOUR CAR

**JERRY NOLL'S
TEXACO SERVICE**

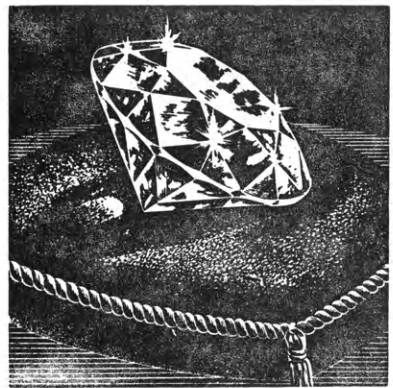
Claflin and Denison
(At the NW Corner of Campus)

Anti-Freeze — Lub — Gas — Oil — Wash



DIAMONDS
WATCHES
JEWELRY

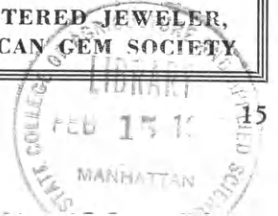
Diamond Specialists



REED & ELLIOTT
Jewelers

Wareham Theatre Bldg.

REGISTERED JEWELER,
AMERICAN GEM SOCIETY



Certified Seed

will be in demand for spring planting by progressive Kansas farmers who want to know what they sow. The following certified seeds will be available:

Alfalfa

Buffalo

Barley (spring)

Beecher
Custer
Otis

Corn-Hybrid

K1585
K1639
K1784
K1830
K1859
K2234
AES 903W
U.S. 13

Grasses

Achenbach Smooth Brome
Blackwell Switchgrass
El Reno Sideoats Grama

Oats

Andrew
Cherokee
Kanota
Mo. 0-205
Nemaha

Sorghum-forage

Atlas
Axtell
Early Sumac
Ellis
Kansas Orange
Norkan

Sorghum-grain

Coes
Martin
Midland
Plainsman
Westland

Soybeans

Clark
Hong Kong
Perry
S-100
Wabash

Sudangrass

Greenleaf
Wheeler

Sweetclover

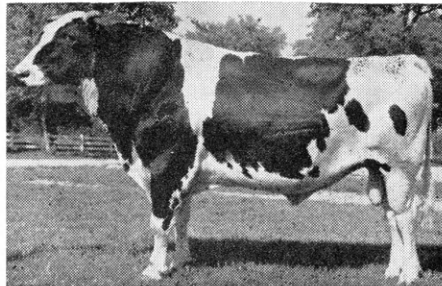
Madrid

The Kansas Crop Improvement Association

MANHATTAN, KANSAS

Visitors Always Welcome

**Kansas
Artificial
Breeding
Service
Unit**



Meierkord Netherland Triune, 886182

Now in its sixth year with over 225,000 cows bred since March 1, 1950

Selected Sires *combining* Production
and Type are available to you!



The Sign of Value

Milking Shorthorn **Ayrshire**
Brown Swiss **Jersey**
Holstein **Guernsey**

"71 Counties Cooperating"

For Further Information—
See Your County Agent

Department of Dairy Husbandry
Kansas State College
Manhattan, Kansas

Barns located one mile west of campus

**Be
Collegiate**

Wear

Eye Appeal

Clothes

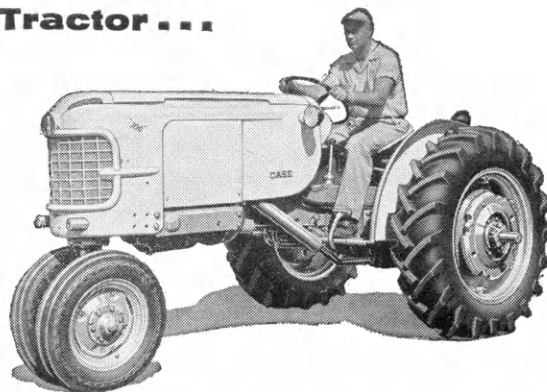
from

Woody's

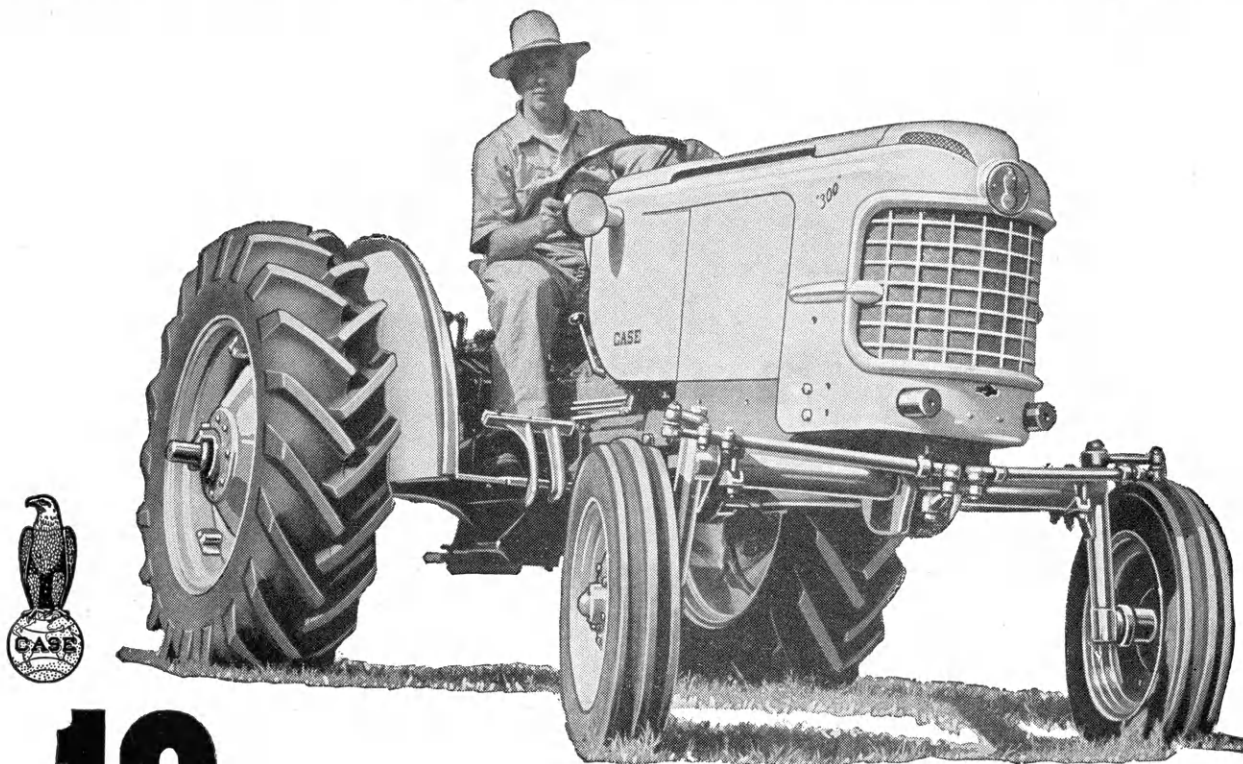
1227 Moro

Daring New 3-Plow Tractor . . .

CASE "300"



Alive with Spectacular Advantages

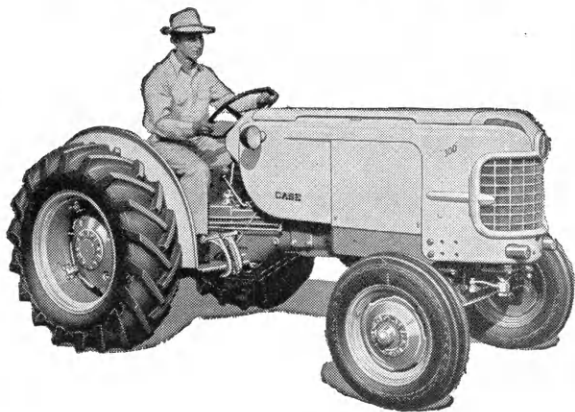


12

speeds

evenly spaced, overlapping gear speeds forward, all the way from 1.6 to 20 MPH... plus three reverse speeds.

- ★ Powr-Torq Engines...gas, LPG, distillate, diesel
- ★ Tripl-Range Transmission...12 speeds forward
- ★ Safety-Lock Hydraulic System...duo-control
- ★ Cam-and-Lever Steering...new short turning
- ★ 3-Point Eagle Hitch...constant PTO
- ★ Tell-Easy Instrument Panel...eight indicators
- ★ Powr-Shift Rear Wheels...plus sliding hubs



Bursting with features that put thrilling new meaning into performance and horsepower . . . the Case "300" brings to life your dream of the ideal in modern 3-plow tractors. For the first time in any tractor the "300" offers you an amazingly simple, easy-shifting Tripl-Range transmission that makes full use of engine power . . . plus a host of other new advantages . . . for job versatility never before achieved. See your Case dealer now about the new Case "300" . . . you'll agree it sets a new trend in tractors. Ask about the sensible Case Income Payment Plan. For colorful "300" catalog, write J. I. Case Co., Racine, Wis.

Farm Mechanics Contest February 18

CUISINE

The first Farm Mechanics contest at Kansas State college, sponsored by Agricultural Education club, is scheduled for February 18, Dick Baker, president, said.

Students of any curriculum may enter either a morning or an afternoon session of approximately three hours.

Contestants will be separated into junior and senior divisions. Students who have completed a course in Farm Mechanics or equivalent will be in the senior division.

The contest is patterned from the state FFA contest with competition in four divisions: arc welding, car-

penry, farm machinery, and tool conditioning.

Many valuable and useful awards are available for winners, according to Ralph Kenworthy, awards chairman. Registration booths will be set up two days before the contest.

When a small boy contestant on "Name That Tune" missed the melody of "Toyland," M. C. Red Benson offered this hint: "When you go to a department store with your mother where's the first place you want to go?"

Replied the enlightened youngster, "To the bathroom."

A gentleman was dining at an exclusive restaurant. It seems his veal chops were rather tough, so he called the waiter over to complain.

Diner: "Waiter, these chops are much too tough to be veal."

Waiter: "I can assure you, sir, that they are veal. I was a butcher once and I can tell you that not more than three months ago that meat was on the hoof, following a cow around."

Diner: "Probably so—but not for milk!"

I often wondered where mothers learned those things they tell their daughters not to do.

THE MAN On the farm

... Is a Businessman!

Today, as never before, the farmer is a businessman. He needs to know feed prices, balance his budget, utilize his machinery to the utmost and handle his hired help.

He also knows the importance of proper insurance coverages to protect his investment. Your Farm Bureau Insurance agent is also a businessman and he knows the farmer's problems.

Consult your county General Agent and ask about the coverages needed on your farm.

- Auto-Truck-Tractor-Combine
- Life Insurance
- Fire and Windstorm
- Farmers' Comprehensive Liability

Farm Bureau Mutual

Insurance Co.

Kansas Farm Life

Insurance Co.

Manhattan, Kansas

"Service Companies of the Kansas Farm Bureau"

