



The National

Future Farmer

Owned and Published by the Future Farmers of America



April-May, 1969

The pocketproof 22's.



Pockets, unfortunately, just aren't the cleanest places.

But pockets are where 22 cartridges spend most of their lives—from the time they're dumped out of the box till they're fired.

So, in addition to being waterproof, dirtproof, mudproof, rustproof, foolproof and misfireproof, good 22's also have to be pocketproof.

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Every Remington/Peters "golden" bullet 22 we make is individually polished and coated with a special, non-sticky, greaseless lubricant.

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That's because Firestone 23° tires outpull old style 45° tires by 10-16%.

The 23° traction bars have more bite. Stop costly "slippage." You cover more ground. In less time. On less fuel. And get up to twice the wear on roads.



Choose the 23° tire that's best for your tractor. All Traction Field & Road, Field & Road, or the Deep Tread. At your Firestone Dealer or Store.

All Traction Field & Road, Field & Road, Firestone Tires.



Firestone

The National Future Farmer



VOLUME 17

NUMBER 4

APRIL-MAY, 1969

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THIS ARTICLE IS ABOUT YOUR NATIONAL FFA SECRETARY JERRY BATTS. HE IS A HARD WORKING, BUT CONGENIAL, HAPPY FELLOW AND HAS AN INTERESTING OUTLOOK ON LIFE. READ ABOUT JERRY AND MAYBE SOME OF HIS ENTHUSIASM WILL RUB OFF ON YOU.



Hybrid Wheat 20

HYBRID WHEAT WILL SOON BE A REALITY IN THE FARMERS' FIELD. TO UPDATE YOUR THOUGHTS ON WHAT CHANGES HYBRID WHEAT CAN CAUSE IN SEEDING, FERTILIZING, AND PRODUCTION, READ THIS ARTICLE. THE FEATURE ALSO TELLS ABOUT NEW RESEARCH, PROBABLE PRODUCTION COSTS, AND ON-THE-FARM SEED PRODUCTION.



Field Archery 40

FIELD ARCHERY IMITATES HUNTING AND IS MORE FUN THAN TARGET SHOOTING. THIS ARTICLE TELLS HOW POINTS ARE SCORED, ABOUT THE DIFFERENT TARGETS, AND TAKES YOU THROUGH AN ACTUAL GAME.



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OUR COVER

These Wyoming Future Farmers from the Lander and the Albin Chapters have stopped for a hearty lunch during a fishing trip into Canada. This cover photo shows the home of a native trapper with his cabin in the background. The only way to get to this island is by traveling 30 miles by boat and then making two overland trips of about 100 yards. The fishing trip was considered a success since the party of 18 had 1,000 pounds of fish, and everyone caught at least an eight-pounder. The FFA advisors of the Lander Chapter are Mr. Arlond Carlson and Mr. Laren York; and the advisor of the Albin Chapter is Mr. Jock Humphrey.

Photo by Ray Difelici

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The National FUTURE FARMER

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Try for this art scholarship in advertising art, illustrating, cartooning and painting. Entries for the current contest due by May 31, 1969. None can be returned. Professional artists and our students not eligible. Contest winner will be notified. Send your entry today.

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A Word with the Editor

A FEW chapter presidents will have an unforgettable experience of a week's duration this summer. These are the chapter presidents who will attend any one of three National Leadership and Citizenship Conferences in Washington, D.C. The dates are June 23-28, July 7-12, and July 14-19. If you plan to attend, get your application in right away before the May 1 deadline and before the conferences are all filled. If you need information, write to the National FFA Office, U.S. Office of Education, Washington, D.C. 20202, or to us here at the Magazine and we'll see that you get the information.

It will be a real treat to have the opportunity of meeting with other chapter presidents from over the country in addition to visiting the nation's capital. If you have never been to Washington, D.C., let me tell you that it is an interesting place. The world's largest agricultural center as well as numerous agricultural and professional societies and trade associations are located in the area. While here, chapter presidents will have an opportunity to explore national and international career opportunities in agriculture and participate in many other important and interesting activities. This will include a visit to the National FFA Center, the White House, and the Capitol. National FFA officers will conduct the program, and chapter presidents will share ideas with officers from across the country.

Though state presidents participated in a similar conference last year, and will have the opportunity of doing so again this year, this is the first time such a program has been offered to chapter presidents. It is a step forward for your national organization, and we believe it is a move in the right direction. Let's hope it proves to be a success so that FFA members for years to come will have the opportunity of participating in similar meetings in their nation's capital—one of the major nerve centers of the world.

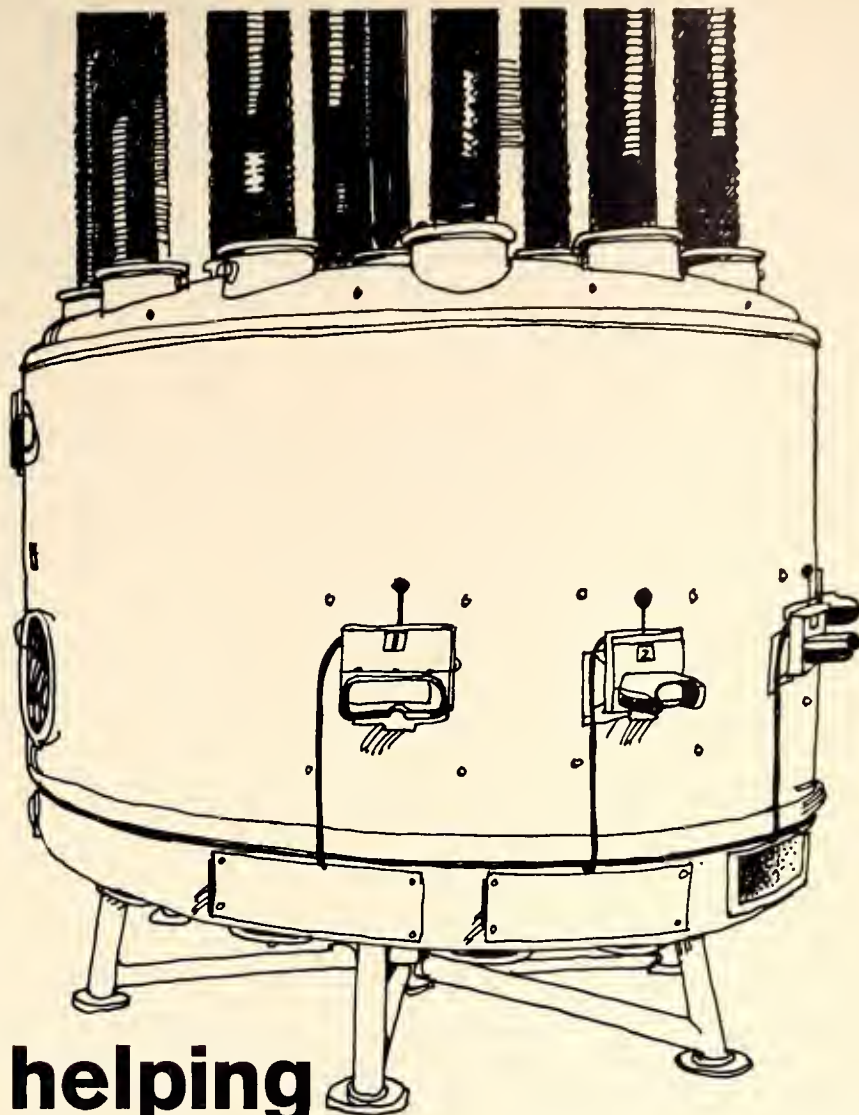
Magazine Staff Changes

Glenn Luedke has been named advertising manager of your Magazine, replacing Lennie Gamage who has accepted a new position with the FFA. Lennie's present assignment is manager of Center Development and International Programs. He had been with the Magazine since 1960 and advertising manager since 1965. Lennie was a national FFA officer in 1955-56 and served as vice president of the Southern Region. His record in the FFA includes the American Farmer Degree, president of his local chapter and the Virginia Association, and district public speaking honors.

Glenn previously served the Magazine as regional advertising manager. He grew up on a 160-acre livestock and crop farm near Wisner, Nebraska. In addition to holding several offices in his local FFA chapter, Glenn served as vice president of his state association in 1961-62.

In the Chicago office, Duane Leach has been appointed Midwest advertising manager. He replaces Dick Thompson who resigned earlier this year to take another position. Duane served as national FFA vice president of the Central Region in 1961-62 and came to the Magazine from Wells, Minnesota, where he was a teacher of vocational agriculture and FFA advisor. While in FFA, he was a member of the Winnebago, Minnesota, FFA Chapter.

Wilson Carnes
Editor



It's helping America breathe easier.

This is a smog chamber. And regularly a group of carefully screened volunteers gather in a room at the GM Research Laboratories in Warren, Michigan. They seat themselves around the 5-foot by 9-foot stainless steel chamber. At a signal from a researcher, they move close to the chamber and peer in through small individual portholes.

These people are exposing their eyes to artificial smog. It's all part of a study that GM's been working on for years to find out what effects various automobile exhaust mixtures have on smog formation and eye irritation. Inside the chamber, hundreds of lights closely simulate the spectrum of the Los Angeles noonday sun . . . and trigger the complex chemical reactions that result in smog.

GM's research has already paid some rich dividends. Recently, for example, our chemists discovered and identified a compound in the smog chamber that's 200 times more potent than formaldehyde, a known eye irritant.

Their discovery may pave the way to improved fuels and automobile controls. Already such basic research has helped our engineers develop emission controls installed on all new GM cars. These control systems reduce by two-thirds the pollution levels of 10 years ago!

Smog-free America may not arrive tomorrow, but the prospect is brighter. GM is seeing to it.

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Truck & Coach • Detroit Diesel • United
Delco • AC Spark Plug • Allison • Electro-Motive •
Earthmoving Equipment Division

Looking Ahead

Livestock

"SOLAR HEAT" EGGS—The principle of solar heat is being used to produce dry laying house litter and thus cleaner eggs. The University of Georgia Extension Service and agricultural specialists from Republic Steel Corporation are studying the effects of collecting heat from the sun, storing it momentarily, and then dispersing it into the laying houses. In a market where clean eggs command a substantially higher price, the maintenance of dry litter is an important factor, especially during the winter.

NEW ANTIBIOTIC—Neo-Terramycin Top Dress, a medicated crumbles containing two antibiotics and eight essential vitamins, has been introduced by Pfizer Agricultural Division. According to the company, the new product is designed for easy application as a top dress or for mixing into daily rations and is effective in the control of intestinal infections in animals. It is recommended for use with dairy and feeder calves, pigs, sows, chickens, and turkeys.

LAMB FEEDING—High roughage rations apparently are not essential in feeding programs for young, growing lambs, reports animal scientist Dr. Hudson Glimp of the U.S. Meat Animal Research Center. Differences in the average daily gain of ram lambs on rations containing 60, 75, and 90 percent levels of concentrate were not significant. Feed efficiency improved as the total digestible nutrient level of the ration increased and, with the possible exception of the lambs receiving the 90 percent concentrate ration, pounds of TDN per pound of gain remained almost constant.

NEW HOG PREMIX—Farmers mixing their own hog rations with grain, protein ingredients, and commercial premixes have found it increasingly difficult to obtain meat scraps and other animal proteins. A recent development by Watkins Products, Inc. has eliminated the need for meat scraps by adding lysine and methionine to their premix, Min-Vite for Swine. According to the company, adding the new premix to hog rations will permit farmers to mix modern rations with low-cost, easily obtained plant proteins instead of meat scraps.

Crops

NEW WHEAT VIRUS—A new virus, tentatively named the wheat bleach virus, has been recovered from diseased wheat and corn by Dr. Lowell R. Nault, research entomologist at the Ohio Agricultural Research and Development Center. The new disease is being called wheat variegation because of the various degrees of chlorosis which are caused in progressive stages of the disease. The wheat curl mite which is responsible for spreading other diseases from wheat to corn has been identified as the carrier of the disease.

NEW ROOTWORM CONTROL—Entomologist J. W. Apple of the University of Wisconsin reports a new and

better way of applying the insecticide-starter mixture. Applying a mixture of insecticide and starter fertilizer as a band along each side of the seed row controls corn rootworm more effectively than the common practice of applying only one band per row. Corn plots treated with two side bands per row registered an average rootworm control of 76 percent. On the other hand, plots receiving only one side band per row showed an average rootworm control of 15.5 percent.

EROSION FOLLOWS SOYBEANS—Land in a two-year rotation of corn and soybeans loses more soil by erosion than land in continuous corn, and heavy erosion occurs the year following the soybeans. Agricultural Research Service scientists in cooperation with Iowa Agriculture and Home Economics Experiment Station found that the average annual soil loss from soybeans following corn just equaled that from continuous corn. Soil loss from corn following soybeans was 40 percent greater than after continuous corn.

HIGH-ANALYSIS FERTILIZERS—Presently fertilizers with a nutrient content of 37 percent make possible such grades as 20-20-20 and 16-32-16. However, fertilizer scientists are now talking of ultra high-analysis organic compounds whose plant nutrient content exceeds 100 percent (on the basis of N-P2O5-K2O). This means that if carbon, oxygen, or other non-nutrient elements can be eliminated, compounds with much higher nutrient content than conventional high-analysis fertilizers could be produced. One such source is phosphonitrilic hexaamide, an experimental product with an analysis of 55-92-0 or 147 percent plant nutrients.

Land

TRAP SNOWMELT—According to Agricultural Research Service scientists at Mandan, North Dakota, controlling the height of standing stubble can serve as a management practice to trap snow, hold snowmelt in place, or partially control snowmelt runoff on slopes. Tall standing stubble will trap more snow, and the snow in the stubble will melt faster than the snow over the mulched strips because standing straws (a) conduct heat into the snowpack, (b) intercept and absorb solar energy, (c) reflect energy onto the snow surface, and (d) provide an effective heat trap.

Management

FARM RECORDS—Information from farm account records can be used as a diagnostic or analytical tool, and also as a service tool, says Robert K. Reynolds, management specialist at Virginia Tech. Their most valuable use is as a diagnostic tool for analyzing past performance and locating ills of the farm business. As a service tool, good farm records can be of immediate and direct use in filling out income and social security tax forms.

These planters grow with you...600 Series by Allis-Chalmers.

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Start with this frame...

Pick the frame width that fits your management program—2 rows to 12 rows. Then add the options! Plan for corn, beans, beets, grain sorghum (maize) and cotton. Add liquid tanks, granular fertilizer hoppers; herbicide and insecticide attachments. *You* build it in any combination. You can grow with the frame whenever you wish, for years to come.



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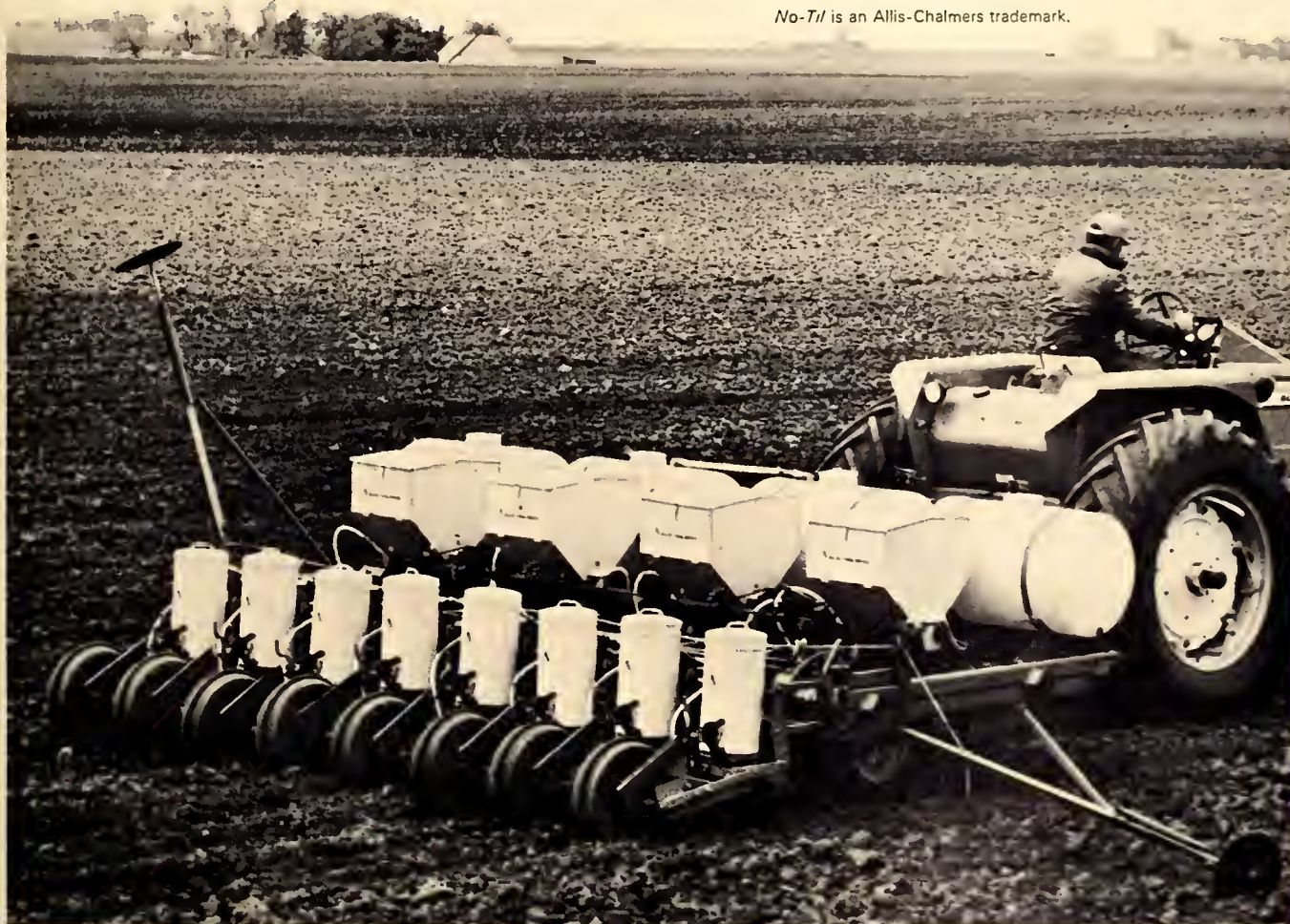
Do-anything flexibility to plant the way it pays you best—this year or five years from now—that's the beauty of the Allis-Chalmers 600 Series Planter. It's the multi-crop planter *you* plan around the basic tool-bar frame. You can add on, take off or reposition planting units, wheels, tillage teeth or *No-Til* attachments—fertilizer, insecticide and pre-emergence herbicide units, too. Adjust for any row width—40", 30", 20". Now or later.

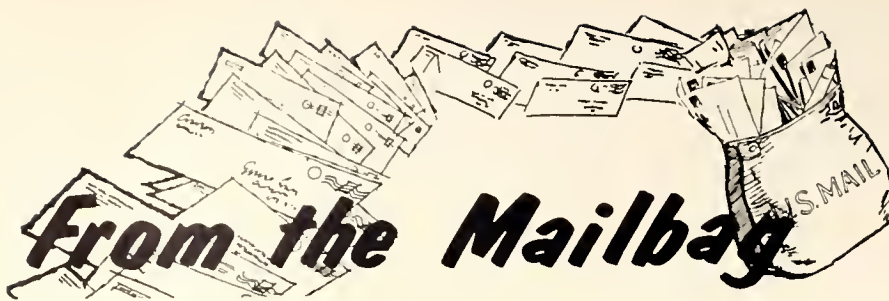
You'd think this planter was designed with your future in mind.

It was. So look into the planter system that adapts with you—*grows with you*. Let your Allis-Chalmers dealer help you get started with the units you need and liberal credit terms, too.



No-Til is an Allis-Chalmers trademark.





pamphlets. I enjoy our Magazine very much, but I think you should have more articles on farm and ranch management.

Bill Deal

West Bend, Wisconsin

During my last few years in high school I have enjoyed being a member of our FFA chapter at West Bend, and I have also enjoyed receiving *The National FUTURE FARMER* Magazine. I would like to suggest that maybe you have more articles on horticultural crops.

Frank Senner

Lawton, Oklahoma

I would like to know if I could take the "Future Farmer" Magazine. Although I do not have a copy of the December-January issue, I understand it has an article about agribusiness.

I am a Junior at Cameron State College majoring in agronomy. I was also in FFA four years at Waurika, Oklahoma.

Dwain Boren

Many former members subscribe and even retain membership in the FFA.—Ed.

Martin, Tennessee

I'm a Senior majoring in general agriculture at the University of Tennessee at Martin, Tennessee. In gathering information for a research paper on high lysine corn, I was very interested in reading your article in the February-March issue of *The National FUTURE FARMER*. This article will be invaluable in the writing of my paper.

Johnny S. McFall

Quincy, Florida

Since I have to stay inside because of the flu, I have read every page in the February-March issue.

I have been going hunting with my father since I was a very young boy and always enjoy it. If I had to say what I enjoy most, then I would say deer hunting.

Everyone should read the article "Trail Talk." After reading it, we can realize God's great gift of nature and how it works.

David Cox

Jonesboro, Tennessee

I enjoy the jokes from the National FFA Magazine. Here is a joke I hope you will use.

James Gore

Columbus, Ohio

I was glad to see that two Ohio pictures were used in the 1969 FFA Calendar. It was a pleasure to see them and to have Ohio represented.

Ralph J. Woodin
Professor, Agricultural Education
The Ohio State University

Dr. Woodin often takes 4 x 5 color transparencies which are used as covers of the Magazine and on FFA Calendars.—Ed.

Urbana, Illinois

I have just read your article "Lysine Corn—A Super Grain?" and congratulate you on its accuracy and readability.

D. E. Alexander
Professor, Plant Genetics
University of Illinois

Florence, Alabama

I'm rarely critical of editorial material. But I must complain about the story, "Machine Call A Predator."

The wild-eyed conservationists don't count me among their ranks. However, I am getting concerned over our seemingly blatant regard for our natural environment—including wildlife. The lowly alligator which used to cover the landscape of Florida is on the brink of extinction. Wild horses in the far west are becoming so rare that if not soon protected by law, they will disappear. And on and on it goes.

The predator, of course, has always been considered an enemy to farmers and ranchers. He still is. And I'd be after him if he got into my chicken house. But lure him with electronic sound then kill him just to make my dull winter days exciting? Never. Nor would I ever consider telling others how to do it. Our borders and our oceans are no longer far enough apart to consider the wanton killing of any form of wildlife. Our society can no longer benefit from advice on how to outwit nature.

I protest.

Fred Myers

Lubbock, Texas

The article "Beef Up Your Herd" in the December-January issue was interesting as well as informative. I wish you could publish some tips on the subject of selecting pigs for show. I am sure that an article like this would help a lot of FFA'ers choose better hogs for shows.

David Angerer

Wood River Junction, Rhode Island

The enclosed check is to cover the Chariho Chapter's FFA Calendar order. We were very pleased with the calendars.

Herbert H. Roberts, Jr.
FFA Advisor

Simmesport, Louisiana

The enclosed photograph of one of our chapter activities might be appropriate for "Photo Roundup" or some other use in one of the next editions.

Our chapter really enjoys our Magazine and is looking forward to the next issue.

J. J. Brackin, FFA Advisor
Ernest Gremillion, Chapter President

Thank you for sending us the photo of your chapter members preparing for your annual rat eradication campaign. We will hold this in our files for possible use in a future issue of the Magazine.—Ed.

Lander, Wyoming

I am enclosing the coupon from the December-January issue for the free

Kewanee, Illinois

I am from the Wethersfield Chapter of FFA, and I just received the February-March copy of *The National FUTURE FARMER*. As I was looking it over I became interested in an article, "Machine Call A Predator," and I would like to know more about this way of calling them. Also I would like to know where I could purchase some of these distress cries.

I would like to congratulate you on our wonderful Magazine. It makes me proud to be a Future Farmer of America.

Rich Tucker

Your letter was forwarded to the author of the article, and perhaps he will have some suggestions for you as to where you could buy the distress cries. It is likely that many of the cries can be purchased from sporting goods' stores.—Ed.

John J. Farrar

The FFA lost a loyal, long-time employee on February 7 when Mr. John J. Farrar, director of information, died of a heart attack at his home. Mr. Farrar had worked for the FFA in Washington, D.C. since 1947. He was 49.

Mr. Farrar was a graduate of Oklahoma State University and had served as executive secretary of the Oklahoma FFA Association before coming to Washington to join the staff of the national organization.

He began his career as a reporter-photographer and later became city editor for the Stillwater, Oklahoma, *Daily News Press*. He resigned this position to become assistant farm editor for radio station KVOO in Tulsa, Oklahoma, one of the pioneer stations in the farm broadcasting field.

Though his contributions to FFA over the years were many, Mr. Farrar is best known for his pageants of the Star Farmer of America, for his work helping write the Articles of Incorporation for the FFA Foundation, as well as Public Law 740, which gave FFA its Federal Charter, and as the author of "FFA At 25."

Mr. Farrar was a member of the National Association of Farm Broadcasters, the American Agricultural Editors' Association, and American Vocational Association. He was awarded the Honorary American Farmer Degree by the FFA.

Mr. Farrar is survived by his wife, Irene, of 6542 Spring Valley Drive, Alexandria, Virginia; and two daughters, Susan, of the home address, and Mrs. Carolyn Locke of Philadelphia.

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In college, take the step that puts you out in front. Take Army ROTC. Gives you a running start on whatever you decide to do. In the Army. Or in a civilian career.

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NHE 4-69

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His Enthusiasm Shows

For life, for happiness, for getting involved

By Jack Pitzer

WHAT does a national officer do in his spare time? How does he think? What kind of farming program does he have? What FFA activities did he participate in?

For Jerry Batts, your national FFA secretary, here are the answers to those questions.

He's a regular guy—full of enthusiasm and smiling. Jerry believes in being happy and it shows.

Happiness can be about anywhere you make it, and Jerry spreads it around. He loves all sports and doesn't have a favorite. He played some football in high school and was the quarterback. He also played basketball when the Clements High School team took the state championship.

I guess you'd say Jerry's an outdoorsman. He likes swimming and water skiing. But he admits, "I spend more time underwater than on top of it." Jerry likes hunting and fishing. He's had a lot of pets including a skunk!

Jerry says he likes a good book to read once in awhile, too.

Of course, it's hard to imagine very much spare time for a guy like Jerry. But he finds time to work at serving his community and church. Right now he's superintendent of the adult Sunday School at his church. During high

school he was editor of the school paper and the annual. His fellow students elected him as the student council president in his senior year.

Jerry earned nearly \$1,000 driving a school bus. He says that helps a person learn how to get along with others.

How does this 18-year-old national officer think? Sensibly would be about the best adjective. Jerry has a great outlook on life—his enthusiasm is definitely an asset.

Perhaps this statement from a recent speech by Jerry explains some of his thinking about life: "Some people think the world owes them a living. The world owes you nothing. It was here first!"

Jerry doesn't believe in saying things just to say them. He frankly admits that his career plans are not definite. He knows he wants to pursue a career in agriculture, but he's still searching for the exact niche for him.

Your national secretary often pays tribute to his family for their help and encouragement. Jerry lives with his parents, Mr. and Mrs. Norman Batts, and his brother, Jack, on Snake Road west of Athens. Jerry and Jack operate the home farm.

And like so many other FFA members, Jerry always includes praise for

In addition to farm work, Jerry drove a local school bus to earn extra cash.

Jerry and his brother, Jack, operate the home farm. They know about hard work.



Your National Secretary Jerry Batts.

his vo-ag instructors. Chapter advisor at Clements now is Mr. P. C. Hall.

Diversified is the best way to describe Jerry's farming program. He raised purebred Durocs (I detected in an interview that he liked his hog enterprise best), ponies, beef cattle, corn, soybeans, cotton, and hay. He has also helped his family with peanuts, watermelons, and cantaloupes.

He says, "I didn't own the world when I started in FFA, and I still don't. But it's a good feeling to know you've worked for and earned the things you have."

Currently, Jerry's brother, Jack, is taking care of things on the farm whenever Jerry has to be away on FFA business. Jerry sold his hogs to lighten the work load.

The public speaking contest is where Jerry got started in the FFA. His vo-ag instructor as a Greenhand, Mr. Don Ezzell, suggested Jerry give it a try. He spoke about conserving America's soil. "I'll bet I've said that speech a thousand times," and off he went repeating the introduction for me.

Jerry served the FFA whenever he was asked, and fellow FFA members chose him to serve in many ways. Twice he was a chapter officer—treasurer and president. He worked on the chapter's cotton project, worked at the feeder pig barn, and judged livestock and soil.

In addition to his local chapter activities, Jerry served a term as president of the Alabama Association. Prior to his election last fall, he attended Florence State College.

Being happy—that's a pretty good motto. Just spend a little while with Jerry Batts—it's catching.

The National FUTURE FARMER





CHAPTER WINNINGS

THIRTY-seven hardworking St. Ansgar, Iowa, FFA members exhibited 125 prize-winning market hogs and won the Premier Exhibitor award at the twenty-fifth anniversary Minnesota Spring Barrow Show. The award is given annually to the school or county with the most outstanding overall exhibit at the show in all divisions. Northwood FFA won the reserve title.

A highlight of the event was the naming of the champion junior individual exhibited this year by chapter

member Larry Brown. His 190-pound Hampshire-crossbred barrow won over 182 others. Brown also drove a trio of Hampshire crossbreds to the champion pen of three honors.

St. Ansgar's judging team placed second in the FFA division of the junior judging contest.

A new record was set in the carcass contest by a St. Ansgar FFA member. Stanley Horsfall's Hampshire barrow cut a record 50.15 percent ham and loin. Other measurements were 29.1 inches long, .87-inch backfat, and

5.19 square inches of loin. Third place carcass overall was exhibited by Neil Hernan.

Seven of the top 21 hogs in the carcass contest belong to St. Ansgar FFA members. There was a total of 246 head in the carcass contest.

Advisor, Dave Hinman, states that the experience in practical hog production is the chapter's most important goal. Showing and winnings are secondary. Shows do, however, help students compare their animals with the ideal meat-type hog of today.

Center Development: A Progress Report

THERE are encouraging signs of progress toward development of expanded facilities on the National FFA Center property in Alexandria, Virginia (near Mt. Vernon).

The Center Development Committee has been convened by authority of the Board of National Officers and the Board of Directors. This committee was officially charged with the task of completely studying the development of the National FFA Center.

The best sign of progress is the positive and well organized approach the committee is taking in considering the economic feasibility, architecture, design, financing, and uses for proposed conference facilities.

The first meeting of the committee

was held March 8 and 9 at the National FFA Center. Dr. A. H. Krebs was elected committee chairman and Joe Martinez as committee secretary. A resume of the committee work will be reported in the "Between Issues" Newsletter which is mailed to every vocational agriculture department.

The committee requests suggestions for the expansion of the present FFA Center and for the development of a conference facility from anyone interested. Send them to the attention of any member of the committee in care of the National FFA Center.

Appointed to the committee are **Jeff Hanlon**, national FFA president; **Joe Martinez**, national FFA vice president; **Dr. A. H. Krebs**, head of the Depart-

ment of Agricultural Education, Virginia Polytechnic Institute; **Mr. James D. Maddox**, FFA executive secretary, Kentucky Leadership Training Center; **Mr. William G. Smith**, president, National Vocational Agricultural Teachers Association; **Mr. J. A. Marshall**, Vocational Agricultural Education, Texas Education Agency; and **Mr. James W. Warren**, program officer, U.S. Office of Education, Charlottesville, Virginia. An additional member of the committee will be the newly elected member of the Board of Directors representing the Pacific Region.

Serving as staff consultant to the committee is **Lennie H. Gamage**, National FFA Center, Alexandria, Virginia 22309.

The 1969 Farm Scene

*As summarized from the reports given at the USDA's 46th
National Agricultural Outlook Conference, Washington, D.C.*

FARM income this year may be hard pressed to match 1968 levels. Prospective output and big carrying stocks point to larger supplies this year for major farm products. Sizable increases are indicated for such important foods as beef, pork, poultry, vegetables, and fruits. However, prices received by farmers are expected to average close to 1968 levels.

This appraisal assumes a strong advance in economic activity, though not so rapid as in 1968. It is based also on prospects for a continued large volume of exports and price support programs for major crops and dairy products.

A large volume of marketings and little change in average producer prices would result in larger cash receipts in 1969. With some increase in government payments, gross farm income may increase around a billion dollars to a record of nearly \$52 billion. But the uptrend in farm production expenses will continue in 1969. Thus, realized net farm income may fall a little short of the \$14.9 billion estimated for 1968.

Beef. Fed beef marketings in 1968 were up 6 percent from 1967. A further sizable increase is in prospect for 1969. The sharpest increases in fed cattle marketings over a year earlier are likely to be in the first half.

The supply of feeder cattle is somewhat smaller this year than in 1968, however, the supply of young cattle is sufficient to support a further expansion in cattle feeding. Feeder cattle prices are expected to continue steady to strong this spring because the demand for feeder cattle will continue brisk.

Cattle slaughter in 1969 is expected to be larger than in 1968. The slaughter mix will change slightly. Steer and heifer slaughter volumes are expected to increase again in 1969 and to account for a slightly larger proportion of total slaughter. Fed cattle marketings are expected to continue well above a year earlier as a result of the continued expansion in beef cattle numbers and cattle feeding. No sharp change in the level of cow slaughter is anticipated.

Hogs. Increases in hog slaughter this year may be a little sharper than in 1968, when slaughter was up 4 percent. In January, hog slaughter was running 4 to 5 percent larger than a year ago. It is expected to continue above a year earlier in the spring.

A decline in hog prices is likely before the usual spring and summer price advance. Last spring the seasonal rise was unusually late. This spring it is expected to start a little earlier, and hog prices in the spring may average lower than a year earlier. Hog prices in the second half are expected to average somewhat lower than prices in the second half of 1968, when barrows and gilts at eight markets averaged \$19.40 per 100 pounds. Lower prices will generally reflect larger pork supplies.

Sheep. With a million fewer lambs on feed and prospects for a smaller 1969 lamb crop, slaughter during 1969 is expected to run below the 11.9 million head of a year earlier.

Slaughter lamb prices in the first half of 1969 are expected to average above a year earlier. Feeder lambs likely will continue below slaughter lamb prices although the margin over a year earlier may narrow. Lamb prices probably will follow generally a typical seasonal pattern in the first half of 1969. After strengthening in the early spring, prices will taper off in late spring and summer.

Poultry. Egg production in 1969 may total slightly below 1968 levels. Egg prices this year will likely be higher than in



1968. Prices will decline seasonally in the spring, but are expected to remain well above 28.6 cents per dozen in April-June, 1968. Egg prices in the second half probably will average below the 38 cents in the second half of 1968.

Broiler production is continuing to increase this year, with output up 4 to 5 percent this winter and even larger increases expected in the spring. With increasing broiler output and stronger competition from red meats, broiler prices will likely fall below prices a year earlier in the spring and continue below the rest of the year.

Turkey producers are expected to increase output about 3 percent in 1969. Therefore, prices in the main marketing season will likely show no improvement over the 21 cents received in the same period last year.

Dairy. The rate of decline in milk cow numbers has slowed and may be closer to 3 percent in 1969. The increases in milk output per cow have been below average and have not offset the decline in cow numbers. This will probably hold milk production below last year's 117.3 billion pounds.

Together with higher Class 1 prices in federal orders, the higher support level is raising milk prices farmers receive in the first quarter of 1969 about 5 percent above those of a year earlier. Smaller gains are in prospect for the second quarter. In the last half of 1969, a tighter supply-demand situation than a year earlier likely will cause a larger seasonal price rise and higher prices than a year earlier.

Despite prospective lower farm marketings than 1968, higher prices will raise farmers' gross cash receipts from dairy marketings above last year's \$6.0 billion. However, increases in the cost of farm production inputs may largely offset gains in gross receipts.

Cotton. It remains to be seen what cotton producers will do in 1969, but the program for 1969 is designed to

(Continued on Page 16)



From experimental lots like these at MoorMan Research Farms come practical ideas that benefit cattle feeders.

How to find a better way to feed cattle

First, *think* like a cattle feeder. Look at the job—and pick out the places where it might be made easier, simpler, more efficient.

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After 15 years of testing on MoorMan Research Farms, the answer was clear-cut: Cattle on finishing rations of corn, hay and supplement gained 6% faster with 7% better feed conversion when corn was *not* processed.

Meanwhile, another good question came up: "Why go to the trouble of feeding roughage when cattle are on a full feed of grain? Why not use the roughage in the growing period—where it works most efficiently to build big frames, keep fat from piling up too soon and in the wrong places?"

The answer—from MoorMan no-roughage finishing tests dating back to 1960: Taking roughage out of a whole shelled corn finishing ration improves feed conversion by another 9%.

But one problem remained: Cattle on a no-roughage finishing ration have special supplemental needs—especially for minerals in different amounts and proportions. How to fill those needs without adding time and trouble?

MoorMan Research solved that one, too—with new Premix-trate® 80 Beef Finisher Medicated. Just ½ lb per head daily supplies a spe-

cial combination of minerals—plus proteins, urea, vitamins, antibiotic, stilbestrol. It's all that's needed for all-grain, no-roughage finishing except salt and water.

That's one example of what happens when research men are more than scientists—when they also know how to think and operate like practical stockmen.

It's just one of the things that add extra value to every farm or ranch visit a local MoorMan Man makes.



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Mr. Donald N. McDowell, then director of Agriculture for Wisconsin, speaks at the 1968 National FFA Convention.

McDowell Accepts Foundation Post

THE FFA Foundation has created a new position and announced the appointment of a former FFA member and vocational agriculture teacher to fill the post.

The appointment went to Donald N. McDowell of Madison, Wisconsin, who will be the first executive director of the FFA Foundation Sponsoring Committee. For the past 19 years, Mr. McDowell has been director of the Department of Agriculture in Wisconsin. He assumes his new duties on April 1.

Mr. Donald Danforth, Jr., executive vice president of Ralston Purina Company and 1969 chairman of the FFA Foundation Sponsoring Committee, described the establishment of the new position and Mr. McDowell's acceptance of it as a "tremendous step forward for this dynamic organization devoted to the youth of our country."

In his new position, Mr. McDowell will have responsibility for maintaining close liaison between the National FFA Foundation Board of Trustees and the FFA Sponsors, who finance the incentive award programs of the FFA Foundation for deserving FFA members.

Mr. McDowell is a member of many civic organizations and has been the recipient of several honorary awards of national organizations. In accepting his new post, Mr. McDowell said, "This new position offers new challenges, new horizons, and closer ties with our nation's youth and gives me the opportunity to return to my original chosen field of vocational agriculture." He will continue to live and headquarter in Madison, Wisconsin.

Back when he started to high school, young Don McDowell packed up nearby Montello and drove more than 20 miles to Westfield High School simply because it offered vocational agriculture. During his membership in FFA, he held office in the local chapter, earned the American Farmer Degree, was elected vice president, and was top individual in the national fat stock judging contest.

After graduation from the University of Wisconsin, he was the vocational agriculture instructor and FFA advisor at Spring Green and Waukesha, Wisconsin.

The 1969 Farm Scene

(Continued from Page 14)

encourage greater plantings. That is, acreage diversion will not be required for program cooperators. The 1969 loan rate for middling one-inch cotton (at average location) remains at 20.25 cents per pound, but the price support payment, at 14.73 cents per pound, is up sharply from 12.24 cents in 1968. Also, the more liberalized skip-row planting rules for measuring cotton against the allotment will remain for the 1969 crop, as for the 1968 crop.

The outlook for U.S. cotton this year is highlighted by a sharp drop in supply and a prospective decline in demand. Spot market prices for cotton trended downward during the current season, however, a firmer price tone has become evident recently.

Feed. The 1968-69 feeding year is expected to bring a closer balance between production and use, than in most other recent years. This should result in firmer feed grain prices this spring and summer than in 1968.

Provisions of the 1969 feed grain program are basically the same as for the 1968 program. The major change was to extend the program to include acreage diversion for barley. The program has for its objective the diversion of 37 million acres of corn, grain sorghum, and barley to soil-conserving uses.

The rise in corn prices during the next few months will be limited to some extent by the large quantity of corn held under the loan program. Corn prices probably will strengthen during the spring and summer, unlike a year earlier when corn prices were especially weak during July-September.

Since grain sorghum carryover is expected to be about the same as last year, prices are expected to be close to last year's.

Fruits. This season's citrus crop has been affected by various weather problems. Still, all citrus crops are expected to be bigger than a year ago.

Prices for fresh citrus—except grapefruit—strengthened immediately following the December freezes. Lemon prices increased most sharply, reflecting the extensive crop loss. But prices for most fresh citrus increased only moderately and are currently below year-ago levels. Wholesale prices are not likely to change much from current levels in the next few months. U.S. apple production fell again, and shipping point prices are likely to continue high during the rest of the storage season.

Rice. The acreage allotment for the 1969 rice crop was set at 2,160,000 acres, down 10 percent from last year. The minimum national average 1969 crop price support is \$4.65 per cwt., up 5 cents from 1968. A higher support price could be set if the August, 1969 parity price for rice warrants it. Marketing quotas were approved for the 1969 crop, as in every year since 1955.

Soybeans. Soybean supplies for the 1968-69 marketing year are placed at a record 1¼ billion bushels, 17 percent more than last year. Large quantities of 1968 crop soybeans are under loan—256 million bushels through December. Also, earlier crop stocks are being withheld from the market—128 million bushels—and this has tended to bolster prices since harvest. Farm prices during the remainder of the marketing year likely will average somewhat above harvest levels and near the U.S. support price of \$2.50 per bushel.

Tobacco. The tobacco outlook for 1969 is highlighted by prospects for output and exports to hold at last year's high levels. Government price support is mandatory for the kinds of tobacco produced under a marketing quota. The 1969 crop price support levels for eligible tobacco are expected to be 3.6 percent higher than in 1968. The increase results from a rise in the parity index.

Vegetables. Looking ahead to 1969-70, the total carryover of canned vegetables in mid-1969 will be far above

(Continued on Page 18)



Cotton

Corn



Weed Out Weed Losses



Soybeans

Wheat



EVEN though farmers spend an estimated \$2½ billion each year on weed control, weeds still cost individual farmers in the United States an average loss of \$500 per farm every year.

These losses occur because weeds reduce crop yields and quality, they reduce land values and lower the quality of milk, meat, and eggs, and they aid the spread of insects and diseases. In addition, some weeds cause livestock poisoning.

To reduce weed losses farmers must follow a complete weed control program. Such a program is outlined by Ohio State University and would include:

- Using high quality weed-free seed.
- Employing good cultural practices.
- Preventing the production of weed seed.
- Making accurate applications of herbicides.

Application Methods

Several methods of weed control are available to the farmer. Before plowing or after preparing the seedbed he can use *pre-plant* applications. After planting, but before the crop and weeds appear above ground, a farmer can apply herbicides by the *pre-emergence* method. *Post-emergence* applications are used after the crop appears.

Directed post-emergence sprays can be used when the crop is taller than the weeds. With these sprays the weeds are thoroughly covered and only a small amount of herbicide falls on the base of the crop.

Herbicide Formulations

Herbicides are available in three forms—liquid, wettable powders, and granules.

The concentration of liquid herbicides is expressed as a percent or as pounds of active ingredient. Because the strength of liquid herbicides varies from 1.5 to 6 pounds per gallon, the pounds of active ingredient are used when figuring the rate per acre.

Liquid herbicides are soluble in water or contain an emulsifying agent that keeps the herbicides suspended in water. Therefore, liquid formulations need little agitation in the spray tank. Additionally, liquid herbicides permit the use of fine 100-mesh strainers in the suction intake, in-line, and at the nozzle.

Active ingredients for wettable powders are expressed as a percent and range between 50-94 percent active. The powders are finely ground and readily mix with water. Most wettable powders, however, need agitation to keep them suspended in the spray tank and to insure even coverage. Agitation can be supplied mechanically or with a bypass hose from the pump.

When applying wettable powders use only abrasive-resistant spray equipment. Few powders dissolve completely in

water and most cause excessive wear to pumps and nozzles. A 50-mesh screen should also be used when applying wettable powders.

Granules are applied according to pounds of herbicide per acre. When using granules pay particular attention to the long-range weather forecast. If a long dry period occurs after application, poor weed control will result.

Granules are used for dry, pre-emergence applications. Some farmers broadcast granule herbicides, but most apply granules in a band over the crop row at planting time. Planting with a wide press wheel also helps make a better soil surface than a narrow split press wheel.

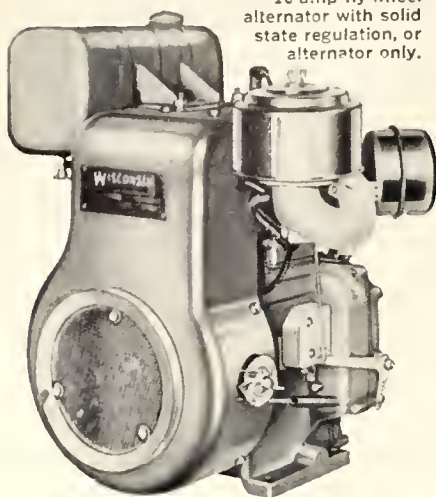
Granule herbicides work best in a firm, well prepared seedbed. Applying granules on rough soil prepared by minimum tillage usually results in poor weed control.

Factors Affecting Results

Herbicides act on seeds or are taken up by the roots of plants. Also, because most weeds germinate in the top one-half inch of the soil, pre-emergence applications work exceptionally well when rainfall occurs. Rainfall encourages germination and results in good weed control from short-lived herbicides. The rain moves the herbicide into the weed zone thus aiding weed control. If no rain falls within ten days after application, weed control can be improved by working the herbicide into the weed zone.

(Continued on Next Page)

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Weed Out Weed Losses

Weeds and crops are more sensitive to post-emergence herbicides in hot, humid weather than in dry periods. Therefore, lower application rates are necessary in warm, wet weather.

On the other hand, excessive rainfall may cause water-soluble herbicides to leach into crop depth. The herbicide will then reduce germination or stunt the crop. Damage from leaching chemicals is more likely to happen on coarse, sandy soils or in shallow planted seed.

Besides the weather, soil type, and soil conditions, the age of weeds also affects the results of herbicides. Because young weeds are more sensitive than mature weeds, early application of chemicals is very important.

Residue and Carryover

The total amount of herbicide remaining in the soil in the next growing season is called *residue*. Excessive residues can cause visible injury to crops in the following growing seasons. The amount of herbicide that affects the plants in following seasons is called *carryover*.

Carryover depends on the climate in the season of application and the weather at the time the new crop is being established. Cold, dry seasons during application contribute to carryover, whereas in the spring, crops are more susceptible to adverse weather. Dry weather in the application season reduces leaching and decomposition and increases the possibility of residues remaining in the soil.

Soil pH also affects the activity of

the herbicide. Experiments at the University of Minnesota by soil scientist Russell S. Adams, Jr. show that pre-emergence herbicides may be less active in higher pH (alkaline) soils. Under these conditions the rates of application should be lowered. In acid (low pH) soils, herbicides are more active, easily taken up by the weeds, and leave less residue.

Another factor which affects carryover is the types of minerals in the soil. Due to the differences in the weathering of soil, mineral content will be different throughout any one field. Therefore, unless a farmer has fertility problems associated with minerals, testing is not economical.

Probably the most important factor which influences carryover is the organic matter content of the soil. Organic matter helps deactivate herbicides. This means that the rates of soil-applied herbicides must be increased in a field high in organic matter to get good weed control.

On the other hand, the lack of organic matter, not the high clay content, prevents deactivation. Since organic matter varies within each field, herbicide residues will accumulate in the hard to work areas. By keeping the plow from "riding out" of the ground, residues will be deeply buried. This will result in less carryover.

Considering all factors, pre-emergence herbicides, for example, should be applied at the minimum rate on a soil with high pH, high organic matter, and large amounts of sand. On the other hand, soils slightly alkaline, low in organic matter, and high in clay content may require higher rates for good weed control. A compromise between control and carryover results in the most profitable use of herbicides.

The 1969 Farm Scene

(Continued from Page 16)

a year earlier—up at least 50 percent and possibly much more. Frozen vegetable carryover supplies also will be considerably larger than a year earlier. As a result, many processors are expected to reduce packs. This in turn suggests that contract bargaining between processors and growers for 1969 crops will be more intense than in the last few years when increased output was desired.

Prices for beans are expected to stay close to current levels, while prices for peas are expected to remain high through the spring. Grower prices for potatoes have been higher than last year's depressed levels and, if processing demand holds up, continued high prices appear likely. Markets for sweet potatoes are expected to remain strong, with prices averaging close to last season's high levels.

Wheat. The national acreage allot-

ment in 1969 was the same as the 51.6-million acre allotment in effect for the 1966 wheat crop. A voluntary acreage diversion program is in effect for the 1969 crop, as was the case for the 1966 crop. No such program applied to the 1967 or 1968 crops. The voluntary diversion program for the 1969 crop provides larger payments than in 1966 (62½ cents per bushel against 50 cents on a national average basis).

The national average price support loan for the 1969 crop continues at the \$1.25 per bushel in effect since 1965. The value of the marketing certificate will be the difference between the July, 1969 parity price for wheat and the loan rate. The 1968 crop marketing certificate was valued at \$1.38 per bushel. Certificates will be issued on 43 percent of projected production in 1969, compared with 40 percent in 1968.

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Hybrid Wheat

By Ron Miller

IN biblical times people spoke of wheat as "the staff of bread." Ancient Egyptians, Greeks, and Persians considered wheat a valuable possession, and prehistoric Europeans cultivated wheat as a grain crop.

When American colonists came to the New World they brought many wheat varieties with them. Several varieties failed because of soil and weather conditions. Thus, through natural selection, American wheats began to improve.

Since that time wheat breeders have contributed much to developing modern varieties by crossing and selection. The effects of hybrid vigor in corn, sorghum, vegetables, chickens, hogs, cattle, and sheep have been well known for a long time. Until recently, however, how to grow true hybrid wheat on a mass scale was a mystery.

Hybrid Research Problems

Wheat, unlike corn, is normally self-pollinating. Both the male and female parts of wheat are enclosed within the same flower, whereas in corn the tassel and ear are separate flowers. Therefore, before mass production of hybrid wheat could be accomplished, researchers needed to:

1. Determine the effects of hybrid vigor in wheat because the genetic makeup of wheat is different from corn and sorghum.

2. Develop a male sterile wheat which could serve as the female parent and would not shed viable pollen.

3. Produce a male parent capable of restoring fertility to the wheat grown in the farmer's field.

4. Transfer the fertility restorers to the male sterile in the seed grower's field.

Male Sterility

In 1957 two Japanese scientists, Kihara and Fukasawa, discovered male

sterility in a goat grass relative of wheat. Three years later Dr. J. A. Wilson and Dr. W. M. Ross of Kansas State University made the same discovery in *Triticum timopheevi*, a wild cousin of common wheat. Another goat grass relative of wheat was subsequently found to be deeply sterile. Of these plants, *Triticum timopheevi*, produces a highly stable male characteristic with few adverse affects.

Plant breeders can obtain male steriles (female parents) by crossing normal wheat pollen onto a source wheat carrying *Triticum timopheevi* cytoplasm. The resulting hybrid is then allowed to self-pollinate. This discovery of male sterile wheat eliminated the tedious job of removing anthers by hand.

Fertility Restoration

Shortly after Dr. Wilson and Dr. Ross detected male sterility, they discovered partial fertility restoration in wheat. Later at the Fort Hays branch of the Kansas experiment station they found a useful sterility-restoration system in *Triticum timopheevi*.

A Nebraska research team, Dr. J. W. Schmidt, Dr. V. A. Johnson, and Dr. S. S. Maan, eventually transferred fertility genes, under field conditions, from *Triticum timopheevi* to common wheat. Various seed companies and universities have also transmitted fertility restorers to many wheat varieties.

The number of restoring genes influences fertility restoration. Modifying genes in the sterile male parent also aid restoration.

In a hybrid the fertility genes override the male sterile characteristics of the female parent. Normal anthers develop, thus making hybrids capable of grain production.

Scientists continue to search for more male restorers. However, *Triticum ti-*

mopheevi transfers without any harmful effects and remains as the best source.

Mass Seed Production

To produce hybrid seed, the inbred varieties must be introduced into the sterility-restoration systems by six or seven generations of backcrossing. Finally, after still another four or five years of testing, the best inbred male sterile and inbred pollen restorer varieties are crossed in the field. The seed which develops on the male sterile line is then grown in the farmer's field.

Dr. J. A. Wilson, director of wheat research for DeKalb Agricultural Association, Inc., says, "Continued improvement should be made by selecting wheats with open-flowering and large stigmas and anthers. Some progress is also likely in selecting types with greater resistance to long days, cool temperatures, and low humidities."

"Male-sterile and fertility-restoration systems offer plant breeders increased genetic freedom," says Mr. Larry Robertson, manager of hybrid wheat research at Funk Bros. Seed Company. "Pedigrees can be changed quite rapidly to ward off new diseases and insects which restrict production."

No major disease problems have been encountered with winter hybrids. In spring wheats, ergot, a floral disease which infects the ovaries, can be a problem. Early plantings tend to avoid these infections however.

Wild grasses that cross with wheat are found in limited numbers in wheat growing areas. Therefore, seed growers may find producing hybrid wheat is easier than growing sorghum. Field designs will not cause growers any more problems than raising sorghum or corn.

Currently male sterile and male fertile plants are grown in alternate rows. New experiments by seed companies include blending 10-20 percent male fertile seed with male sterile seed. This method would permit seed companies to sell foundation stock to the farmer. The farmer would then grow his own hybrid seed much like he produces seed from regular varieties.

Note the size of the wheat reproductive parts in male, at the left, and female, at the right, as compared to a dime.

Photo courtesy of USDA



The National FUTURE FARMER



Photo courtesy of DeKalb

Male sterile varieties with open glumes, and large, well extended stigmas, improve pollination and seed production.

The harvested seed would contain about 85 percent hybrid and 15 percent male parent. Because hybrids will crowd out non-hybrids, the farmers could harvest 100 percent hybrid wheat. If these tests prove successful seed costs will be greatly reduced.

In any event, hybrid seed will reach the market soon. Several hundred bushels were released for on-the-farm planting last fall and small quantities will also be available this spring. Hard red winter and spring varieties are being introduced now while soft and durum wheat will follow later. Most companies figure to release proven hybrid seed in the next two or four years.

Protein Content

Current wheat varieties lack the balance of amino acids necessary for tissue synthesis and body growth. Lysine, methionine, and threonine are the most deficient amino acids. The protein level of common wheat also ranges between 8 and 18 percent.

Generally higher yields restrict the percent of protein. Hybrid wheats, however, show favorable protein side effects and currently test 1.5 to 2 percent higher than common wheats. Apparently the higher protein content is due to genetic factors from the male sterile cytoplasm and pollen restoring genes, not hybrid vigor.

Further research could result in even higher protein percentages. Also the use of more nitrogen fertilizer could narrow the range of protein between varieties.

Baking and Milling

Some people feel the increased protein of hybrids may hinder baking and milling qualities. Most experts, however, find that the dough character of hybrids tests halfway between each inbred parent. Some poor quality traits of common



Photo courtesy of DeKalb

Male fertile varieties with long stamens and well developed anthers release their pollen outside of the glumes.

wheat are lacking in hybrids.

Previously farmers kept wheat seed for growth a second year. This forced many millers to restore quality by blending varieties. Now farmers cannot keep seed for a second generation because hybrids will suffer from a loss of vigor, male sterility, variable height, and maturing problems. Since seed companies can now control milling quality, they have increased quality testing in early generations.

Crop Management

Greater seed production costs will contribute to an increase in seed price. Also the necessity of buying new seed each year will raise production costs. The expected increase in yield, however, will make hybrid wheat profitable.

"Vigor is demonstrated in several ways. More grain per head, more heads per plant, higher tillering, and less winter kill occurs in hybrid wheats," says DeKalb wheat advertising manager, Mr. Don Henning. Thus, a farmer may be able to reduce seeding rates and still produce bigger yields.

Most companies report that hybrids consistently average 20-25 percent higher yields. Some varieties show a minus advantage while others double the yields of standard wheats. Yield increases of 20-40 percent are not unusual.

The new dwarf and semi-dwarf varieties now being introduced are a result of hybrid research. Stronger and shorter straws on these varieties and hybrids will permit greater applications of fertilizer without lodging.

Common and hybrid varieties each grow best in a specific type of soil. Soil texture, nutrition, and pH affect varieties differently. "Because hybrid wheat is higher yielding, additional fertilizers will be required for maximum production," explains Mr. Larry Robertson of

Funks. "Hybrids will require more management care too, particularly in soil testing, land selection, tillage operations, and choosing of a variety."

Assuming a farmer previously averaged 50 bushels per acre with a seed rate of 70 pounds per acre, the farmer could pay \$8.00 more per acre for hybrid seed. To cover the extra seed cost he would need an 8 percent yield increase. It would certainly pay to grow hybrids if they produced a 25 percent increase.

Farmers usually will invest \$1.00 for a return of \$2.00 to \$3.00. If this applies to hybrids, seed will cost between \$16.00 and \$20.00 per hundred pounds. Regular wheat seed currently costs approximately \$6.00 to \$8.00 per hundred.

Consequence of Hybrids

"The reason for all of this," says Dr. Curtis of Cargill, "is that there is great need for increased yield from each acre of wheat and the need becomes ever more imperative as the number of mouths to be fed increases."

Today more than 500 million acres in the world are used to produce wheat. At present wheat is the main source of food for over one billion people in the world, second only to rice. In the United States alone 50 million acres are devoted to wheat production. Thus, hybrid wheat with all its momentum may well prove to be the greatest advance yet in solving the world food problem.

When a hybrid is fully restored it receives a rating 1. This assures the farmer of normal seed set in his field.

Photo courtesy of DeKalb





National officers meet leaders of business and industry.



Your officers visited in 17 major cities during the tour.

Officers Promote Goodwill



The officers met with the president of the American Farm Bureau Federation.

YOUR national FFA officers have just concluded the twenty-second annual FFA Goodwill Tour. The Goodwill Tour centers around the annual observance of National FFA WEEK in February and adds emphasis to the national public relations theme.

The purpose of the tour is to help bring about a better understanding of the FFA by leaders of business, industry, and national organizations interested in agriculture. In addition it is an opportunity for your officers to meet and exchange views with these officials.

Perhaps most important, the Goodwill Tour provides the opportunity for the national officers, on behalf of all FFA members, to say thank you to those who contribute to the FFA Foundation, Inc.

The Goodwill Tour schedule for 1969 started with visits in mid-January in Washington, D.C., and included stops in 17 cities and 12 states before its conclusion March, 5 in Kansas City. The tour is financed by the FFA.

Latest scientific discoveries for American agriculture are always intriguing.



He's on his way

JUDSON Mitchell of Detroit Lakes, Minnesota, wants to have the best dairy herd possible and wants to keep the family's dairy farm in operation.

He has a good start now toward that goal and was named national winner of the FFA Foundation's Dairy Farming Award for his achievements as a young dairyman.

Judd is the last son at home on the farm, and his parents, Mr. and Mrs. Gordon Mitchell, encouraged him to stay on the farm. They proposed a legal partnership with Judd after his graduation from high school. Mr. Mitchell says he wanted to taper off, so he started giving his son a lot of the responsibility in money matters and farm decisions while he was still in the FFA.

According to Judd, "I feel this is a real opportunity for me . . . I have no brothers on the farm, so if the farm is to go on, I will have to do my part in maintaining it." He also bought his older brother's dairy cattle when he left the farm.

Judd started in the dairy business at age eight with one calf. Today he has a herd of 59 Holsteins and maintains DHIA records on them. He believes in strict culling of any cows that do not make 400 pounds of butterfat by the time they're three years old. He also has taken advantage of selected top sires offered by artificial breeding in order to improve his cattle.

He has instigated a number of changes into the routine of the farm's operation such as "challenge feeding," loose housing, maternity stalls, chopped oat silage, and dry lot feeding.

Some of the most recent additions to the Mitchell's dairy setup are the automatic watering system, a barn cleaner in the calf barn, and a new silo and silo unloader.

The rest of Judd's farming operation includes 150 acres of oats, 30 acres of corn, 150 acres of alfalfa, and 10 acres of wheat.

This 19-year-old dairy farmer knows it takes money to make money. He has financed cattle with the PCA and is buying 90 acres through a local bank. His new pickup was purchased with the help of the Federal Land Bank.

A farm plan in cooperation with the County Soil and Water District is designed to improve drainage on the feedlot and to clear and improve ten acres of improved pasture.

Judd's healthy farming program was also balanced with a healthy list of FFA and community activities. He was a member of several livestock and dairy judging teams during his high school career and was a member of a Gold Emblem team in the national FFA livestock judging contest. He was chairman of the chapter's leadership committee and was named Chapter Dairy Farmer. The list of grand championships and dairy awards for cattle at fairs, dairy days, and shows is a long one.

In the community Judd belongs to several farm organizations. He is a member of the Red River Valley Milk

Producers' Association, the Midwest Breeders' Cooperative, and the Production Credit Association. He was on the wrestling team in high school, served on the student council, and played in the band. He plays in the Jaycee Community Band, and is a Sunday School usher.

The encouragement from parents who want to open the doors of opportunity can help a young man with an interest in agriculture to get the start he needs. Judd Mitchell is on his way and is keeping the family's dairy farm in operation.

At the FFA convention, he was challenged by Princess Kay to a milking contest. But he got a dry cow, and Kay won!



This is the first cow Judd started with. She has a fine production record and a successful record at the shows.



PLANNING the transfer of the farm business from father to son is another way of breaking the entry barrier into farming. Several contracts are available to you and choosing the right father-son agreement can avoid disagreements and lawsuits between family members and can result in tax savings.

"Using a *support contract* to purchase the family farm has probably caused more family friction than any other type of transfer arrangement," says Arnon Allen, University of Wisconsin farm law specialist.

With this arrangement, you get title to the farm for a promise to support your parents until they die. There are some advantages to this arrangement. It is geared to the cost of living, you know the farm will be yours, it saves probate costs, and it can provide your parents with peace of mind.

However, the disadvantages of the support contract probably outweigh the advantages. It may lead to family disagreements, evaluation of services is difficult to compute for tax purposes, the life span of your parents is unpredictable, the parents become dependent on you, and objections by the parents may cloud title to the real estate.

"A good substitute for the support contract is the *land contract*," says Allen. "With this arrangement the parents still own the farm, but the son takes possession and he makes regular payments on the sale price."

With a land contract you know exactly what your obligation is and when the payment is complete you know you will get clear title to the farm. The disadvantage of the land contract is that your parents will have no cost of living protection and if full payment for the farm is made before they die, they may be left without an income.

A third method of farm transfer is a *deed with a mortgage* to secure the installment payments. This method gives the son title to the farm. Since you have title, it is easy for you to sell the farm when you wish and pay off your parents in a lump sum.

If you fail to make payments under a mortgage system, foreclosure time may take over a year. Much quicker action can be taken under a land contract.

When the parents want to be sure the son stays on the farm until their death, they can create a *contract to will*. Ordinary wills can be changed by the maker at any time. If you make certain promises or money payments, your parents can bind themselves by contract to will the farm to you upon their death. Of course, the contract to will should be writing.

Parents can sell or give a remainder interest to you, keeping a life interest in the farm for themselves. Usually you operate the farm as tenant until

Breaking the entry barrier



A contract which transfers the farm business from father to son is one of the best ways to insure success in breaking the entry barrier into farming.

transferring the farm business

your parents die. This method assures you that you will eventually get the farm, and it provides your parents with rent income. Probate proceedings are avoided if the parents have no other property.

There are several disadvantages to this transfer arrangement. You may sell your interest, it is hard to value what you are getting, and if there is a dispute neither your interest nor your parent's interest is easily saleable.

Also, you may not keep up or improve the farm if there is a year-to-year oral lease. A long-term written lease would prevent this. If you received your interest in the farm by gift, you may have to pay gift taxes and federal income tax on capital gains.

Parents can also transfer their farm to a son with an *escrow deed*. This is an ordinary deed that has been left with a third person. When the parents die, the deed is delivered to you. For this method to be effective, your parents must completely relinquish all control over the deed. If your parents make out a deed and keep it themselves,

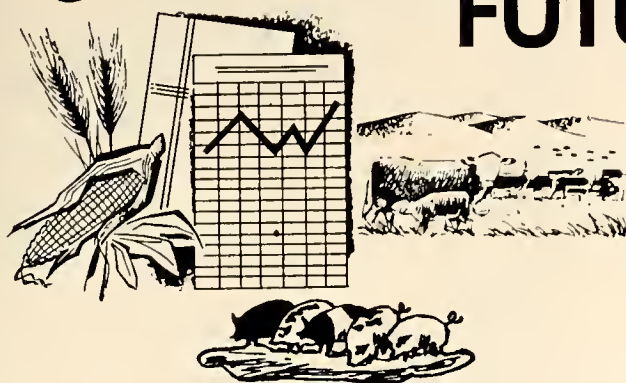
it is not recognized as effective. In practice, making a will is a more certain method of property transfer than the escrow deed.

Forming a *joint tenancy* between the father and son is still another method of transferring the farm business. When your father dies, you become sole owner.

Joint tenancy, however, does not avoid taxes. Gift taxes may be due when you are made joint tenant. When your father dies, you will owe inheritance tax figured on half the value of the farm business.

Few parents can afford to transfer the farm to a son as an outright gift. Many parents, nevertheless, do make a gift to the son by selling the farm to him for less than market value. This gift may be subject to state gift tax. If the gift is made "in contemplation of death," a state inheritance tax may be due. There may also be federal gift and estate taxes on large gifts.

In all cases, have an attorney help you and your parents make out the final details for transferring the farm business.



HOW TO STUDY FUTURES MARKETS

By Ron Miller

IN your farming program you try to increase production and cut costs to make a profit. But do you study the market reports and plan the sale of your farm product in advance?

Today there is more, not less, price competition in the sale of agricultural commodities. As farms get larger and become more specialized, the risks of falling prices increase. Therefore, planning the sale of livestock or a crop at the time of purchase or planting becomes more important every day.

To insure against sudden price changes, many farmers are studying and using futures markets. In fact, over 50 percent of the futures trading is being done by farmers and ranchers.

•**Contracts.** The Commodity Exchange Authority of the United States Department of Agriculture (USDA) regulates futures exchanges. Because the market structure of any commodity can change, the grade, size, and other specifications of a futures contract may need to be changed accordingly. To do this, each exchange proposes contract specifications to the USDA for approval.

A futures contract binds the buyer or seller to receiving or delivering a specific amount of a commodity at a certain quality. Contracts also specify where and when the commodity will be delivered and, of course, price.

Buying or selling a futures contract includes two costs. One, a commission which pays for the services of your broker and the exchange accompanies each contract. The minimum amount of this commission varies with each commodity. Second, each seller deposits margin money for the purpose of protecting the buyer. The buyer does likewise for the seller.

During the time you hold a futures contract, you may have to deposit more margin money if the market goes against you. After you close out your contract, the margin, plus or minus your profit or loss, is returned.

•**Prices.** In most cases the prices of agricultural commodities depend on more variables than do non-agricultural goods. Therefore, studying the prices of a commodity in conjunction with quality and time is important before using the futures market.

Supply and demand cause prices to go up and down. In so doing prices reflect the decisions of consumers, processors, and producers. Prices, on the other hand, serve as guides to consumers and producers and convey information back and forth. If prices were suddenly fixed, the communication between consumer and producer would be cut off.

The real difference between cash and futures prices is time. Generally cash prices are below futures prices by the cost of storage, interest, insurance, and possibly some transportation costs. The price difference between futures contracts with different delivery months also tends to equal storage costs.

The reason for this is that the price of the commodity is bid up as high as it is expected to go and then the cost of storage is subtracted. Hence, over a number of years if storage costs are considered there is no difference between cash and futures prices.

•**"Basis."** The difference between the current price in your area and the quoted price of a futures contract is called the "basis."

Usually the basis widens at harvest time and narrows as the delivery month

approaches. In addition, a narrower basis than usual could mean that it's a good time to sell because demand is up. On the other hand, if demand goes down the basis could be narrower than usual and it may be better to delay selling.

Large terminal markets, processors, and commission merchants make bids to your local buyer for his commodity. Your local buyer chooses the highest bid and deducts his margin of profit. After determining what the local demand is, your area buyer quotes you, the producer, the higher price. If a farmer knows the usual basis for his area, he can tell if the locally quoted price is favorable.

•**Markets.** Use an agricultural product from your farming enterprise as an example. Study the practices and structure of the industry carefully.

Since the market trends for citrus and eggs differ, you need to develop guidelines for the agricultural commodity which interests you. For instance, in the case of live cattle futures, watch consumption, production, slaughter and calf crop reports, feeder shipments, and weather conditions in major states. When studying the barley market, for example, use planting acreage, production, storage, and consumption reports.

No matter what the commodity, getting a complete picture of the market situation is important. Simply record the daily market quotations in a notebook and at your leisure study the prices for market trends.

Newspapers, radio, and television provide daily market reports while magazines and government reports supply long-range forecasts. Statistics from the various futures exchanges and brokerage houses are also good sources of market information. Finally, when you're ready to enter the futures market, consult a broker for current market trends and advice.

Farmers of the future will need to know even more about marketing their enterprise. Consequently, now, while your farming enterprise is small and before you become a full-time farmer, is the best time to learn how to use the futures market.

News from International Harvester



International adds to its Hydrostatic leadership

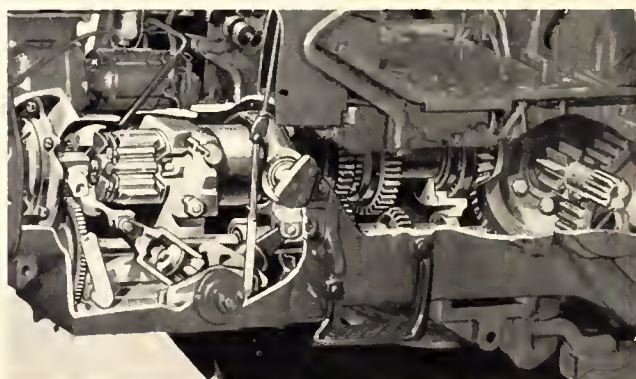
Many farmers who own a Hydrostatic Drive unit say they wouldn't do without Hydrostatic any more than they would buy a car without an automatic transmission.

The 65-hp International 656 with Hydrostatic All-Speed Drive was the biggest tractor news in years. Now this same Hydrostatic Drive is available in the new 52-hp International 544 tractor.

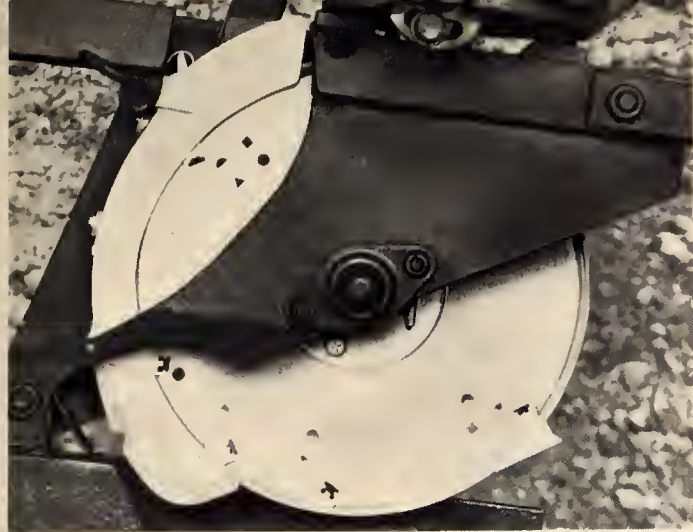
What has made Hydrostatic Drive such a success? First of all, it makes operating a tractor a whole lot easier and less fatiguing. No gear shifting.

It increases productivity. One lever control provides the precise speed, allowing infinite speed changes on the go as field or load conditions change. Yet the tractor still maintains full power to the PTO, hydraulics and drawbar.

Other International Harvester machines with Hydrostatic Drive include: three combines, two lawn and garden tractors, a self-propelled windrower, a cotton picker and industrial tractors.



How the Hydrostatic Drive unit works. A piston-type pump and a piston-type motor are used. The pump converts mechanical energy from the engine into hydraulic energy. And the motor converts this hydraulic energy back to mechanical energy for power to the drawbar.



Rotary valve plants almost any seed —without losing pinpoint precision

Any farm manager today must be prepared to change crops or cropping practices to take best advantage of favorable market conditions. So his wisest investment is in planting equipment that permits him to accurately plant almost any crop he chooses—with a minimum of time and change-over cost.

An International rotary valve planter gives him this versatility. With it, he can switch from hilldropping one, two or three seeds to power drilling to straight drilling. And he can plant corn, soybeans, cotton, and even peanuts.

But planter versatility isn't the whole story. He needs accuracy as well. The International rotary valve power-ejects the seed backward to cancel the forward speed of the planter. Seeds land in the furrow at "zero velocity"—with no bounce or scatter. Spacing is exact and depth is uniform. The result? He gets the stand he planted for.



Monitor Control featured on giant new combines

As modern combines get bigger and more complex, the operator finds it more and more difficult to keep track of each separate machine function and to make the right adjustments at the right times to maintain top efficiency.

That's why International created Monitor Control on their new giant 815 and 915 combines. Monitor Control is an exclusive combination of over 30 gauges and controls that gives a constant reading of most machine operations and permits instant adjustments or corrections.

For instance, a warning horn sounds if the elevator drive starts to slip. A special gauge shows when the engine is overloaded. And there's even a gauge that indicates when the engine air cleaner needs servicing. In short, no combine before has ever done so much to take the guesswork out of combining and give the operator such fingertip control.

Among the largest combines being built today, the 815 and 915 are powered by International V8 engines up to 144 hp and have grain tanks up to 150-bushel capacity. Besides Monitor Control, other control and convenience features include Hydrostatic All-Speed Drive as standard equipment and the new Comfort-Control cab with heater and air conditioner.



First to serve the farmer

International is a registered trademark of
International Harvester Company, Chicago 60611.

Worth more—when you buy, use, trade

Showing Livestock

... an educational experience
or a waste of time?

By Neill Lefors



COMPETITION in the show-ring takes time—time for fitting and time for showing. Sometimes it cuts into valuable classroom time, and you may wonder if it is worthwhile—and so do a lot of school officials.

Does this time spent away from the classroom showing at livestock shows and fairs detract from a student's education?

I decided to make a study of 250 former vocational agriculture students who participated in the Muskogee Junior Livestock Show between 1941 and 1965 to try to find the answer. It had seemed to me during my 36 years of teaching vocational agriculture in Oklahoma that there was some relationship

between a student showing livestock while in high school and his going to college. The last 32 years of my teaching has been at Checotah High School which has permitted me to participate in all junior shows held in Muskogee since 1941.

All 250 students studied vocational agriculture at Checotah and exhibited one or more years at Muskogee during the 25-year period covered by the study. The results of the study showed a very definite trend among the exhibitors. As the number of years they exhibited increased, so did the percentage who went to college.

The purpose of the study was to determine the effect of exhibiting live-

stock on entering college, completing college, and trend in students exhibiting. It was apparent that the more active exhibitors went to college after completing high school.

Sixty percent of the 250 students did go on to college. This compares with 20 percent of Oklahoma high school graduates from small schools and 45 percent from larger schools who do enter college. Slightly more than 30 percent of vo-ag graduates enter college.

This investigation established the fact that the group who exhibited three and four years produced more college students than the group exhibiting one and two years. The percentage exhibiting one, two, three, and four years and entering college was 30 percent, 47 percent, 79 percent, and 86 percent respectively.

Also, the more a student exhibits the more likely he is to remain in college. The study shows that 80.4 percent of the students who showed completed college or are still going to college.

A significant finding of the study is that less than 6 percent of the students dropped out the first year. It has been reported that the typical Oklahoma college loses about 42 percent of its Freshman class. In the U.S. four out of every ten children will enter college, and only two out of ten will finish four years of college, a dropout rate of 50 percent.

The reason for participating in livestock shows goes beyond the improvement of livestock. Participation provides training in planning ahead, accepting responsibilities, cooperation, leadership, and sportsmanship, as well as livestock improvement in breeding, feeding, and management.

The study also shows that exhibiting livestock does not affect the scholastic achievement of students. Instead, it appears to motivate them to do better.

True, this study dealt with only one show, but it would appear that students are not wasting their time exhibiting in livestock shows. Instead, it is an opportunity to use live experiences in preparing for the life ahead.

CHECOTAH HIGH SCHOOL STUDENTS THAT SHOWED LIVESTOCK AND ENTERED COLLEGE

EXHIBITORS	YEARS EXHIBITED				
5-year Total, 1961-65	1	2	3	4	Total
Number showing	8	11	10	17	46
Number entering	5	9	8	16	38
Percent entering	62.5	81.8	80	94.2	82.6
25-year Total, 1941-65	1	2	3	4	Total
Number showing	80	42	47	81	250
Number entering	24	20	37	70	151
Percent entering	30	47.6	78.7	86.4	60.4
SCHOOL GRADUATES	1	2	3	4	Total
Percent entering					36

YOU CAN'T LOSE

IN d-CON's BIG "RAT CONTROL" CONTEST

**3 FINE, REGISTERED HEIFERS
TO BE GIVEN TO 3 LUCKY YOUNG FARMERS
and EVERY ENTRANT GETS 50¢**



Just complete this sentence in 40 words or less,
"We Get Best Rat Control On Our Farm By Using d-CON Because . . ."
Along with your entry, send in a d-CON® Ready Mixed Box Top and We'll Send You 50¢.

If you're a winner in d-CON's "Rat Control" Contest, you'll receive a fine, quality-bred, *registered* heifer—to be selected from an outstanding breeder. Your heifer will be of recognized blood lines . . . suitable for VO-AG Project Farming . . . excellent show potential . . . foundation stock for your herd!

Read the easy rules and enter the contest today. Just a few words may make you the proud owner of your own registered heifer. So get going right now!

FACTS ABOUT d-CON TO HELP YOU WIN

- d-CON is the way to rid your farm of rats *completely*.
- d-CON is one rat killer that works and keeps on working—because it contains no violent poisons—never makes rats bait shy!
- Rats just can't resist d-CON's EXCLUSIVE LX 3-2-1 formula! d-CON used as directed, is safe to use around children, pets, poultry and livestock!
- Every package of d-CON comes with 4 ready to use, bait filled trays, specially made for maximum bait acceptance.

~ RULES ~

1. To enter d-CON's big "Rat Control" contest, just complete the following sentence in 40 words or less, "We Get Best Rat Control On Our Farm By Using d-CON Because . . ."
2. Use coupon or write your entry on separate paper and mail entry with your name and address plus one (1) box top from any package of d-CON Ready Mixed, to d-CON, Dept. H, 90 Park Avenue, New York, N.Y. 10016. Send as many entries as you wish. One box top to an entry.
3. Entries must be postmarked by June 15, 1969.
4. Decisions of judges will be based on originality and aptness of thought and expression. The judges' decisions will be final. Winners will be notified not later than August 1, 1969.
5. Anyone living in the United States, its territories and possessions and Canada may enter except employees of The d-CON Company, Inc. and its advertising agencies and the families of such employees. Each entry must be the original work of the contestant submitting it and be submitted in the contestant's own name.
6. All entries become the property of The d-CON Company, Inc. to use as it sees fit and none will be acknowledged or returned. Winners will be notified by mail. Full list of winners will be sent approximately six weeks after close of contest to anyone enclosing a self-addressed, stamped envelope with entry. This contest is void in all areas where it is taxed, prohibited or otherwise restricted.

The d-CON Company, Inc. Dept. H
90 Park Ave., New York, N.Y. 10016

Gentlemen:

We Get Best Rat Control On Our Farm By Using d-CON Because _____

NAME _____ AGE _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

Remember To Enclose Box Top From Package Of d-CON Ready Mixed (1 lb., 3 lb., or 5 lb. Size) and we'll send you 50¢.



FFA members and parents discussed the loan procedure, interest rates, and project management with bank agricultural representatives prior to signing the loan papers.



LeRoy Graveth, a co-op member, checks on the cattle.

Greenhands Profit Together

By Maynard J. Iverson

HOW does a town FFA member get involved in a cow-calf beef operation? Ten members of the Minot, North Dakota, FFA did just that by forming a beef cooperative consisting of 20 purebred Angus cows with calves at their side.

Early last spring when chapter members were busily planning their supervised agricultural experience programs for the year, some of the town members were unable to find a place to raise livestock or crops. This was certainly understandable since nearly three-fourths of the 130 members of the chapter live in town.

Opportunity presented itself when Mr. Bruce Van Sickle, local lawyer and Minot school attorney, offered a newly-fenced 200-acre pasture for FFA use. Using a range survey, it was determined that the land would hold 20 animal units—20 cows with calves or 30 year-

lings—for a six-month grazing period.

The interested members then decided that ten Greenhands would share the livestock so that each could make enough profit to qualify for the Chapter Farmer Degree. The final ten, chosen on the basis of need from over twenty applicants, were Dennis Carpenter, LeRoy Graveth, Arland Kramer, Merlynn Kolloen, David Larson, Glen Meek, Harold Ofsthun, Joey Richeson, Dan Roggenbuck, and Andy Thompson.

Each applicant applied and received a loan through the Minot FFA—First National Bank loan program. By mid-May 20 purebred Angus cows and 20 rambunctious calves had been purchased.

The members then worked out a written agreement with Mr. Van Sickle. The landlord furnished water, fences, and corral material while the members

supplied twice-a-week surveillance, salt and minerals, insecticides, a bull, insurance and veterinary care. They also paid rent at \$2.00 per cow-calf unit per month.

The beef cooperative secured fire, lightning, and hazard insurance, and set up a corral for castrating the calves, vaccinating against blackleg and malignant edema, and ear-tagging with chapter tags. In addition, the FFA co-operators erected a self-applicator for insecticide and placed a loose salt container nearby. Lynn Martin, an Honorary Chapter Farmer, provided free use of his registered Hereford bull.

A schedule of work was planned so that the cattle received good care and no one member was overburdened. The ten members fed and cared for the cattle regularly. During the summer they often brought the entire family along and several stopped among the trees or hills for a picnic lunch. Word spread quickly of the venture and the question "How are the cattle?" was often heard from local farmers, businessmen, teachers, and other chapter members. School officials also took a trip out to the pasture with the advisor.

A good deal was learned about livestock marketing as the auctioneer carried on his chant—guesses on the weight, price differences between the steers and heifers, and the total sale price were all subjects of whispered conversation during the sale. Finally, when all the bills were paid, each member received a check for \$42.28. "Not bad," as one member put it, "for a little work, terrific experience, and a lot of fun!" Others must feel the same because more than 20 members have applied to take part in the 1969 Minot FFA beef cooperative.

The National FUTURE FARMER

Here FFA co-op members prepare to vaccinate, castrate, and ear-tag the calves.



THE CHAPTER SCOOP

news, notes, and nonsense
from everywhere

by Jack Pitzer

A 12-page booklet about 40-year history of *Mexico*, New York, Chapter was distributed at parent-son banquet.

William Gillis, Sturgis, Mississippi, FFA member, spoke at annual meeting of the co-op council. His topic—"Why Farmers Should Join Farm Cooperatives."

The 42 members of *Rich Hill, Missouri*, FFA reworked school parking lot. Used old railroad ties for car stops.

Arthur Dorr, Tim Benton, and Jimmy Ognoskie, Needville Chapter, took third place in the farm radio competition of Texas State FFA Leadership Contest.

Garnaville, Iowa, sells "slaves" by the day, by the pound, or by the foot.

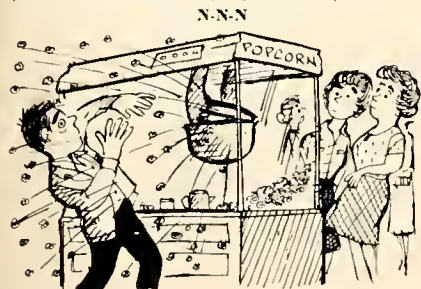
A U.S. army recruiting sergeant spoke and answered questions at a recent *Indianola, Iowa*, Chapter meeting.

Hessmer, Louisiana, members, with help of their advisor, started a chapter swine farm. Built fences and buildings.

Miss Sue Bell was re-elected sweetheart of the *Westbrook, Texas*, FFA.

Mothers of *Princeton, Missouri*, FFA members prepared supper from wildlife brought in by members.

Another slave auction: *Grover, Colorado*, Chapter sold advisor Johnson for \$17 and sweetheart Joan for \$20.



Ithaca, Michigan, FFA bought a popcorn popper. "The teachers are planning a party and want us to pop it for them." Signed—"A salty FFA member."

Canby, Minnesota, FFA'ers used the instant replay technique with video tape recorder in preparing for district parliamentary procedure contest.

And *Red Wing, Minnesota*, team practiced with local DECA chapter.

Five members of the *Ruby Mt. Chapter, Nevada*, have been accepted as participants in the National FFA Study Tour to Europe. Chapter is well represented!

Fifteen members of *Lenapah, Oklahoma*, FFA battled a blazing grass fire for 2½ hours.

From *Saline, Louisiana*, reporter **James Guilliams**: Our chapter purchases FFA jackets for Greenhands and then they can pay for the jackets as soon as possible.

Ceres, California, Chapter held their first meeting of new year on January 15 in school's agriculture building at 7:30 p.m. Had committee reports, amended constitution, then played basketball.



Members of *Grand Island Northwest FFA in Nebraska* toured the western bean cutworm plot. Plot showed damaging effects on 92 varieties of corn.

Plant City, Florida, Senior Chapter members built a cattle trailer—tandem wheels, sliding back gate, and electric brakes. Have been invited to exhibit it at state fair.

Judging team of *Caston Chapter, Fulton, Indiana*, won a gilt as top prize in the first annual Spotted swine judging contest.

How about a street in your town named FFA Lane or FFA Avenue? Maybe it would be a street next to the park your chapter landscaped.

The *Petersburg, West Virginia*, FFA Chapter is listed as a purebred Berkshire breeder.

Lyle Willoughby of Melrose, New Mexico, FFA has 17 head of Shorthorn cattle, 1 Duroc gilt, and 40 acres of sorghum grains.

Noticed a letter in another farm magazine from **Jim Marcks of Luxemburg, Wisconsin**, FFA. Glad to see members expressing their good ideas and views.

Total net income for 39 newly initiated Chapter Farmers at *Minot, North Dakota*, is \$19,194.53.



Missouri Valley Chapter in Iowa operated a food booth at the World's Championship Goose Calling Contest.

Georgia Future Farmers of Heard County FFA are planning to repaint the sign at their chapter forest.

Recent field trip of *Brunswick, Virginia*, FFA'ers was to a paper mill.

Miami Trace, Ohio, Chapter canvassed their area for grain or cash and raised \$450 for CROP.

Eddie Foster wrote that *Kofa, Arizona*, Chapter won teen division with their float in Silver Spur Rodeo parade.

Shawnee Chapter of Wolf Lake, Illinois, made old-fashion sorghum molasses during celebration of state's sesquicentennial.

Council Grove, Kansas FFA has official calling cards printed for officers. Card is on quality paper. Lists all officers (and advisor).

FFA parents, Mr. and Mrs. Kenneth Wasser, moved from town to the ranch so son, **Phil**, of *Walla Walla, Washington*, FFA could expand his vo-ag program.

Cheyenne, Wyoming, FFA members sure appreciate the two pickup trucks they get to use each year from a local dealer.

Don't save all the good ideas just for your chapter. Share the wealth and send them in to fill the basket.

SPORTRAIT

By Stan Allen



John Havlicek, Boston

JOHN Havlicek, six-year veteran in the National Basketball Association, owns All-Star status but doesn't own a spot in the Boston Celtics starting five. John has become the sixth man on the Boston squad. He is a great sub who can be counted on to come off the bench in a crucial spot and pick up the ball team.

John, born in Martins Ferry, Ohio, was raised in the small mining town of Lansing, Ohio. He was an outstanding athlete at Bridgeport High School where he participated in all sports. Havlicek played all infield positions on the baseball team and ran the 440 on the track team. He was an All-State quarterback in football and, averaging 32 points a game, made All-State forward on the basketball team.

John received more than 50 scholarship offers from colleges, however, most of them were for football. He finally picked basketball at Ohio State when two of his teammates, Jerry Lucas and Larry Siegfried (a Celtic teammate), chose Ohio State.

John had to change his playing style at Ohio State as Jerry Lucas was to be the big scorer. Havlicek concentrated on defense and became one of the best defensive players in college ball. He was a good ball handler, and his six-foot, five-inch height gave him a good advantage under the boards. John scored at a 20-point per game pace as a senior and won All-America honors.

John also played baseball for the Buckeyes and received offers from three major league clubs after graduation. He was drafted by the Celtics in basketball and by the Cleveland Browns in football. John took the Browns offer but

didn't make it as a wide receiver. He had the size, speed, and sure hands of a good receiver but had been away from football too long to make the good moves.

Havlicek wasted no time in signing with the Celtics. He came on fast as a rookie to give Boston one of the strongest benches in basketball. He played at both the guard and forward positions, scoring 1,140 points for a 14.3 average. He pulled down 534 rebounds and made 175 assists. John scored 130 points in the play-offs, a 11.8 average, to help Boston win a championship, and he finished second in the Rookie of The Year voting.

Havlicek is an excellent ball handler, and his ability to intercept passes soon earned him the nickname of "Spider" around the league. He has great stamina and usually runs the opposition right off the court. Like most rookies, however, John did not shoot enough. To improve his game, he spent most of the 1963 off-season on the Ohio State practice court.

The practice paid off for John as he came back in his sophomore season to lead the Celtics in scoring with 1,595 points and a 19.9 average. He had 328 rebounds and was third in the league with 238 assists. In the 1963-64 play-offs he came off the bench and hit for 157 points to help the Celtics win another championship.

John scored 1,375 points in the 1964-65 regular season for a 18.3 average and made another strong performance in the play-offs with 222 points in 12 games. He maintained that pace in the 1965-66 season and came back the next year to average 21.4 points a game with 1,733 points. He pulled down 532 rebounds and had 278 assists. Last year he scored 1,700 points for a 20.7 average and had 546 rebounds and 384 assists.

During play-offs, Havlicek shows his true value to the Celtics under pressure. In the 1965-66 play-offs Boston was losing the series when John was made a starter at forward. They rallied to win that game and went on to win the championship. Last year Boston was losing to Detroit in the semifinals. John started at guard in the fourth game and hit the hoop for 35 points. Boston won the game. Havlicek stayed in the lineup, and the Celtics won the Eastern finals and then the championship. In the 19 play-off games that season, John hit for 493 points for a 25.9 average, grabbed 164 rebounds, and made 142 assists.

John Havlicek played in 469 games in his first six seasons, scoring a total of 8,877 points for a 18.9 average. He hit on .422 percent of his field goal attempts and made almost 80 percent of his foul shots. His play-off record in 78 games is 1,650 points, a 21.1 average. John has played in three NBA All Star games and scored a total of 58 points for a 19.3 average. He has also been voted to the All-NBA second team three times.

"Hondo" Havlicek is keeping up his pace this year. Through the first week of February "Hondo" has scored 1,263 points for a 21.8 point average. That's not a bad record for a part-time player.



"I think that leaves only 14 or 15 ahead of us."

The National FUTURE FARMER



Come **CALL** With Me

By Robert Delongchamp

SITTING IN a dew-laden field at five o'clock in the morning wailing like a wounded rabbit may sound crazy, but it can be a barrel of fun.

It started last winter. Scraping up a few dollars, I ordered a predator call. When the call arrived, I ripped open the package, took a deep breath, and blew. The only thing that came from the call was plenty of hot air. After blowing for fifteen minutes without the slightest sound, I came to the conclusion that I had been sent a defective call. Disgusted and disappointed, I set the call down and proceeded to read the instructions—always a last resort. After reading them several times, I came up with the solution. I was blowing into the wrong end.

Now that I had "the bugs" worked out, it became obvious that I needed practice. That's what I began to do, loudly and clearly. Giving a liberal estimate, it was about five seconds later when my mom gave me this subtle request, "Stop blowing that thing or get out of here." For the next two hours, I squeaked and squealed on a convenient snowbank. I was surveyed by a group of curious and puzzled neighbors who weren't quite sure what to expect next.

After a week of experimenting, I felt certain I would bag a minimum of three foxes on my first hunt. As it turned out, all I got was cold feet. With this initial disappointment, my enthusiasm vanished, and I put the call away.

I didn't use the call again until early spring. As I became proficient, I began to enjoy many rewarding experiences calling wildlife.

I soon discovered that foxes weren't the only animals that responded to the call. Flickers, blue jays, crows, and hawks have also answered.

On one occasion, I spotted a large hawk gliding over a field about a quarter of a mile away. Immediately I began calling. Without any hesitation, the hawk made a ninety-degree turn and headed full speed to the place where I sat hidden. It continued coming until it was only about ten yards from me. Then it must have sighted me because the hawk turned and flew away.

Another time I called a hawk which was circling directly over my head. While I called the hawk kept circling, finally landing in a tree a short distance from me where it stayed until my wind gave out.

In this vicinity there is a field of two acres. When I came to it, I was surprised to see four hawks flying around the

calling area. Apparently, my persistent calling of the first hawk had drawn these hawks from the surrounding forest.

Another bird that has shown quite an interest in the predator call is the flicker. One time I was buried in a balsam thicket bordering a field when I heard wings beating over my head. Ducking down swiftly—I had to or get hit—I watched a flicker alight in a big spruce close by. Whenever I would call, it would buzz over my head, missing me by only a foot.

Blue jays and crows are clowns when answering a predator call. Once when I was being scolded by a flock of jays, one of the boldest landed two feet away. On sighting me (supposedly an injured rabbit), it turned its head first to one side and then the other with a puzzled look and then hastily flew away.

One July morning at 4:30 a.m., dressed in green and armed with a call and a bolt-action .22, I entered a field covered with brush. I had serious intentions of fox hunting. The first stand I made was near a few bushes at the top of a hill. It provided clear vision in all directions. I faced west into the wind, but could survey north and south as well. After calling for five minutes, some mysterious feeling caused me to turn around and look behind. There standing in the brilliant morning sun was the first fox I had ever called. Making a quick dive for my gun, I started to shoot just in time to see it fade into the underbrush. Next time old Reynard may not be so lucky, but just seeing him made it a successful hunt.

If you enjoy hunting, photography, or just plain bird and animal watching, predator calling can be a rewarding and fascinating pastime.



"Heavens! I believe she's going to feed him!"

HERE'S a Texas story that isn't all brag. The big things in the life of Bill Sarpalius came after lots of hard work; and by overcoming some tremendous odds.

Bill is currently president of the Texas FFA Association—the largest state association with over 50,000 FFA members. That's quite an achievement in itself.

However, Bill's success story doesn't read like so many other FFA members' success stories—no long list of livestock enterprises, no large acreage of crops, no vast assortment of farm equipment.

"My supervised farming program never has been too big here at Boys Ranch. Our program is limited because they can't let one boy have a big project and not let another boy have one," explains Bill.

Bill came to Boys Ranch when he was 12—just two days after Christmas in 1960. "When I came to Boys Ranch that year at Christmastime, I can remember some of the boys helping me make my bed and unpack. That friendly help made a big impression on me.

"They separated me from my younger brother, Karl, and placed him in a different room. My other brother, Bobby, and I lived in the same dorm. One of the fellows, Butch Tucker, gave me a first-rate tour around the ranch, and I really liked what I saw.

"On the tour we saw the track field, and to me it looked like a place where they raced horses. There seemed to be a lot of horses—I had always wanted to ride a horse. And I learned to ride a horse at Boys Ranch! In fact, I rode in the rodeo every year.

"They taught me to milk a cow, too.

Bill, like other boys before him, learned to like animals and ride a horse.



Work can be fun if you have the right attitude. Bill doesn't mind hard work.

I really like animals, particularly dairy cattle. I raised two heifers, some hogs, and presently have two steers."

Boys Ranch provides an opportunity for a young man to grow. "I didn't have any background in agriculture, had never been to a rodeo, and didn't even know what a steer was until I came to Boys Ranch.

"Life was a complete change at first. Everyone seemed so happy and friendly. Somebody was always there

to help if you needed it. But, of course, there was always discipline when you did things wrong. That helped too."

Like most boys, Bill really learned to like sports. He played football, participated in wrestling, and ran track.

School work and vocational agriculture are vital parts of the activities at the Ranch, too. Bill had to start school a year late because he had polio at age 5. This put younger brother Bobby a year ahead.

Bill says, "I wanted to try to catch up with him so we could graduate together and finally did it. When my brother was a freshman, he got in FFA and in the ag program. He was disappointed at first but after about three weeks—all he could talk about was the FFA. My brother kind of led me into the FFA."

It is always good for a young man to learn to express himself. At Boys Ranch, the FFA can really help do the trick. During Bill's first year in the ag building, chapter advisor, Mr. Guy Finstad, asked the boys to learn the FFA Creed.

Bill says, "I was so shy I asked Mr. Finstad for permission to just say the creed privately. Mr. Finstad said I would have to get up in front of the room and recite the Creed.

"I said the Creed. It wasn't very well done, but it sure made me proud to stand up and say it in front of all the boys.

Later that year, Bill was on the Greenhand meeting conducting team that won first place in the area com-



He Sprang Back

petition and second in state. "All of us on the team were just like brothers," explains Bill. "We worked together at the barn and everywhere around the ranch. We were always asking each other questions about parliamentary procedure. We would make crazy motions when we were practicing to make it more interesting and fun.

"I guess the fun and good experiences of that team is what started it all and helped me get really interested in vo-ag and the FFA.

"On the Greenhand conducting team, I served as vice president. Then in 1966 my brother was chapter president, and I was vice president. The next year I was elected an area president of the Texas Association and in July of 1968 became state president."

But like most success stories there has to be a catch somewhere. It happened during Bill's term as area president in 1967—just after he was graduated from Boys Ranch. By taking advantage of a little construction experience, he got a job with a local firm in order to earn some money for a car to use in traveling as area president.

Bill tells us, "I was going to the area leadership contest. Since Boys Ranch was competing, I really wanted to be there. The Greenhand conducting team was going back again so I left early that morning. I had an accident that wrecked my car and ran up a pretty good hospital bill which put me behind. But there were always people who helped me out. My speaking engagements were heavy, but someone either would take me or let me borrow their car or pickup."

Bill earned a scholarship that paid for his tuition to any junior college near the ranch. He had already set his sights for state president and started his work toward that goal.

"I didn't want to let the boys, my brothers, and Mr. Finstad down."

The Texas FFA members elected Bill to be their president from a field of ten candidates. His term as president is, and will continue to be, a



Advisor Mr. Guy Finstad has been an important part of Bill Sarpalius' life.

successful one. He has set his personal goal as state president to try to impress Future Farmers to help themselves and help others. "My main goal is to help young people and try to get them to set goals in their lives to make a success."

Despite his hardships and misfortunes, there's a success story to be told about Bill Sarpalius.

In his column in the *Wichita Falls Times*, Wichita Falls, Texas, Joe Brown sums it up pretty well:

"Young Sarpalius was hustled way back there or he wouldn't be at Boys Ranch, but there was something American about Bill . . . he sprang back."

Cal Farley's Boys Ranch is in the Texas Panhandle. The 1,000-acre Ranch is home for around 400 boys. They come from many states because of broken homes and a number of other reasons.

Their home is a "working ranch." Schedules include chores, meals, school, athletics, studying, and FFA for the boys in vo-ag.

When Bill finishes his term of office, he will complete his college education in agricultural education and speech.





The latest model 1200 David Brown tractor offers lots of options that can make pulling machinery easy. One is the traction control which transfers the weight.



One lever operation of a hydrostatic drive is the big feature of the new 1255 hay windrower introduced by Case. The 1255's one lever control starts, steers, brakes, stops, reverses, and regulates variable speeds. The windrower comes with 12 or 14-foot header.

New liquid chemical applicators with tank capacities ranging from 125 and 1,000 gallons are now available from Oliver. Pictured is the new 622 model with two mid-mounted 200-gallon tanks. The 622 is equipped with a dual roller pump and is capable of applying two chemicals at the same time.



A double disc six-inch spacing drill that reduces stops for refilling has been announced by Massey-Ferguson. Available in seven, eight, and twelve-foot widths, the MF 63 drill has a 1 1/2-bushel grain box, and a drop-away fertilizer bottom.

Something New

Allis-Chalmers has introduced a gasoline powered version of its four-plow "One Eighty" diesel tractor. The new tractor has an estimated PTO hp rating of 64 at 2,000 rpm. Standard features on the gas model include hydrostatic steering, roll-shift front axle, and power-shift rear wheels.



A new model 320 planter, offering four, six, or eight-row capability, is being introduced by Ford. Features on the 320 include 1 1/4-bushel fiberglass seed hoppers, tilting fiberglass fertilizer hoppers, and extra transport wheels for increased flotation and load-carrying capacity.

The new self-propelled 1469 Haybine by New Holland is powered by a 37-hp air-cooled engine and is equipped with an 18-gallon fuel tank and a universal drive to the header. The 1469 mower-conditioner features upper and lower rubber conditioning rolls and a nine-foot, three-inch cut.



The new 700 trailing plow by International Harvester is available with automatic or spring-trip beams. The 700 trailing plow has a reversible hitch for on-land or in-furrow plowing, full casting front and rear furrow wheels, and independent hydraulic control of front and rear wheels. The plow is available in four, five, six, or seven-bottom sizes.

John Deere has introduced a new 94-hp tractor, the 4000. The 4000 features the 6-cylinder diesel from the 4020, an 8-speed Syncro-Range transmission, and an adjustable front axle. Regular equipment includes a closed-center hydraulic system, power steering and brakes, a 12-volt system, independent PTO.



Free for You

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76—Serving the A.I. Program—This informative booklet explains how the National Association of Animal Breeders serves its members and the livestock industry. Details of the communications and public relations programs performed by the organization are also described. (The National Association of Animal Breeders, Inc.)

77—Know Your Horses—Horsemen will be interested in this colorful new chart. Included in the layout are three detailed charts of the external parts of the horse, his muscular system, his skeletal system, and color sketches of the various breeds of horses and ponies. (W. F. Young, Inc.)

78—Farm Feed Processing—This 20-page booklet was written by an agricultural engineer and discusses the value of on-the-farm feed grinding. The booklet illustrates several methods of adapting your corn crib or granary to on-the-farm processing. It also tells you how to estimate your feed grinding needs. (Gehl Company)

79—Charolais . . . For Progress—The four-color booklet includes a history of the breed and research reports from four university experiment stations. Another section of the 20-page booklet reports the performance of Charolais crossbreds. (American-International Charolais Association)

80—Bacon Bin—Interested in automatic hog feeding systems? This eight-page brochure describes how to get maximum hog production under complete confinement with such a system. It also includes tips on animal health, management, and labor-saving devices. (Agri-Systems Division of Black, Sivalls & Bryson, Inc.)

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- Buy those other jeans two sizes too big.
- Wash them. Hope they shrink enough.
- Wash them again. Hope they shrink enough.
- Wash them again. Hope they shrink enough.
- Wash them again. Hope they *don't* shrink any more.

2.

- Buy Lees. (They're tight like you want 'em from the day you buy 'em.)



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Selecting the Right

By Melvin Long

THE wide range of types of plows currently available, coupled with the many items of optional equipment that can be added to them, complicates the task of selecting a plow.

Although there is no plow that is "best" for all situations, there may well be one that is best for your needs. This article discusses the advantages and the limitations of each type regardless of make, and provides factual information on which to base your choice.

Plow Types

Drawn. The conventional type plow has some very basic advantages. For example, drawn plows are easy to "team" for multiple hitches behind large tractors. In some extreme conditions such as dense, hard, sun-baked soil and sticky, tough gumbo, a drawn plow usually does a better job.

The basic arrangement of the tongue which connects the plow to the tractor makes it easy to make adequate adjustments that permit hitching exactly on the vertical and horizontal lines of draft. This lines up the center of pull of the tractor with the plow's center of resistance. Thus, the lack of side draft improves tillage, prevents needless wear on tractor and plow, and reduces fuel costs. It also spares the driver from tiresome fighting to hold the plow to its work.

Integral. This type, originally introduced just prior to World War II on two plow tractors, has gained rapid acceptance among farmers.

Since the need for wheels on the plow is eliminated, the total cost of the tractor-plow combination is less than for a tractor and drawn plow. For working small and irregular shaped fields and for backing the plow into storage space, the pick-up feature is very convenient. The built-in draft sensing arrangement in the tractor hitch provides weight transfer from the front to the rear wheels of the tractor.

Some of the inherent advantages of the first integral plows are carried over into the larger sizes. For example, an integral plow is still less costly than the same size drawn plow. Although the cost of the tractor hitch system may offset a portion of the savings, the hitch system is normally used for a variety of implements in addition to the plow.

Some problems develop as integral plow size increases. The provision for side sway or lateral movement, which can be built into the tractor hitch, is limited. Thus, large integral plows have just average contour-plowing ability.

In general, the horsepower capacity of tractors has increased more in proportion than has tractor size and weight. Thus, although it is not difficult to provide enough hydraulic-system capacity to lift the large integral plow, the tractor often does not have the weight for adequate transport stability.

Because an integral plow in the transport position is essentially a rigid extension of the tractor, the greater length of larger plows increases the turning clearances.

Semi-Integral. These "hybrids" tend to combine the best features of both the drawn and integral types while avoiding many of their limitations.

This type plow is based on the fact that as the number of plow bottoms in an integral plow increases, the top link in a three-point hitch becomes less important to hitch action. With four or more plow bottoms, the top link connection can be omitted completely when the plow is in the working position. Thus, if the rear wheel of the plow is arranged to lift the rear of the plow for transport, the top link can be

dispensed with entirely. This assumes that the draft load in the hitch can be sensed through the lower lengths.

The semi-integral plow is attached to the tractor only through the lower draft links. The front of the plow is free to move vertically independent of the rear of the plow. The plow is also permitted to pivot from side to side in relation to the tractor by a vertical-pivot arrangement. When the tractor turns in relation to the plow, a guide-bar arrangement connected to the tail wheel of the plow steers it so that the plow follows the track of the tractor wheels and does not swing wide as does an integral plow.

This arrangement reduces the width required for headlands and allows the plow to trail well in contour plowing. Relatively square headlands can also be produced because of the independent lowering and lifting of the front and the rear of the plow.

General Characteristics to be Considered

Plow capacity in a ten-hour day can be estimated by multiplying the width of cut (in feet) of the plow by the forward speed in miles per hour. Thus, a plow with five 14-inch bottoms would have a working width of almost 6 feet. At 4 miles per hour it would plow 24 acres per day or approximately 2.4 acres per hour. This method allows an average amount of time for stopping and turning.

Because of the relatively high horsepower-to-weight ratio of most present-day tractors, they cannot develop their full power at the older plowing speed of 3 to 4 miles per hour. To avoid using excessive weighting on these tractors, they must usually be operated in the 5 to 6 miles per hour range.

Conventional plow bottoms pulled at this higher speed throw the furrow slice excessively and waste tractor power. Several manufacturers now offer bottoms that can be operated at these higher speeds without significant power loss. Since they work well at lower speeds, these bottoms permit matching tractor power to conditions by changing speeds.

High-speed plowing is not recommended in fields where many stones, stumps, or other obstructions are likely to be encountered. If an object is hit at high speed, damage to the equipment or injury to the operator can result.

This problem can be reduced somewhat by the use of safety-trip spring-release standards on each plow bottom, or by the use of power reset bottoms. Since each release must withstand the force of only one plow bottom, it can be designed to release and permit the bottom to swing out of the way when any individual plow bottom hits an obstruction. Conversely, the plow with stiff standards depends upon a cushion spring release in the hitch. Thus, the obstruction encountered must be great enough to stop the entire plow.

Characteristics Compared

Many factors affect the performance of a plow and its effect on the tractor. Here are the more important ones.

Mobility and Maneuverability. Integral plows are the most maneuverable because they are essentially a part of the tractor.

Semi-integral plows may be somewhat less maneuverable in transport, but they are better in following contours. The vertical hitchpoint located behind the tractor rear wheels tends to swing the front of the plow out rather than allowing it to track inside when the tractor turns in contour plowing. The separate and independent operation of the front and rear ends of the plow permits turning on a relatively narrow headland.

Plow

Drawn plows have only limited mobility and maneuverability, especially when compared to integral types.

Plowing-Depth Control. In both the integral and semi-integral plows some variation in depth is unavoidable.

When the integral hitch is operated in the draft-responsive setting, it allows the plow to more nearly follow variations in soil profile and reduce depth variation. However, as integral plows increase in size, they of necessity tend to bridge small depressions and to plow through small mounds.

Since the semi-integral plow is pivoted just behind the tractor, depth variation caused by pitching of the tractor front end are reduced.

Drawn plows do not provide load relief with variations in soil condition. Thus, they can produce the best uniformity of plowing depth.

Stability. The amount of weight that a tractor hitch can lift is usually limited by the necessity for keeping the tractor front wheels on the ground for adequate steering control.

To reduce the amount of weight needed on the front of the tractor, some integral plows are designed as light and as short as possible. This arrangement reduces the rigidity of the plow. Limited fore-and-aft space between the bottoms reduces trash clearance. In severe trash conditions, plugging then becomes a problem.

Transport stability is an important factor in semi-integral plows. Since only the front of the plow is supported by the tractor, weight becomes less critical.

When comparing types of plows of a specific manufacturer it's a good idea to check on the basic-frame arrangement used on the different types. In some cases, the shorter, closer spaced frame is used on both the integral and semi-integral plows. In other cases, the shorter frame is used on only integral plows, and the same longer frame is used on pull types and semi-integral versions. And in some further instances, the same long, extended-space frame is available in all three types of plows.

Drawn plows have little or no effect on the transport stability of the tractor, so with these plows size can be matched to tractor power with no difficulty.

Costs. It's difficult to make exact cost comparisons because of the many different arrangements and optional items which can be added to the different size plows. In general the integral versions are least expensive, the semi-integral are intermediate, and the drawn type are the most expensive.

An additional complicating factor is the fact that, in general, integral plows are the only available type in the very narrow widths of cut. The drawn type is the only one available in the extremely wide width of cut. Thus, only at the intermediate sizes are all three available.

Effects on Tractor. The force exerted on the tractor as a result of the weight of the plow and the reaction of the soil against the plow bottoms is known as the line of pull. This force has pronounced effects on the weight transfer to the rear wheels of the tractor during plowing. In effect, the higher the line of pull, the greater the weight transfer to the rear wheels.

Present-day, high-powered tractors depend on this weight transfer—and often on added ballast—to provide adequate traction for plowing. To provide enough built-in weight in the basic structure of the tractor would make it so heavy that it would be impractical for other farming operations.

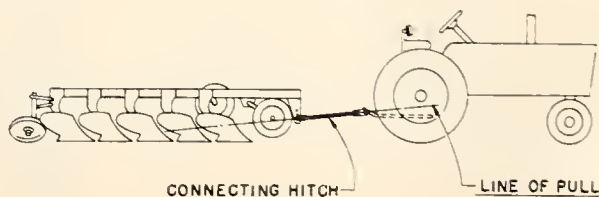
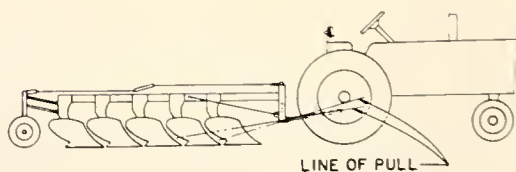
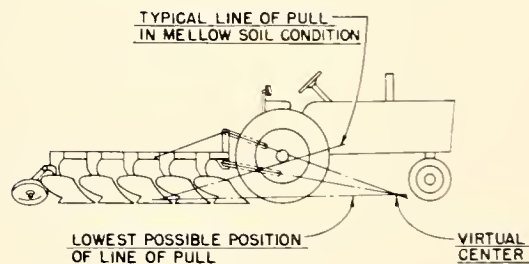
The low line of pull resulting from the relatively light weight and short length of integral plows produces limited weight transfer. For example, in heavy soils that tend to produce low lines of pull, the integral plow provides little weight transfer. In mellow soils, however, the resulting high line of pull may produce more weight transfer in a light integral plow than with a heavier semi-integral version.

In semi-integral plows, it's important that ample hitch adjustment be provided for satisfactory operation over a wide range of conditions. For example, if the hitch point is too low for the soil condition, some of the force is carried by the rear wheel of the plow and does not produce transfer of weight to the tractor wheels. Conversely, if the hitch point is too high, the weight transfer is the greatest possible amount, but the rear of the plow tends to plow shallow.

Since the line of pull changes with soil conditions, the usual arrangement is to adjust the plow hitch low enough to prevent the rear of the plow from plowing too shallow when difficult plowing is encountered. Thus, some of the benefits of possible weight transfer are sacrificed in the portions of the field that are less difficult to plow.

Drawn plows permit the best control over the location of line of pull. This line of pull causes weight transfer from the front to the rear wheels of the tractor, and a portion of the forces acting upon the plow is carried by the plow wheels.

Differences in hitching, plow weight, use of wheels, and plow length produce different lines of pull and weight transfer among integral, semi-integral, and drawn type plows. In integral plows, top, the line of pull does not necessarily pass through the hitch points of the plow. It is free to move up and down through a wide range of positions, depending upon soil conditions. In semi-integral plows, center, the line of pull must intersect the hitch point of the plow. Since the angle of pull changes with varying soil conditions, the line of pull has different points of origin at the plow. In the drawn plow, bottom, the line of pull passes along the connecting hitch. Weight transfer is usually considerably less with a drawn plow than with either an integral or semi-integral plow.





Archers shoot in groups of three with three arrows each.

FIELD ARCHERY

By Betty Steele Everett

IN the days before gunpowder, when a man's meal depended on his accuracy with a bow and arrow, there was only one type of archery: the instinctive hunting kind that produced kills.

When archery moved from being a necessary skill to a hobby and sport, target shooting became popular in Europe. In America another type of shooting known as field archery was more popular.

Field archery, which imitates hunting, came into its own in the 1930's when more and more hunters were trying their luck at bow hunting. Bow hunters use this as practice for actual hunting, while non-hunting archers enjoy it as a different test of skill. In 1939 bow hunters founded the National Field Archery Association (N.F.A.A.) in Redlands, California. The headquarters is still there today.

There are several differences between target archery, which you may be do-

ing in your physical education classes, and field archery. In target shooting equal sized targets are set at measured distances from the archer. To improve their aim target shooters almost always use a sight on their bows.

Field archery on the other hand is laid out over uneven, sometimes wooded, ground with targets of various sizes set at different unknown distances from the shooting line. These target positions force the archer to shoot from the standing, kneeling, crouching, and sitting positions.

The skills of field and target archery are the same except that aiming in field archery is often done with both eyes open. Some field archers use a mark, sight, or a blemish on their bow when aiming. These contestants compete in the freestyle division. Only archers without sights can compete in the bare bow division. Equipment is similar for both types of shooting, although the field archer's bow is usually shorter

and easier to handle in the woods. His arrows also have heavier points.

Although the N.F.A.A. recognizes five different kinds of "rounds," or forms or competition, the one that best tests the hunting ability of the archer is the "big game round." In this round, life-size animal pictures imitate live hunting targets.

The targets are made of laminated cardboard and painted in natural colors. Some targets are placed in wooded areas, almost invisible from the stake or shooting position, and some are located on rolling ground. This may force the archer to cant or tilt his bow to avoid a low hanging tree branch or shoot over hills.

There are four size divisions of targets, ranging from the largest game animals to the smallest. Group 1 consists of the black bear, grizzly bear, deer, moose, elk, and caribou. Group 2 encompasses slightly smaller animals like the antelope, wolf, mountain lion,

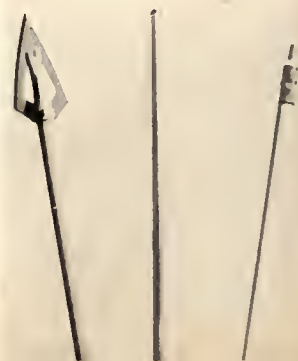
Notice the "vital area" in this mule deer practice target.



This bow sight is legal in the freestyle division.



The arrows shown below, from left to right, are the broadhead point for actual hunting, the target point, and the field archery point.



bear cub, and fawn. Group 3 includes the coyote, raccoon, turkey, fox, goose, pheasant, and wild cat. The turtle, duck, grouse, skunk, crow, woodchuck, and jackrabbit are listed in Group 4, the smallest animals hunted with a bow. The N.F.A.A. lists these animals only as a guide. Archery clubs may use targets of any legal game animal in its appropriate group.

Each target face has a "vital area," usually near the heart. This area is comparable to the bull's eye in target shooting and represents the kill areas of the animal. These areas are oblong, ranging in size from 9 by 14½ inches for animals in Group 1 down to 2½ by 3½ inches for those in Group 4. If the target is hit between the vital area and the "hide and hair line," less points are scored than a hit in the vital area. No points are scored if the target is hit outside the "hide and hair line."

A "big game round" consists of two units of 14 targets each. A round can be either two different units of targets or twice around the same unit with the archer shooting from a different spot the second time. Of the total 14 targets in a unit, Groups 1 and 2 have three representatives each, and Groups 3 and 4 have four target animals.

The "hunter" begins at the stake of the first target by shouting the warning call of archers—"Timber!" This warns anyone who may be in the danger zone.

He then shoots a maximum of three arrows until he hits the first target. In the targets of Group 1 animals, he moves to a stake five yards closer, after missing, with each arrow and three yards closer when the target is a Group 2 animal. Animals in Groups 3 and 4 have only one shooting position, and all shots are taken from that point.

When the archer has hit the first target, or missed with all three arrows, he moves on to the stake for target 2, and so on around the course.

Scoring gives the shooter 20 or 16 points for a hit on his first arrow, depending on whether the arrow is in the vital area or the low scoring area. The archer is awarded 14 or 10 points for hitting with his second arrow and 8 or 4 points for a hit on the last shot. If all three arrows miss the target, there is no score. The highest total wins the round.

If you have ever tried target shooting you may want to test your skill on field archery.

Most archers agree that once you have tried field archery you will either be a field archer for life, or you will go back to exclusive target shooting. Whether you go hunting or not, bow hunters believe their way is the most fun, the most exciting, and develops the most skill.

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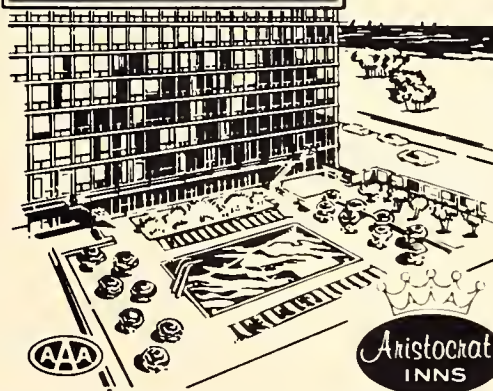
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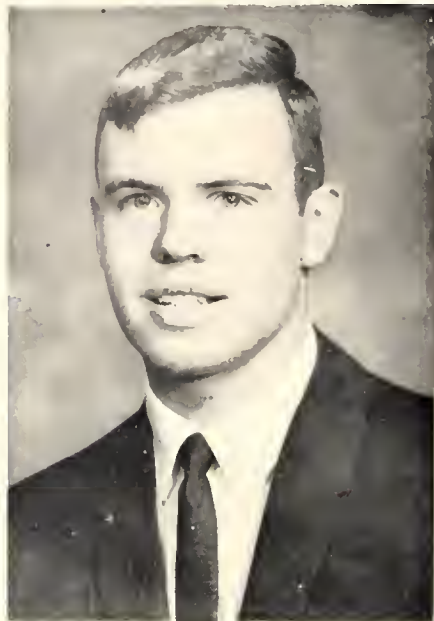
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STEADY PROGRESS

By Terry Slack

ALTHOUGH Rick Six, member of the Morton FFA Chapter at Kinnear, Wyoming, has worked under somewhat limited circumstances, he has been very successful.

Hard work earned Rick a scholarship.



Rick started FFA with one registered Shorthorn cow and has assembled a breeding herd of nine registered females. Along the way he has also established a flock of 17 purebred Hampshire sheep. His animals have been champions at both the county and state fairs for the past two years.

The Six family lives on a two-acre lot and Rick's father operates heavy equipment. Because of the non-farm situation Rick has had to rent pasture and buy feed for his livestock.

Rick served his chapter as treasurer and is presently serving as chapter president. He was a member of the state championship dairy judging team and the second place livestock team in 1966. In 1968 Rick won the state placement in agricultural production award. The high school senior is also very active in sports and music.

Recently Rick won a \$400 scholarship and career training program. He received the Don Longley Memorial Scholarship largely because of his work in vocational agriculture and FFA. As a result, each summer during his college career Rick will participate in the American Shorthorn Association's herdsman training program.

"Digging" into Farming

By Wilbur C. McCartha

SELLING earthworms as fish bait and investing the returns in beef animals helped Cary D. Chamblee of the McDuffie FFA at Anderson, South Carolina, become State Star Farmer.

Cary began "digging" his way into farming on his father's dairy farm. Noticing the bountiful supply of earthworms around the dairy barn, Cary began selling fish bait to stores. This enterprise brought him about \$300 per year until his father went out of the dairy business and into crop farming.

A "Honey" of a Business

By Eleanor Gilmer

Here Jo operates the honey extractor.



WHEN Jo Wilson of Fort Valley, Georgia, enrolled in vocational agriculture he had a problem selecting a suitable farming program. He lived within the city limits and had only limited space at his home. Somewhere along the way he became interested in beekeeping.

Jo had to learn many things about the workings of a hive before he became successful with his project. "One of my biggest problems is keeping my bees from swarming," says Jo. If the

hive becomes overcrowded, another queen will be formed and part of the bees will have to take up residence elsewhere. That weakens the hive and in turn lowers honey production. I usually try to keep between 50,000 and 100,000 bees in each hive."

This year Jo averaged 160 pounds of honey per hive. When asked how this honey is made ready to sell, he stated, "When the honey is taken from the hive the cappings are cut from both sides of the comb. Then the comb is

The National FUTURE FARMER



Cary discusses management with his dad, left, and FFA Advisor G. H. Durham.

"I didn't especially want to remain in the worm business anyway," reflected Cary. "So when I joined FFA I invested a loan and my savings from the bait business in eight brood cows."

The young farmer has increased his beef herd to 35 animals. He has also used many management practices to improve the pasture for his beef animals. In addition, he operates 530 acres in partnership with his dad on which they grow soybeans, cotton, wheat, and

corn. Besides carrying out improvement projects at home and on the farm, Cary has been active in school and community activities.

Cary plans to sell future calf crops to pay his way through Clemson University. "I plan to take pre-veterinary medicine at Clemson. I like animals and feel that it will be a good field. After military service, I hope to come back to the farm, practice veterinary medicine, and grow livestock."

put into an extractor which slings the honey out by centrifugal force. The honey is then strained and bottled." The Fort Valley Future Farmer also builds and sells hives for \$1.50 each and sells beeswax at \$1.00 per pound.

Jo started out with two bee hives in his backyard. Now, three years later, he has 50 hives, eight at home and 42 on a nearby farm. Joe's business—Valley Apiaries—is located on a busy tourist route. This has added to his success and increased his honey sales.

Jo uses roadside signs to attract tourists and to increase sales and profits.



Does your horse have these symptoms?

1. Stiff-gaited walk, or refusal to stand on all four legs are general symptoms of lameness. Check horse over carefully.

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3. Soft, painless swelling around the fetlock is called "windgall" or "windpuff."

4. Swollen tendons — swelling gives a "bowed" look from knee to ankle, so it's called "bowed tendon."

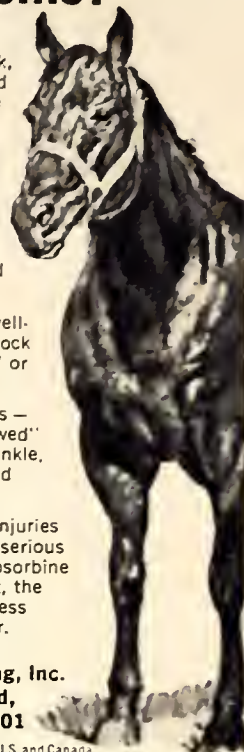
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ILLINOIS—The Belvidere Chapter has established a very unusual mascot. Last year a 1929D John Deere tractor was given to the FFA by a local machinery dealer. He gave them the tractor to repair and keep as a symbol of their group effort.

The tractor engine didn't run, the frame was rusted and about to fall apart. The tractor was a real challenge to the chapter. They completely overhauled the engine and gave the tractor a paint job.

The trial run in the school parking lot was a big event. It ran with a sputter and a bang and reached a high speed of ten miles per hour.

The chapter also received a donation of an old wood wheel farm wagon. A new box was built and then it was painted.

When all was completed these symbols of the Belvidere FFA's unity were exhibited in the Kirkland Fourth of July parade.

These two mascots will remain in the chapter as a symbol to work as a team. (*Susan Osterberg, Reporter*)

Belvidere, Illinois, FFA rebuilt this tractor and wagon for a chapter mascot.



KANSAS—Ninety-five Morris County business establishments were visited by officers of the Council Grove FFA Chapter on their Goodwill Tour, December 30.

Officers toured business places, visited with business managers, and expressed appreciation for the cooperation of the business with the FFA throughout the past year. Managers were presented with Official 1969 FFA Calendars.

Hale White, president of Farmers and Drovers Bank; O. E. Mabrey, manager of Flint Hills RECA; and Gordon Morrison, FFA advisor, were honored guests of the FFA officers at a noon luncheon at the Saddlerock Cafe.

Farmers and Drovers Bank and Flint Hills RECA provided the official calendars for the Goodwill Tour. Three hundred other calendars were mailed to farmers of the community.

Officers participating on the tour include Frank Buchman, president; Ron Wilson, vice president; Alan Waner, secretary; Rick Prochaska, treasurer; Phil Burnett, reporter; and Dale Williams, sentinel. (*Frank Buchman, President*)



Officers of the Olivia, Minnesota, FFA make fire safety poster contest awards.

MINNESOTA—Members of the Olivia Chapter wanted to participate in National Fire Prevention Week. But they wanted to do more than just put an article in their local newspaper. They decided to conduct a fire prevention poster contest for elementary school students.

FFA members called on the elementary school principal to find out if this idea was workable. They were given enthusiastic support for the idea. The principal suggested that the FFA give two prizes; one for Grades 1-3, and one for Grades 4-6.

The prizes were new dollar bills, and these were framed and put on display each day in the school.

The posters were turned in on a Thursday afternoon. That night the chapter officers judged 350 posters.

On Friday morning the local fire department put on a demonstration in the school playground for all the school children and their parents. The FFA announced the poster contest winners at that time.

Also during the week, the FFA helped tabulate fire prevention check sheets that the school children took home and completed.

The FFA members also gave recognition to those students who completed and returned their check sheets. (*Advisor Ronald Kubista*)

Officers of Council Grove, Kansas, FFA toured local business establishments.



UTAH—One of the summer activities of the Gunnison Chapter is their mountain project.

In 1967, the chapter decided to start this project to run beef steers on the mountain. Chapter officers talked with the forest ranger and secured a \$36.00 grazing permit for the Mt. Baldy Ranger Station pasture.

In the summer of 1968, the chapter continued this project. They bought 11 head of yearling Hereford steers for 29 cents a pound. The steers were put on the mountain pasture in July and were brought down and sold in September for an average of 27½ cents a pound.

The chapter borrowed \$1,500 to cover their expenses which included the grazing permit, trucking, branding and vaccination, and fence repairs. Total income from the project was \$1,680.

In addition to the income for the chapter treasury, this project gave many chapter members an opportunity to participate. During the grazing season, the members helped build new pole fences around the pasture, plus a loading chute. Range surveys and forage utilization checks were also made every two weeks by the members. Weight and gain studies were taken. (Steers gained an average of 1½ pounds per day.) (*Sherwin Sorensen, Reporter*)

IOWA—The thrift account idea of the Manchester FFA is one that works. They borrowed the idea about three years ago from the local Boy Scout troop.

FFA members participating in chapter money-making activities get a certain percentage of the revenue earned credited to a personal thrift account.

For example, the chapter sells citrus fruit from Texas each year in early December. They have been charging \$5.00 per carton of 100 oranges or 40 grapefruit. Ten percent of an FFA member's gross sales or 50 cents per carton is placed in the regular chapter treasury, but credited to the member's separate record thrift account.

Members may use the money in their thrift account for any activity connected with the FFA. They could use it to purchase an FFA jacket, FFA jewelry, or other official merchandise. It can also be used to pay for meals on FFA trips such as to the state convention.

Thrift account money may also be used for supervised farming programs. One member had \$63.00 from selling fruit for two years. He used this money to purchase a gilt. The money from the thrift account is given to the FFA members with no strings attached when they graduate from high school.

There is some extra bookkeeping involved in this system. And it means the chapter must carry extra money



Brad Roberts and Charles Wilson take a range survey in the mountain pasture.

in the treasury to cover the account. However, benefits of teaching savings, stimulating member participation, and building cooperative spirit outweigh any obstacles.

The chapter also rents a half acre from the Highway Commission for \$1.00 for five years. They have planted sweet corn for three years. Then they pick and deliver it to agricultural businesses and teachers for their help to the chapter during the year. The FFA gives sweet corn to the business employees too. (*Garland Ashbacher, Advisor*)

MINNESOTA—Members of the Lamberton Chapter conducted a holiday highway rest stop last year to help promote traffic safety.

The purpose of the project was to get motorists to stop and rest in an effort to prevent traffic accidents. The rest stop was set up along Minnesota Highway 14 near Lamberton on Labor Day last year.

They opened their rest stop at 9 a.m.

School Superintendent Gislason visited at the FFA chapter's highway rest stop.



THE FFA IN ACTION

and served free coffee, cookies, or juice to travelers who stopped. While the travelers were having their snacks, the chapter members washed the car windshields and put free litter bags and Minnesota road maps inside the cars.

Nearly 200 persons were served by the time the FFA closed their rest stop that evening.

Minnesota Governor LeVander commended the chapter for their participation in helping to reduce traffic accidents in their state.

The chapter plans to conduct this activity again next year and expand on the experiences they learned the first year. (*Ron Kelsey, Advisor*)

COLORADO—One of the many and diversified duties of the Colorado FFA Association president, vice president, and secretary, is to oversee the FFA Children's Ranchland during the National Western Stock Show held in Denver, Colorado, each year. They ride herd on some 50,000 to 75,000 youngsters and an estimated 25,000 or more adults who visit the Ranchland.

Children's Ranchland is a display of farm animals—mothers and their children—which is the big hit of the stock show for small fry. A big percentage of them have seldom, if ever, seen such common animals as ducks, burros, turkeys, and rabbits. The Denver city schools alone sent more than 8,000 second graders to visit Children's Ranchland, escorted by teachers and parent volunteers. The kids squealed with delight as tiny ducklings waddled up a "gang plank" and plopped into a tank of water when their weight suddenly tipped the plank downward... thrilled at the majesty of a strutting turkey gobbler (one of the few adult male animals in the display)... crowded eagerly around cages of fluffy sheep dog puppies... watched in amazement as eggs were hatched into chicks in transparent incubators.



State officers serve as hosts for the children's visit to see farm animals.

Colorado FFA members provided animals for children to hold and touch.





Members of the Limestone, Maine, FFA Chapter had to get out their snow shovels and remove more than three feet of snow from the cabin roof at their camp at Long Lake.



Adams Central, Indiana, FFA collected 28 baskets of food for the needy in their area. Fellow high school students donated the food. Prizes were given for best decorations.



Tompkins FFA members at Savannah, Georgia, displayed the chapter's beef chain bull at a special program for their school. Samuel Green, holding the halter, keeps the bull.

California state FFA officers visited with San Francisco bankers during a statewide tour to express appreciation to the banking industry for supporting FFA activities.

Grant Stern, Sanborn, Minnesota FFA'er, poses by a 1929 Model A Ford he has rebuilt as part of his collection of antiques. The chapter also has a hobby and antique show.



Committee and Treasurer Reports

By Dr. Jarrell Gray

TO have each FFA member on at least one committee is the goal of many FFA chapters. Why is this such a worthwhile goal?

There are two very important reasons. One is the fact that committees, when functioning properly, make for more efficient and effective FFA chapters. Another is that serving on a committee provides excellent leadership training for FFA members.

Those committees charged with the responsibilities of carrying out the re-occurring divisions of the chapter's program of work are usually referred to as "standing" committees. These committees are appointed for a definite time, usually for a year. A "special" committee is usually appointed for an infrequent purpose. The length of service is determined by the time required for the committee to perform the duties connected with the specific purpose involved.

When committees have been charged with the responsibility of investigating or reporting upon a matter, they should report the results of their work to the chapter. If the committee report contains recommendations for action, the person making the report, usually the chairman, should close with a formal resolution, or resolutions, for their recommendations.

If a report contains only information for the chapter members, there is no necessity for adopting the report. If the report contains a recommendation or action to be taken, then a motion to "accept the report" should be offered. If this passes, the chapter has then assumed responsibility for the committee report.

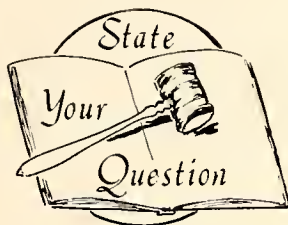
A copy of each committee report should be filed with the secretary.

Sometimes there are misunderstandings in FFA meetings about the treasurer's report. A financial report from the treasurer is not acted upon by the chapter. Such a report is for information only since it will be checked later by an audit committee which will make a report upon which the chapter must act. For this reason the treasurer's report should never be accepted by the chapter.

Following a report from the trea-

surer, the president should remark that it is for the information of members and will be referred to the auditing committee. A copy of the report should be filed with the auditing committee and with the secretary.

Yes, having each FFA member on a committee is a most worthwhile goal. And if each member performs his duties properly, not only will the FFA chapter function better, but each member will have gained valuable leadership and citizenship experience.



Hannah-Pamplico, South Carolina

Q. What would you do if you were presiding officer and you did not admit the point of order to which a member has risen?

Steve Hannah
FFA Secretary

A. It should first be remembered that the purpose of a point of order is to call attention to a violation of the rules or a mistake in procedure. In other words, a point of order is used when deciding whether correct procedure is being followed. If the presiding officer does not admit the point of order, he may state, "The point is not sustained." A member wishing to appeal from this decision must do so at this time.

Do you have a question on parliamentary procedure? If so, you can get a direct reply from Dr. Gray, and your question may be selected for use in this column.

Answers are based upon "Parliamentary Guide for FFA" by Dr. Jarrell D. Gray. For direct replies, send your question to Parliamentary Procedure, The National FUTURE FARMER, Box 15130, Alexandria, Virginia 22309. Enclose a self-addressed, stamped envelope.

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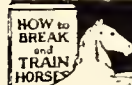
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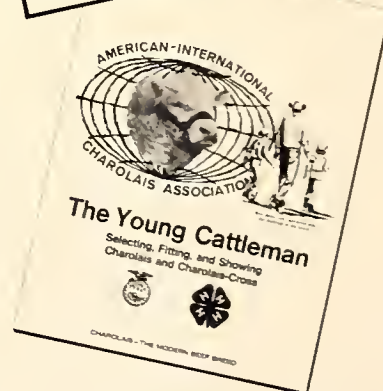
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Nearby Sport Fishing

By Russell Trualey

THOSE faraway fishing hot spots we read about are what dreams are made of. But for most of us such a trip is a once-in-a-lifetime adventure. What fishing we enjoy must be had close to home, on a limited budget.

Fishing comes in many forms and fashions, from tiny bream to lunger bass, from the cold water of mountain streams for trout to coastal salt water after sailfish and striped bass. But there's one form that is particularly convenient. Most fishermen overlook it, intentional or otherwise. The ingredients are a close-by creek or river, light sport tackle, some sort of natural bait, and the universal and cooperative channel catfish.

This two-bit bonanza, practically in anyone's backyard no matter where he might live, is largely ignored because the average stream is small and so are the channel catfish which reside there. When taken by conventional methods—trotlines, drop lines or formidable tackle—catfish are not considered sporting. In a way it would be like hunting cottontail rabbits with a .30-06 rifle.

I enjoy catching even small channel catfish because I look upon this slim, fork-tailed specimen as a game fish, and I seek it accordingly. Fishing for channel catfish can be like angling for largemouth or smallmouth bass in a stream.

Start with a nearby warm-water stream, just about any creek or river, large or small. The channel catfish can thrive where many other species cannot and is found the length and breadth of the United States. The best fishing is in the spring and fall, but I have caught many channel cats in the hottest part of summer. So the time really isn't important: go when the mood hits.

Rig up with light tackle. The type is purely personal choice—casting, spin-

ning, or spin-cast. I use a fly rod occasionally. A medium-action rod, 6 to 7½ feet in length, is about right. The line should test no more than ten pounds, with eight-pound-test monofilament being a practical choice.

Tie a No. 1 hook on the business end of the line. About 18 inches above the hook add a pinch-on sinker, the weight depends on the current of the stream you intend to fish. You want a sinker big enough to take the bait to bottom, but not one so large as to make for awkward casting and fishing.

The bait can be anything natural. The common earthworm is my favorite. A grasshopper or maybe a catalpa worm, frog, or hellgrammite also make good bait. Frozen shrimp works okay when nothing else is available.

Now forget about the popular image of catfishing—the picture of a man lounging on a grassy bank, his bait tossed into the creek or river, waiting for a wandering catfish to chance along and bite. This fishing requires more effort. Waiting in one spot is, to me, leaving too much to fate and less to skill. I'd much rather go looking for the fish. I figure my odds are much improved.

Channel catfish like a current. Always keep this in mind. Running water serves them food. They hang in the fringe of the current and pounce on anything which might wash downstream. A catfish, like the human, looks for the easy way of doing things.

The water around a riffle is always a choice spot to look for channel cat-

Even channel catfish this size are sporty and fun to catch and delicious to eat.



fish. Just where the water leaves a pool and flows onto a sandbar is also good. The water just below where the current washes and eddies into a glide is another prime spot.

Wade the broad and shallow rivers or walk the banks of narrow streams and look for these pockets. Perhaps you sight a rock in the current. The moving water forks around the obstruction, leaving a slick of quiet water just below the rock. Here a channel catfish might wait. Away from the current which saps its energy the catfish watches on either side, waiting for some food to drift by.

Toss the bait just above the rock and allow the sinker and current to carry it deep, where it tumbles along bottom. As it washes past the rock, the alert cat sees the food and quickly darts out and grabs it. Yowiee, that critter will put a bend in the limber rod and cut fancy capers in the current!

Three or four drifts through an area are enough. If a channel catfish is present and hungry, it strikes immediately. Often, however, it isn't unusual to take three or four from the small area.

Once you've fished a spot adequately, move on, searching for another likely looking spot where channel catfish might gather. The more water you cover the better are your chances of taking

fish. But don't be in such a hurry as to not fish a spot thoroughly. Work a riffle or pool completely.

Sometimes a cat might be caught from a small area and the unnatural activity spooks other fish present. For this reason, cover the same water as you return to your starting point. It isn't unusual to take other fish from the same water which you fished previously.

In the current of a stream even a pound-sized channel cat is sporty to catch on light tackle. And occasionally, when you get the bonus of hooking into a larger one, you'll know you have been in quite a tussle. I've caught five-pound channel cats in small creeks where it was hard to believe that any fish exist, much less ones of this size.

A channel catfish taken from a swift, sand-bottom stream has firm and white flesh that is sweet and succulent. To me there is no finer eating.

All that is required to prepare one for the skillet is to skin, remove the entrails, head, and fins. Then simply roll in yellow cornmeal and fry whole to a rich golden brown in a deep skillet of grease. Serve with hushpuppies and a slab of white onion.

On a full stomach of fried channel catfish, the envy you get when reading about those faraway fishing paradises is much easier to tolerate!

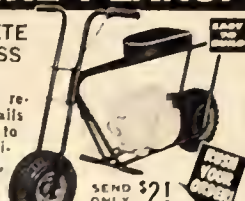


"Well, that takes care of the crow roost!"

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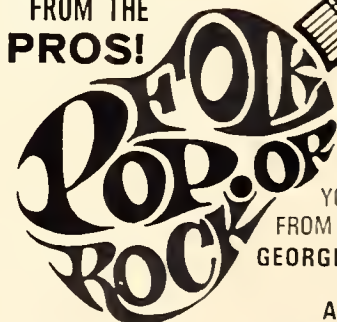
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HAVE YOU HEARD THIS ONE



Edward: "What do you mean when you say that Ethel is a waterproof singer?"

Reggie "I mean that no one can drowned her out."

Dennis Thompson
Shreveport, Louisiana

Doctor: "How's your wife's reducing diet coming along?"

Husband: "Oh, just fine. She disappeared last week."

Rayfield Broughton
Fayette, Alabama

A cowboy with nothing much to do ambled into the local blacksmith shop and picked up a horseshoe without realizing it had just come from the forge. Instantly he dropped the hot shoe, shoved his seared hands into his pockets, and tried to appear nonchalant.

"Kind of hot, wasn't it?" asked the blacksmith.

"Nope, just doesn't take me long to look at a horseshoe," replied the cowboy.

Roy Lewis
Palmyra, Virginia

A department store hired a man to play Santa Claus and say "Ho,ho,ho." But they had to let him go. It seems he forgot the words.

John Haney
Linden, North Carolina

Dennis: "Bob, do you drink?"

Bob: "No, do you?"

Dennis: "I don't drink nothing stronger than Pop, and he can drink anything in a bottle."

Jimmie R. Stanley
Hamilton, Georgia

Game warden: "You can't catch fish without a permit!"

Fisherman: "I'm doing very well with just a worm, thanks!"

Howard Fischer
Dover, Minnesota

John: "Does she know much about cars?"

Mike: "Naw! She thinks you cool the motor by stripping the gears."

Mike Henderson
Athens, Tennessee

Two Scandinavians were touring the U.S. by train and bought the first bananas they had ever seen. The first tourist took a bite of his banana just as the train entered a tunnel. He turned to his friend and asked if he had eaten any of his banana yet. The second tourist replied, "No."

"Well, don't," pleaded the first man. "I just took one bite of mine and now I'm stone blind."

Delbert Luckhard
Claremore, Oklahoma



Charlie, the Greenhand



A woman who was seeking free advice asked a farmer, "What would be good to plant in a spot that gets very little rain due to overhanging eaves, has too much late afternoon sun, has clay soil, and is on a rocky ledge?"

"Lady," the farmer answered, "how about a nice flagpole?"

Johnny Sherrer
Bay City, Texas

Bob: "I hear they're shearing sheep now by giving them an injection and all you do is pull off the fleece."

Joe: "Yeah! Pretty soon they will give the cows an injection, and the milk will come out all canned and labeled."

Guido Denzler
Kona, Hawaii

I don't mind if the "now" generation modernizes the Bible. But I do care about the part where they changed "There shall be a Judgment Day" to "here come de judge."

John Whitworth
Grover, North Carolina

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