



FEBRUARY-MARCH, 1991

New Horizons

OFFICIAL MAGAZINE OF THE NATIONAL FFA ORGANIZATION



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FFA New Horizons

OFFICIAL MAGAZINE OF THE NATIONAL FFA ORGANIZATION

February-March, 1991

Volume 39 Number 3



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On the cover, national officers Julie Classen and Danny Grellner offer us the globe, symbolizing that the Earth's future is in our hands. The national officer team has some ideas of what you can do to help.

Photo by Andrew Markwart.

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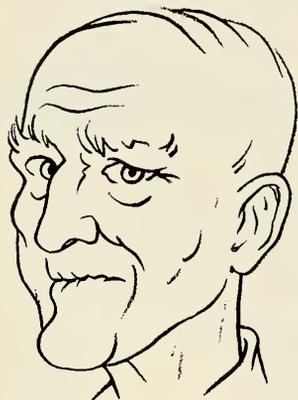
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NEWS IN BRIEF



President Bush met the officers in the Oval Office of the White House. Pictured left to right are Danny Grellner, Mark Timm, Lesa King, President George Bush, Matt Lohr, Ben Nessmith and Julie Classen.

Photo by Susan Biddle

Officers Meet President Bush

The six newly elected national FFA officers visited President Bush in the Oval Office of the White House on December 10, 1990. President Bush met with FFA president Mark Timm, Indiana; secretary Danny Grellner, Oklahoma and regional vice presidents Matthew Lohr, Virginia; Julie Classen, Nebraska; Lesa King, Texas and Ben Nessmith, Georgia.

The officers posed for official photographs with the president for the Washington press corps, and then spent a few minutes discussing youth, agriculture, and the 60th national FFA convention, where Bush spoke as vice president. Timm told the president, "you symbolize the American Dream and serve as a shining example and role model for our membership to follow." He also invited Bush to the 64th convention in November. The president gave the officers tie-tacks as mementos of the visit.

Changes in FFA Creed

Delegates at the 63rd National FFA Convention voted to change the word "equipment" back to "paraphernalia" in the sentinel's part in the opening ceremonies. They also voted to change three words in the FFA Creed instead of adopting an entirely new creed. It now begins, "I believe in the future of agriculture..." In the second paragraph, the word "pursuit" was made plural, so that it is now "pursuits" and "rural America" in the final paragraph has been changed to "American agriculture." The governing committee of the FFA Board of Directors recently approved the delegates' action.

Another change recommended by the delegates is to change the titles of "Star

Farmer" and "Star Agribusinessman" to "American Star Farmer" and "American Star in Agribusiness." The change was recommended by the delegates in order to make the agribusiness title accurate for male and female winners. The Board of Directors is considering the recommendation, but has not approved a change.

Jacket Guarantee

The FFA Supply Service has received reports that some official FFA jackets purchased by members have had flawed stitching or oddly colored corduroy. Supply Service director Dennis Shafer says that like all Supply Service products, the jacket is fully guaranteed. If any members are unhappy with their new jacket, it should be sent back to the Supply Service with a detailed description of what is wrong with it and it will be corrected or replaced by a new jacket.

Shafer says that any sub-standard jackets were the result of the new manufacturer, DVB Enterprises of Blue Springs, Missouri, having to gear up too quickly to produce the jacket after the former supplier, Universal Uniform of Van Wert, Ohio, ceased production in May, 1990, before their contract with FFA was to be completed in August, 1990.

Prior to the national FFA convention last November, the national officers, national board of directors, state leaders and FFA members toured the DVB facilities located just outside Kansas City. After fielding specific questions regarding the quality of the jackets, DVB president Pat Bachofer assured the FFA representatives that every effort would be made to produce each jacket to comply with the rigid Supply Service standards.



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Advertising Offices

FFA New Horizons
P.O. Box 15160
Alexandria, VA 22309 703-360-3600

The Brassett Company
1737 Fairgreen Drive
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Midwestern States
Karaban / Labiner Associates, Inc.
333 North Michigan Avenue
Chicago, IL 60601 312-236-6345

Pennsylvania, Delaware, New Jersey
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Birmingham, MI 48009 313-642-1228

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22 Battery Street
San Francisco, CA 94111 415-398-4444

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The
Audit
Bureau



THE BOTTOM LINE

FFA WEEK, the annual national celebration in recognition of FFA and agricultural education, will be observed February 11-23. The theme for this year is, "FFA — Leadership for a growing planet."

How will your chapter observe this important event?

FFA Week is probably more important today than ever due to the increasing complexity of American agriculture. Likewise, the program of FFA and agriculture education is harder to explain because of the wide variety of courses and activities being offered in schools. Some people even question the need to continue agricultural studies in high school. Add to this the concerns regarding the environment and safe foods and you can see that we have a job to do.

What is the story we want to tell? Here are some ideas that have been suggested.

- FFA and agricultural education develop leaders who understand the earth's potential and its limitations. These are citizens who will make responsible choices.

- Today's agricultural education combines agriscience and marketing with environmental responsibility. The FFA awards programs encourage students to apply classroom training to the wise management of soil, water, animals and natural resources.

- Around the world, walls between nations are crumbling, accelerating the exchange of ideas and technologies. FFA international experience programs help members learn about other cultures first-hand, reaching a new, global understanding.

- As the world becomes increasingly interdependent, leadership is more important than ever. FFA members will be at the forefront of agriculture, providing leadership for a growing planet.

To help you translate these ideas into action, two resources will be helpful. One is the Idea Booklet which was recently mailed to your chapter to assist with planning and organizing FFA Week. The other is the National FFA Supply Service catalog which includes a section of FFA Week items.

The items featured in the catalog have been designed to support your promotional efforts throughout the year, and especially during FFA Week. Promotional give-away items such as pens, bumper stickers and pocket notebooks are an effective way to thank supporters. Billboards, posters, and T-shirts can help you achieve greater visibility and establish an identity for your program. All items serve as a constant reinforcement to students, potential students, parents and school administrators that your FFA chapter is an active and vital part of the community.

Have a good year!

Wilson Carnes

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USDA Photo

Plant physiologist Sui-Sheng Hua removes a tiny portion of hairy carrot roots.

Roots, But No Plants

Nearly every schoolchild has at one time plopped a carrot top in a jar of water and watched shoots and roots emerge. But at a U.S. Department of Agriculture laboratory, carrot roots are thriving in beakers despite being separated from the carrot.

It's part of research to unlock the secrets of natural soil fungi that help many kinds of plants grow, according to Sui-Sheng Hua of USDA's Agricultural Research Service. The payoff, 5 to 10 years away, would be a cheaper way to mass-produce fungi as farmers' and nursery operators' underground allies.

Hua painstakingly extracted the experimental roots from carrot slices that she had earlier exposed to a bacterium to stimulate root formation. The free-floating roots flourish in a bath of nutrients.

She hopes her experiments will help her solve the puzzle of how to coax the fungi to multiply in test tubes — without roots. That would be a big step toward faster commercial production of the fungi. The fungi help crop plants develop filaments like miniature pipelines that deliver nutrients and water to roots, reducing farmers' fertilizer costs and helping the crop withstand drought.

Farmers and nursery operators can buy the microorganisms — called endomycorrhizal fungi — to supplement the soil's natural populations. But fungi marketed by industrial labs are grown on plant roots in the soil, adding to costs.

Hua estimates it may take 5 to 10 years before hardy, healthy, affordable fungi can be produced without the help of roots.

Catfish Sonar

A new scanning sonar developed by University of Mississippi scientists is able to detect catfish swimming in the murky depths of commercial ponds. "With its scanning sonar, we can look horizontally in the water and — if the water is a uniform temperature — scan all the way around a 16-acre pond and tell where the fish are," said the system's primary developer Dr. Ken Gilbert, a senior scientist in The Jamie Whitten National Center for Physical Acoustics at the university.

Gilbert believes the sonar could have a big impact on aquaculture research, which he now likens to "doing livestock research on invisible cows. All you know is that you put the feed out, and it disappears."

The scanning sonar enables researchers to "see" exactly what the fish are doing in the pond, where they go and how they react to such things as food, seine nets and aerators. This knowledge, in turn, could determine where food and aerators are placed and how best to harvest the fish.

Consumer Trends

Here are some revealing tidbits about Americans and their buying habits, as reported by the Money Management Institute of Household International.

Forty-five percent of adults eat out at least once on a typical day and that Americans spend over 40 cents out of every food dollar away from home, according to the National Restaurant Association.

Two-thirds of the population aged 18-24 live with their parents or another relative, according to *American Demographics*.

It cost an average of \$4,954 to own and operate a new car in 1990, according to the American Automobile Association.

Worldwatch Institute also reports that Americans now drink more soda pop — in throwaway containers — than water from the kitchen sink. They also throw away enough aluminum cans to make about 6,000 DC-10 jet airplanes.



Ethanol Nickel Promotion

The South Dakota Corn Growers Association (SDCGA) has been conducting "yellow nickel" programs in the state to promote the use of ethanol. During the promotion, ethanol customers receive a painted yellow nickel back for every gallon they buy when filling their tank.

Skinny Burger

McDonald's has begun market testing a new low-fat hamburger called "Lean Deluxe." The sandwich is made with a 91 percent fat-free beef patty for the nutrition-conscious consumer.

The new low-fat ground beef technology was researched and developed at Auburn University and funded by the Beef Board, the Beef Industry Council of the Meat Board and Auburn. The sandwich contains 310 calories and 10 grams of fat.



Oklahoma FFA member builds stock in his future.



1990 National Home and/or Farmstead Proficiency winner Brian Johnson (left) of Gotebo, Okla., is quick to credit his parents, Bradley and Sue Johnson, and his sister, Kristin, for contributing to his accomplishments.

It was a November to remember for Brian Johnson.

The 17-year-old high school senior from Gotebo, Okla., was named national winner of the Home and/or Farmstead Improvement Proficiency award at the 63rd Annual National FFA Convention in Kansas City, Mo.

The following week, Brian showed the grand champion market lamb at the North American International Livestock Exposition in Louisville, Ky., his second consecutive claim to that title.

Brian makes success look easy. But years of education in agriculture, planning and hard work typified his achievements long before the plaques and trophies were awarded.

He worked thousands of hours during his FFA career landscaping his family's farmstead; making environmental improvements; and building, wiring and plumbing the family home, livestock buildings and equipment. In the meantime, Brian expanded his livestock and crop production operations to their current size of 70 Suffolk sheep, half interest in 350 beef stocker calves and 510 acres of wheat, cotton and pasture.

One-hundred-sixty of these acres make up the farm he purchased last year. "Buying my own farm was like starting all over again," he claims. "The carpentry, plumbing, wiring and landscaping skills that I acquired in my Agricultural Education classes and experiences in establishing my family's farmstead will be invaluable when I improve my own property in the future."

Brian's high school agriculture instructor and advisor of the Mountain View-Gotebo FFA chapter, Ray Dean Sites, comments, "I would like to have a whole classroom full of Brians. He knows what he wants and is willing to invest the time and effort necessary to achieve his goals."

The conviction, skill and dedication of FFA members like Brian Johnson make The Upjohn Company proud to sponsor the National FFA Home and/or Farmstead Improvement Award for the 15th consecutive year.



Brian put the technical and goal-setting skills he acquired in the Agricultural Education/FFA program to use on improvement projects, such as constructing, wiring and plumbing this livestock barn.



The Upjohn Company
Kalamazoo, Michigan 49001



To manage his expanding sheep flock, Brian constructed feeders, mangers, handling equipment, and buildings, saving up to seventy percent of the cost of new items with used materials and his own labor.

M A I L B A G



Well Water

As a life-time alumni member, I read "Most Well Water Okay" ("Looking Ahead," October-November, 1990, p. 10).

It is interesting to note that the U.S. Department of Agriculture has a different perspective on well water. Agricultural Economic Report 576, October, 1987* points out that "The drinking water of an estimated 50 million people in the United States comes from groundwater that is potentially contaminated from agricultural chemicals."

In Dane County, Wisconsin, one of the most productive agricultural counties in Wisconsin, over 50 percent of the wells have been tested and found to contain levels of atrazine and other agricultural chemicals. The Wisconsin Department of Agriculture, Trade and Consumer Protection recently concluded rule-making hearings to regulate the use of atrazine in Wisconsin in response to the problem.

Some of the funds for the well testing program came from Ciba-Geigy.

Although your article may be correct, it isn't the whole story.

*John A. Bobbe
Brussels, Wisconsin*

* "The Magnitude and Costs of Groundwater Contamination From Agricultural Chemicals, A National Perspective"

Slow Moving Vehicle Emblem

Our 'hats off' to FFA New Horizons for the excellent coverage of the Seneca, Illinois, FFA - Slow Moving Vehicle Emblem Awareness/Renewal Program, ("Don't Let Safety Fade Away," pg. 20, June-July, 1990). I applaud the originality and enthusiasm of the Seneca leaders and membership in their two-part road safety project.

Since the early '60s, FFA chapters across the country have played a vital role

in the adoption of the SMV emblem as the symbol of farm/roadway safety. Today, emblem use needs a 'boost' and again FFA groups are including the SMV emblem in their program of activities.

*Ken Harkness
Inventor-Slow Moving Vehicle Emblem
Columbus, Ohio*

Two Corrections — The photos accompanying "All In the Family" (October-November, 1990, page 26) were taken by Cynthia Wessel, not Jim Rose.

In the photo story "The Road To Convention" (December-January, 1990-91, page 10) photographers Tim Brewington and Shayna Steffler are from Firth, Idaho. The name of their town was spelled incorrectly. — Ed.

Send letters or notes with name, address and chapter to MAILBAG, FFA New Horizons, P.O. Box 15160, Alexandria, VA 22309. All letters are subject to editing.

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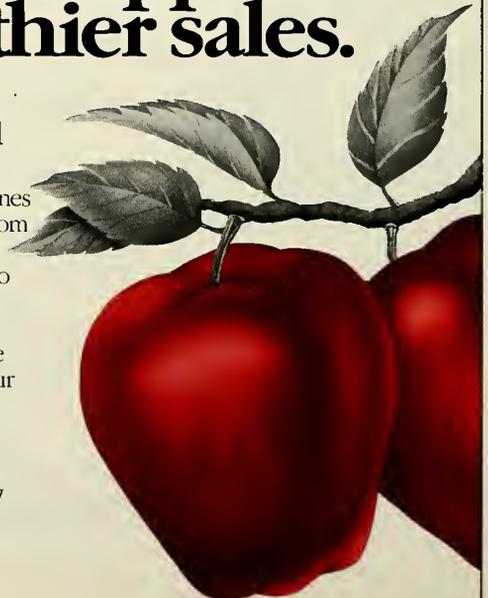
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The Ohio members visited the historical highway marker where the first Future Farmers of Virginia chapter was started.

Farm, Factory, Fellowship

The Amanda-Clearcreek, Ohio, FFA Chapter recently conducted an educational exchange weekend with Virginia chapters and visited the farm of Matt Lohr, eastern region vice president, to see his Supervised Agricultural Experience Project.

The weekend included a tour of various agricultural programs including the site where the McCormick Reaper was developed by Cyrus McCormick.

An extensive tour of the Shenandoah Pride dairy farm gave a first-hand look at developments in the dairy industry in embryo transplanting and the possible use of BST. Mr. Nelson Gardner, president of the Shenandoah Pride Milk Processing plant, told the students how the milk cooperative operated and allowed students to tour the facility in the Bridgewater, Virginia, area.

The poultry industry story was presented with a tour of the Arey Turkey farm in Mt. Solon, Virginia, where they saw turkey production on a large scale. Over 22,500 turkeys were raised in the one turkey house. At the Lohr farm the observed the large poultry operation.

Students also were treated by the Turner Ashby FFA chapter of Dayton, Virginia, to a pizza party. The two groups of members exchanged ideas about FFA activities and the various agricultural operations in their own areas.

Eight FFA members along with advisor Miller and Mr. and Mrs. James Snider, local FFA Alumni members, made the trip. The chapter's goal this year is to expand the students knowledge of agriculture on the national level as they prepare to enter careers in agriculture. (Sean Rittinger, Amanda-Clearcreek Reporter)

February-March, 1991

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Highlights of 1990

Last year's biggest events in FFA

FFA Creed Receives Minor Changes

Delegates at the 63rd National Convention voted not to accept a new FFA Creed, but rather make slight changes in the current creed. It now begins, "I believe in the future of agriculture." In the second paragraph, the word "pursuits" replaces "pursuit," and in the last paragraph, the phrase "rural America" is changed to "American agriculture."



Strategic Plan

FFA joined with the larger family of agricultural education organizations in mapping out agricultural education's future. As a result, the National FFA Organization and state associations have begun setting goals that contribute to the overall goals of the Strategic Plan. The plan's authors hope to make agricultural education attractive and up-to-date while preserving the successful format of classroom instruction, experience programs and student organizations.

FFA Center Mural

The National FFA Organization commissioned artist Karen Kleinschuster to create a mural for the lobby of the National FFA Center in Alexandria, Virginia, that would depict FFA's past, present and future. The result is a work of art that communicates leadership, patriotism, science, agriculture and much more. It was dedicated in July during State Presidents' Conference.



\$4.2 million
Foundation Tops \$4 Million

For the first time, the National FFA Foundation topped the \$4 million mark by raising a record-setting \$4.2 million in 1990. The money is used to support the programs and activities of FFA and other agricultural education organizations.



Fixed 475 Plan Passes

After many years of debate over fair state representation, a new convention delegate system, "Fixed 475," was passed in 1990 that should put the issue to rest. This year's delegate body will be fixed at 475 representatives. States with growing memberships will receive more delegates in the future. The new system will nearly double the number of delegates compared to last year's convention.



Made For Excellence Seminars Popular

Demand for FFA's Made for Excellence workshops increased in 1990 as more state associations welcomed the leadership activity. The number of weekend seminars increased from 24 in 1989 to 33 in 1990. Made For Excellence focuses on the personal development of FFA members.



Mentoring Program Announced

A mentoring program matching elementary students with agriculture students was announced in November at the national convention. The program will be funded by a \$1 million grant from the W.K. Kellogg Foundation of Battle Creek, Michigan. The program will target "at-risk" elementary students who, by working with FFA members, will build trust, develop self-esteem and explore new interests in plants and animals.

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You may have what it takes to wear that

Marines

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Each morning the flag is raised as campers observe quietly, out of respect, and because everyone is only half-awake.

Happy Campers

Some believe there is magic in the forests of upstate New York

Every summer, something magical happens to people at Camp Oswegatchie. Any FFA member from New York state who has spent a week in those woods will tell you it's true.

The magic happens when, in the course of one week, 80-100 total strangers, who have been thrown together in a strange place, become close, trusting friends. Moonlit nights and the cool mountain air may have a hand in forging the bonds, but the real magic happens one friendship at a time.

There is a rich history that surrounds this place. The camp's 1,200 acres of lakes, hardwoods and pine trees, located northeast of Croghan, New York, was bought just after World War II through contributions by local FFA chapters. Many of the buildings at Camp Oswegatchie (pronounced Os-wa-gah-chee) were built by agriculture teachers and paid for by the chapters.

The main building, Widrick Lodge, sits at the edge of Long Pond, the largest of four ponds on the property. Campsites with names like Bullfrog, Deer Point and Hemlocks are sprinkled

(Continued on Page 39)



Camp Oswegatchie is nestled around four large ponds that invite leisurely canoe rides — and water skiing for those with an appetite for speed.



Discovering nature and sharing experiences are at the heart of the camping experience.

Friendly competition is the name of the game when the campers take on the counselors in softball.



After breakfast, everyone is dispatched for clean-up detail, an activity that teaches responsibility and keeps the camp looking sharp.

Story and photos by Andrew Markwart



As campfires blaze late into the evening, chants of "we got spirit, how 'bout you?" echo across the lake.

"You cry when you leave," says one camper, "it's like leaving your family."



A Driving Force for Camp Courage

FFA chapters in Minnesota raise money to help send physically disabled people to camp



Each fall, Minnesota FFA members turn contributions of grain into financial support for Camp Courage.

By Andrew Markwart

Since 1953, Minnesota FFA members have been collecting corn and other grains from farmers, turning that grain into cash, and giving the money to Camp Courage so physically disabled children and adults can enjoy the pleasures of the outdoors.

The two campuses of Camp Courage, located in central Minnesota, "offer people with physical disabilities and communication disorders an opportunity to discover abilities they never knew they had or they thought they had lost," according to Courage Center, the organization that operates the camps. They are often introduced to hobbies or sports they develop further at home or school. The goal is to improve self-confidence in the campers.

In 1990, chapters across the state raised \$88,758 for the camp, nudging the all-time total FFA contribution figure over \$2 million. According to Dean Harder, regional director for Courage Center, the goal for 1990-91 is \$105,000. Harder is a former national FFA officer from Minnesota.

The Corn Drives began in 1953 when Freeborn FFA advisor Lee Asche suggested that since wind had knocked more corn onto the ground than usual that year, students should glean the unharvested corn from farmers' fields and contribute the cash sales to a worthy cause. They also built a make-shift corn crib near the town's elevator, asking

farmers to "Donate a Bushel." With the \$90 collected from that first Corn Drive, the chapter sent a neighbor, disabled by polio, to Camp Courage.

The idea spread to other chapters and since 1955, Corn Drives have been a major state activity. Over 90 percent of all Minnesota chapters have participated in Corn Drives. The original corn drives have expanded to include most other grains. Chapters also raise money by selling fruit, pine cones and scrap metal and by sponsoring pancake suppers.

The drives have also spilled over the state lines into Wisconsin, South Dakota, North Dakota and Iowa.

Most of the money raised by the chapters goes toward sponsoring campers, but other large sums have helped build some of the camps' major facilities, including the FFA Leadership Activities/Dining Hall at Courage North, and the Speech Therapy building and a greenhouse at Camp Courage.

Some chapters visit the camps to see the results of their fundraising efforts. The FFA also sponsors amateur radio training session at the camp and has underwritten the cost of a movie about Courage Center called "Faces of Courage."

In a time when many traditions have been cast aside in the name of progress, the tradition of giving by Minnesota FFA chapters to those less fortunate continues to flourish. These members are proving that "Living to Serve" is not just a phrase to recite in the FFA motto, but words to live by.



Photos by Courage Center

Camp Courage offers physically disabled people the chance to build self-confidence.



Much of the money raised by Minnesota FFA chapters helps sponsor individual campers.

People-To-People Marketing

Should You Go the Direct Route?

By Eric Gibson

Ideas to consider when selling fresh produce

According to Marin County, California, Certified Farmers Market Manager Lynn Bagley, cities owe their origin to the original farmers markets, as travellers would stop long enough to replenish their provisions from the produce hawkers. For many small farmers, direct marketing is an idea whose time has come — again.

Direct Marketing Advantages

- **Profits.** By eliminating or taking over some middle-level marketing activities, direct marketers can gain a greater share of the retail dollar.

- **Cash Flow.** The direct marketer gets paid cash—in-hand and on-the-spot instead of waiting to find out when, how much — and sometimes if — he'll get paid. Immediate payment is especially helpful for small or start-up growers whose capital is limited.

- **Small Farmer.** Exemptions from wholesale grading requirements and container requirements allow the small grower to market his crops "field run." Going to the farmers market, for instance, eliminates the need to repack crops harvested in field boxes, something the small farmer can't afford to do.

- **The Farm Family.** Direct marketing maximizes the use of family labor. Besides being economically sound, family farming is fun and healthy — the family that farms together stays together.

- **Customer Contact.** Face-to-face direct marketing gives farmers an opportunity to try new crops and receive valuable feedback from customers. Through sampling and talking to people, direct sales outlets provide an opportunity to increase demand for unusual items.

Challenges of Direct Marketing

It might pay to take a close look at just what the middleman does — and the time and resources required to do this — before deciding if it's a job you want to take on.

Marketing direct really means more than just deciding to take produce to the farmers' market instead of to the broker.



Good communication skills and a desire to meet new people are vital to a successful direct marketing enterprise.

The grower has to adjust his whole system, including extending the season by staggering plantings; diversifying crops; and — perhaps hardest for many farmers — dealing with customers.

As the manager of one California farmers' market said, "Farmers often decide to go into direct marketing without a plan. They immediately hit six farmers' markets a week. Very soon, they're tired from being on the road all the time; and no one is taking care of the farm."

Dealing with the end-consumer is the essence of direct marketing. Time spent making up seasonal availability lists of products to give to customers, or talking to customers and answering their questions, is just as essential in direct marketing as time on the tractor.

Producing crops is also different for direct marketing: the grower needs a steady supply; unique, high-quality varieties that customers don't find in supermarkets; or standard varieties of just-picked freshness. Where direct marketing may prove successful is with such seasonal items as berries or asparagus, or with exceptionally high-value items like strawberries, dried fruit, mushrooms, or gift packs. As one farmer expressed it, "direct market-

ing is for something that grows on a small space and sells for a lot of money." Don't head for the farmers' market with a truckload of watermelons and expect to make a lot of money.

Roadside Stands: Facilities can begin very simply and expand as success and volume warrant. Transportation costs are reduced or eliminated if the stand is located on or near the site of production. If the stand is on the farm, you can also sell your products at your farm without special packaging, container, or grading requirements. If the stand is on the farm, the operator can keep the stand open for business on slow days without having to spend all his time watching it.

The main factors to consider in roadside marketing are location, location parking, type of structure, signs, what to grow and customer service. Depending on how big you get, roadside marketing may require considerable capital investment and sales force, advertising and promotion costs.

(Continued on Page 39)

This article is reprinted by permission from the forthcoming book by Eric Gibson, *The Small Grower's Marketing Guide*.



Biotechnology, computers, engineering and business will be some of the "hot" career areas in agriculture in coming years, predict several experts from industry and universities. Environmental studies, animal science, agronomy, integrated pest management and food science — graduates in these fields shouldn't have any trouble finding jobs, either. In coming years, the emphasis in agriculture will most likely shift even more toward science and business, with an international flavor.

Hot Careers of the 90s

Agriculture will demand highly skilled people in the 1990's. Which area fits your interests?

By Michelle Domangue

Biotechnology

Scientists who create test-tube cotton or breed new, insect-resistant crop varieties — these are the images of the biotechnologist. Put simply, biotechnology means using science and engineering to improve our lives and solve problems.

"Biotechnology is in demand in many different ways," says Dr. Don Holt, director of the Illinois Agricultural Experiment Station. "Many industries are going global, like the seed industry, so there's a demand for knowledge of genetics and plant breeding."

As a career field, "I see biotechnology as a big growth area," says professor Roger Bruene, College of Agriculture placement officer at Iowa State University. "I heard the rate of growth is 25 percent a year in terms of human resource needs in science. Ultimately, these positions require graduate degrees (master's and doctorate). But behind every Ph.D. are support staff with bachelor's and master's degrees to serve as technicians. Biotechnology is creating employment opportunities for young people."

Dr. Dwayne Suter, an associate dean at Texas A&M University, agrees that knowledge of science will bring job opportunities. "For those with graduate degrees in genetics, plant and animal breeding and biotechnology, the field is wide open," he says.

Some experts are not so optimistic. According to Warren Wessels, place-

ment officer at the University of Illinois at Urbana-Champaign, "There is a demand, but not large numbers," he says. "And you must have a Ph.D.," which involves at least three or four years of study — after college graduation.

Food Science

Another science-based cluster of careers, food science also ranks high for future career opportunities, the experts say. Dr. Shu Geng, an associate dean at the University of California-Davis, foresees expansion in this area, which calls upon experts in biochemistry, microbiology and fermentation science.

Challenges within the food-processing industry include processing techniques that require fewer chemicals and development of new products—tasty, new dishes that offer consumers the most nutrition for their money.

Environmental Studies

Environmental scientists will tackle tough issues like water quality and quantity, soil conservation and effects of agricultural chemicals on people and other living organisms.

"We'll see more regulations, perhaps, and more concern," says Bruene at Iowa State. "I can't say what specific jobs, but I know we'll see more. Concern about the environment will produce employment opportunities for young people, and we'll see new programs (in colleges of agriculture)."

Suter, at Texas A&M, notes he's already seeing a "large emphasis on areas relating to ecology and environmental sciences. This is probably going to continue," he says. But if you're serious about such a career, caring about the environment is not enough. "Bone up on science," he advises. "If you want a quality career, you need a solid, balanced high school education."

Agribusiness

Opportunities in agribusiness — manufacturing, marketing and selling agricultural products — will grow, the experts agree. Even now, the jobs available exceed the number of graduates. But in coming years, more knowledge and skills will be required of agribusiness professionals, along with increased understanding of other languages and cultures.

But why the growth? "Within the next 10 years, we'll have another billion mouths to feed on planet Earth; within the next 30 years, another 3 billion," says Chuck Bearden of Moorman Manufacturing Co.,



a livestock feed and equipment firm based in Quincy, Illinois. "A 75 percent increase in production of agricultural products in 30 years offers great opportunity to anyone involved in agriculture.

"But farming and ranching operations are getting bigger and more sophisticated," Bearden continues. "The people who run these operations require smarter, better informed, better educated, more sophisticated, more professional suppliers to help them. They don't want someone to just come and deliver products. It will be difficult for people with less than college degrees to provide the services and information demanded."

Another challenge — agribusiness is growing more international by the minute.

"International awareness is important," says Jean Underwood, director of Career Services in the University of Minnesota College of Agriculture. "Products are traded on an international basis. So students need global awareness and knowledge of other languages and cultures." Her university — along with many others across the nation — now requires students to study foreign language, which "graduates praise later."

"You need to be proficient in at least one major world language other than English," says Suter at Texas A&M. "We have to know more about how to communicate with people of other cultures if we're going to be effective in marketing." His university, too, requires at least a year of college foreign language study for graduation.

Suter stresses, as well, the importance of knowing how to type, how to use a computer and an understanding of business principles. Agribusiness "doesn't mean lots of ag and a little business," he stresses.

In addition to knowledge of business, science and foreign language, the agribusiness professionals of tomorrow still need technical knowledge, too. "We look for people who understand farming," says Dale Brommerich, personnel supervisor for the John Deere Co.'s Kansas City, Missouri, regional marketing office. "Our marketing representatives have to know

about how products will be used."

Of special interest to FFA members, several industry representatives specifically mentioned leadership training as a characteristic they look for in potential employees.

Computers and Engineering

Already, computer scientists are designing on-board computer systems for tractors and combines to help producers make decisions on the go, says Dr. Harold Reetz, director of the Potash and Phosphate Institute in Monticello, Illinois. Reetz classifies computers and electronics as "hot career areas for the near future."

Jobs in agricultural and mechanical engineering are also plentiful. Brommerich notes that John Deere recently sought 45 engineering graduates in one semester alone, one-third of these in agricultural engineering.

Other Fields

Among the traditional "ag" subjects, entomology (the study of insects), continues to offer great career prospects. "We can never graduate entomology students to meet demand," Suter from Texas A&M says. Graduates could expect to work as consultants (advising farmers, for example, on how to protect crops from insect damage), in government positions, in urban entomology programs or for chemical companies.

Underwood, from the University of Minnesota, says she continues to see positions offered in a broad range of these traditional fields; plant science, agronomy, soil science and integrated pest management. Specialists in animal science are finding positions, as well.

Lani Jordan of Cenex-Land O' Lakes, a food processor based in St. Paul, Minnesota, confirms that "crop and livestock production specialists are 'hot' career areas for us."

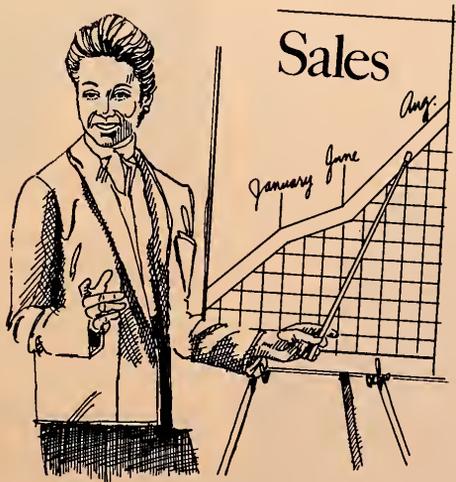
Only Predictions

None of these experts knows the future, of course, and they're the first to say that the crystal ball grows fuzzy when looking beyond tomorrow. But their experience in teaching, placing and hiring the next generation of agricultural professionals makes their predictions worth considering.

Prepare Now

Whichever career path you choose, strong preparation in high school will play a big role in whether you land a challenging, well-paid job after college.

"Prepare well," says Underwood. "Take math and sciences, communications, English, public speaking, and learn to write." She urges students to get related work experience in production agriculture, if they can. "A farming background is very helpful later in making sales calls or when working as an agricultural consultant." ••



The Confident Edge

Knowing business etiquette will help you relax for those important occasions

By Ann Marie Sabath



Actions that most people take for granted, or never think about, affect business and social relationships. You may have a very marketable skill or a product that is in great demand, but if there is sand in your social gears, it will affect your interaction with others.

Business relationships at all levels should be simple and effortless or at least seem that way. Knowing what to do and when to do it projects the confidence essential to success.

So whether your goal is to prepare for an agricultural job or a non-agricultural one, you can be certain of one thing: your key to success will be based on how well you interact with others.

First Things First

Did you know that it takes 15 seconds to make a first impression and the rest of your life to undo it if it was a negative one? Observing the "Rule of Twelve" is the key to projecting a positive image.

The first 12 words you speak should include some form of thanks, if appropriate. When meeting someone for the first time, express your gratitude. Example: "Thank you for scheduling this meeting" or "It's a pleasure meeting you in person."

The first 12 steps you take should be those of confidence. Whether you're walking from the street into a building or down the hall, walk with a purpose — with vim, vigor and vitality. Note: studies have shown that people who walk at a brisk pace are perceived as getting more done.

The first 12 inches from your shoulders down should include impeccable grooming. Your hair, collar, accessories, etc. should be a reflection of the quality person you are.

What you say and how you say it is "the name of the game." That's why the six most commonly asked questions about

greetings and introductions are listed below:

Q. When is it appropriate to call an adult by his/her first name?

A. When he/she makes that recommendation.

Q. When a man is introduced to a woman in a business setting, who should initiate the handshake?

A. It doesn't matter.

Q. What is the best way to remember someone's name to whom I've just been introduced?

A. Repeat the person's name when first meeting him/her. Also, try to use the name at least once during your conversation with the person.

Q. What is the best way to handle forgetting someone's name who approaches you?

A. Initiate a handshake with the person and re-introduce yourself. In most cases, the person will say his/her name when shaking hands.

Q. How should I handle the situation in which someone calls me by the wrong name?

A. Simple restate your name. By doing so, you will spare the person from added embarrassment.

Q. When meeting with others whom I rarely see, is a handshake in order at the end of our get-together?

A. While a handshake is not necessary at the end of a meeting, it is a professional way to solidify what was discussed during the time you spent together.

Some Words Worth Filing Away

When managing others, motivation is essential to assist them in completing tasks. Following are some "Key Words For

Making People Feel Important" as cited in *Communicating Effectively II* by communication briefings:

The most important six words: "I appreciate you and your efforts."

The most important five words: "I am proud of you."

The most important four words: "What is your opinion?"

The most important three words: "If you please."

The most important two words: "Thank you."

The least important one word: "I."

Key Rules For Business Dining

•When escorted to a table by a host/hostess, your guests should precede you. When seating yourself, take the lead.

•Be sure to offer the "best" seat to your guest. Seat yourself with your back to the door or main part of the room.

•Once everyone is seated, place your napkin on your lap. This serves as a cue that you are ready for menus to be brought to you.

•When making a food recommendation, realize that most guests will also take your suggestion as a guideline to suitable price ranges.

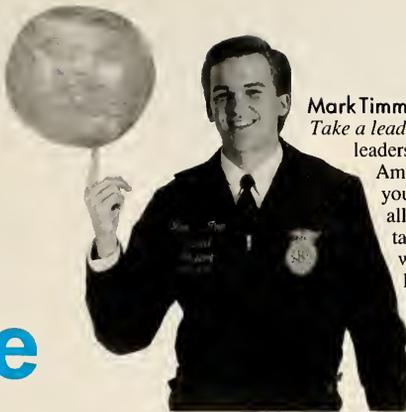
•When the server asks for your order, before your guests', say, "I'd like my guests to order first." Besides being appropriate, it's a cue that you will take care of the check at the end of the meal.

•When reaching for the bread basket, salad dressing, etc. offer them to your guests before helping yourself.

•Tip adequately. Treat your server with the same consideration that you would like to receive. A generous tip (15 - 20 percent) is a small price to pay for good service and personal attention. •••

FFA's national officers challenge their fellow members to take an active role in helping the environment

Make a Difference



Mark Timm

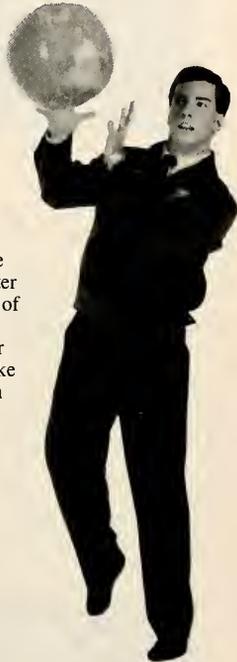
Take a leadership role. As the young leaders in agriculture and America, you have the world at your fingertips, and it is up to all to accept this environmental responsibility, spread the word and pass on your knowledge and commitment. President Kennedy summed it up best when he said, "One person can make a difference; everyone should try!"



Matt Lohr

Recycle. Recycling is a great place to start helping the environment. Saving newspapers, glass, aluminum cans and plastics may seem to have a small impact at first, but a group effort can work large wonders!

Leadership for a Growing Planet
National FFA Week
February 16-23



Ben Nessmith

Plant trees. My friends, our future depends on acting now. Use your FFA chapter to help the idea of planting trees catch on in your community. Take an active role in participating and promoting Arbor Day.



Julie Classen and Danny Grellner

Do the little things. Like a huge wall made from small bricks, it's the little things that add up that make a difference. So many times we search for some "larger than life" answer to life's simple questions. Each of us doing the "little things" can have a huge impact. Shut the water off while brushing your teeth, turn off the lights when you leave a room, carpool!!!

What's your idea?

The national officers have shared their ideas about helping the environment. Now it's your turn to share your idea with other FFA members. In three sentences or less, tell us what an FFA member can do to help the environment. *FFA New Horizons* will publish the six best ideas in a future issue of the magazine. Send the idea and a school picture of yourself to:

Environmental Idea
 FFA New Horizons
 P.O. Box 15160
 Alexandria, VA 22309-0160.

LesAnn King

Educate others. The greatest gift you can give the Earth is to share your knowledge about agriculture and the environment. Being involved in agricultural education, we work close to the Earth and understand its needs. The Earth is the gift that keeps giving — if we prepare the future to receive it.





Photos by Nicholson Communications

Lisa Hefty experimented to see if excess nutrients were getting into the local water supply.

ENVIRONMENTAL IMPACT

Through experiment and research, FFA's top agriscientists found answers to critical farm problems

Some people complain about life's problems, while others do something about them. Put Tracie Daniels and Lisa Hefty in the latter category.

The two FFA members were concerned about groundwater quality and crop pests that hurt yields. But instead of doing nothing they developed science projects to find answers to those problems. National agriscience student winner Daniels conducted a five-year search for natural ways to stop nematodes from destroying peanut crops. Runner-up Hefty studied how

fertilizers leach into groundwater.

Daniels, a 17-year-old senior at Branford, Florida, high school, grew up on a crop and livestock farm in nearby O'Brien. When she was 12, she heard her father talk about nematodes hurting his peanut crop. "They were doing really nasty damage to dad's crops," she recalls. "I saw my father in pain and our crop damaged."

Still in sixth grade, Tracie decided to learn about nematodes. She found that they are eel-like microscopic parasites resembling earthworms – and that they kill plants by burrowing into roots, releasing enzymes that make plant cells swell and ruin nutrient uptake, leaving ugly bumps (nodules) on roots.

She wondered if such creatures could be controlled without agrichemicals. "I wanted to find alternatives to chemical nematicides because many were being banned," Tracie recalls. In a book she had sent for from the University of Florida (U. of F.), she had read that marigolds could possibly be used to control nematodes naturally. At a local junior college she learned to make extractions from the marigold plant. "I determined that one of the extractions was fairly effective in controlling nematodes," she says.

In the next two years Tracie became serious about lab work and collecting data. She experimented with other plants to see how effective they were against nematodes. She started working with some local scientists from the Institute for Food and Agricultural Sciences (ISAS), a U. of F. research station.

Tracie's science data showed that marigolds could cut nematode damage by half. Other plant extracts like crotonalaria and hairy indigo – both considered weeds to farmers – showed successful control.



Tracie Daniels researched natural pest controls.

In Tracie's fifth year she entered phase two of her project. "Up until this time I hadn't done what I call scientific process" she says. "At this point we did things by the book: measured the data, and proved results statistically."

Working with the ISAS, Tracie made wet solutions out of crotalaria, hairy indigo, wheat, and castor bean plant material. Each solution was placed in a vial with specific amounts of nematodes and tomato plants with all roots pruned except taproots. "The purpose of this phase was to see if these solutions would stop nematodes from entering roots immediately," she says. "And in each case each one of these solutions succeeded in keeping nematodes from getting into the plants."

Her results are startling. It means farmers may not need expensive and dangerous pesticides if they can get rid of nematodes with a natural control, like a solution made from wheat.

"The way environmental issues are being pushed today, farmers may not have the option of using chemicals someday" Tracie says. "If one of those restrictions comes about I want them to have some option for nematode control."

"I found out since I've been doing this project that a lot of different states had the same problem," she adds. "So that made my problem a lot more valuable to other people. I did it for the farmers."

Grandpa's Fault?

Lisa Hefty, a Purdue University freshman from Auburn, Indiana, also had farmers in mind when she planned her agriscience project. Lisa, 18, lives on a two-acre tree and livestock operation on her grandfather's 200-acre crop and swine farm. She thought farmers were getting a bad rap for groundwater pollution.

"I was just a freshman in high school when I kept hearing farmers were to blame for groundwater and for polluting our streams" she says. "I wanted to find out if it was true. Was Grandpa at fault?"

The opportunity to find out came when Hefty's agriculture advisor at DeKalb High School told students about the FFA Agriscience Student Recognition Program. "I saw this as an opportunity to start a project and see if farmers were polluting streams with fertilizer leaching," Hefty says. Leaching is the process of fertilizer, not used by plants, filtering down through the soil.

Hefty built three models depicting common soil profiles found in her county. She applied three different levels of fertilizer. "I constructed a tubing system and planted wandering jews for plant tissue tests. I poured water into each profile, representing rainfall. The water would leach through and reach the different plants."

Hefty found no leaching of nutrients in average and high fertilizer levels. She discovered that fertilizer did leach in the one soil profile given excessive fertilizer levels.

Now Hefty wanted to see what would happen in the real world. She used the school land lab, where the soil is mostly a heavy clay, typical of the county's farmland. She hypothesized that leaching would not occur in heavy clay soils.

Lisa selected a field where water from underground tile could be tested. It was planted with soybeans and fertilizer was applied to the field. Hefty tested the soil, water and tissue of plants several times during the growing season.

Results showed that as the growing season continued, soybean plants absorbed fertilizer from the soil. Her data from field tests proved leaching does occur but in very small amounts. "This probably occurred through other soil types further up in the tile system that do not have as high a clay or organic matter content," she says.

Results from Hefty's project inspired the local health officials to test well water. They found only one percent contaminated by nitrates.

For all of the payback to farmers and community members, Tracie and Lisa both agree that the projects really follow the FFA motto, "Learning by Doing." "When people ask me what's important about this project, I tell them 'You learn more by doing the project than by the results you get,'" says Tracie, a straight-A student and future veterinarian. "You learn how to solve tomorrow's problems scientifically in the lab."

Lisa, who is studying agricultural communications in college, couldn't agree more. "I've gained the ability to ask questions and that skill will help me with my career," she says. "This project was my own initiative. I had to buckle down and ask questions if my project was going to get end results."

How to Get Started in Agriscience

Agriscience? Are you kidding? Just the word can send some high school students fleeing to the safety of their comic books.

But you don't have to be a bookworm or a rocket scientist to get involved. Tracie Daniels points out that the many facets of agriculture offer plenty of project ideas.

Identify some agricultural problem that you feel may be solved by scientific techniques, she suggests. Once you identify that problem, think about ways to resolve it. Form a hypothesis—that's your idea about the possible solution. The project itself then involves experiments, analyzing your data, and forming conclusions based on that data. You can get help in these areas from your agriculture instructor or science teacher.

Here are some additional tips:

1. **Use your curiosity.** When I first started in grade school, all I wanted to do was find out what these nematodes were, Tracie says. Likewise, pick a project that you genuinely like and are interested in. It won't be a hassle because it's something you like to do, she says.
2. **Consider all ideas.** No idea is too small, Tracie says. Look at your community, and the industry of agriculture, and use that as a guide. Any kid who has any idea, no matter how small, needs to start with that idea. It will grow.
3. **Takes advantage of the facilities and resources near you.** For example, Tracie Daniels lives in the boonies, as she says, but there happens to be a University of Florida research branch within driving distance. Find people who can help you. That includes your school's science teacher or local professionals. And don't be afraid to call upon university and government scientists or professors, as Daniels did frequently for her nematode research.
4. **Finally, try not to get discouraged.** As in any endeavor, success often takes trial and error. Find an idea and go after it, Tracie concludes. Believe you can do it.

The Agriscience Student Recognition Program is sponsored by Monsanto Agricultural Company as a special project of the National FFA Foundation.



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Agriculture's New Professionals

Production Agronomist



Production Agronomist Leslie Lloyd helps growers understand how to produce and market canola.

Every year since 1985, a blanket of yellow flowers has been slowing spreading across the fields of the South, the Midwest and the Great Plains. The flowers belong to canola and industrial rapeseed plants and production agronomist Leslie Lloyd is working with farmers and researchers to establish the crop in America.

Canola is a new crop to American farmers but it is a major vegetable oil crop in Canada and Europe. The vegetable oil made from canola is one of the healthiest available on the market. According to the U.S. Department of Agriculture, Canola oil contains 6 percent saturated fat compared to 15 percent in soybean oil and 92 percent in coconut oil. In today's health-conscious consumer market, those are impressive numbers for canola.

For the past three years, Lloyd has been working for Calgene, one of the major agricultural biotechnology firms in the country. His job responsibilities range from helping crop farmers understand how to grow the new crop to persuading grain

elevators to handle the small canola seeds. He also works with seed dealers and arranges rail and truck transportation for the crop. He is involved, literally, from research to delivering the crop to the processing plant in Chattanooga, Tennessee.

Though Lloyd works for Calgene, the canola branch of the company is called Ameri-Can Pedigreed Seed Company. Residing in Union City, Tennessee, Lloyd explains, "I'm one of the few Calgene employees outside of California."

He says that even though he studied agronomy and specialized in weed science in college, his current job is far from that of a specialist. "The job a lot more than an agronomist and it's a lot more complicated than just sales," he explains. "The transportation end of it was totally new to me." Much of his time is spent

patiently working with people who are not familiar with canola and are often skeptical about considering it as a viable crop. "Usually, the crop is something that the farmer has never grown. The elevators have never handled it. The dealers have never handled the seed, so much of my job is introducing a whole new crop to them."

He first became interested in science through a high school biochemistry class in his hometown of Dyersburg, Tennessee. Pursuing that interest, he went on to get a bachelor of science degree in plant pathology from Mississippi State University and a masters degree in agronomy from the University of Illinois. During summer vacations, he worked as a pest scout at the University of Tennessee where he found a great satisfaction in working with farmers. "That's where I learned about big-time row-crop farming," says Lloyd.

His first job out of college was with the agrichemical division of BASF. Then Calgene asked him to help introduce canola to farmers in the Midwest and South.

Lloyd says that the new Farm Bill signed by President Bush last fall will help open the door for expansion in canola production. Farmers have been given permission to plant minor oilseed crops — including canola and rapeseed — on government set-aside acres that in the past went uncultivated. That way, farmers will receive their deficiency payment plus the profit from the oilseed crop. "It basically puts us on even footing with other crops," he says.

Lloyd says that he is optimistic about the future of canola and it's cousin, industrial rapeseed. With the turmoil in the Arab nations, there is even more potential for the use of agricultural commodities for industrial purposes here in the United States. With environmental concerns growing, working with a

natural source of oil instead of a petroleum-based oil may become more and more attractive.

With all of his varied responsibilities, Lloyd says that his favorite part of the job is working with farmers. "I want to see them be successful and it's exciting giving them a new crop to grow," he said. ...

Lloyd is working with farmers and researchers to establish canola in America.



During FFA Week, chapters around the country will help farmers make sure they aren't spraying more crop protection chemicals than necessary



During FFA week, chapters will visit growers and professional applicators making sure they take time to properly calibrate their spraying equipment.

The Sprayer Tune-Up Team

Anyone who has spent time around farmers in the spring knows that things move pretty fast. There is limited, precious time to get the crops planted between rain showers and before summer starts.

Because of the rush to get in the fields, details like sprayer maintenance and calibration are sometimes overlooked. This lack of maintenance results in unnecessary costs for the producer and excessive pesticides sprayed on the land.

That is why a number of FFA chapters around the country are planning to work with local farmers and custom applicators during FFA Week, February 16-23, to help them calibrate their spraying equipment well before the planting season starts.

The effort is a part of Sprayer Tune-up Week, developed by Spraying Systems Co., a manufacturer of spraying equipment

and replacement parts, in cooperation with the National FFA Organization. The theme for FFA Week, "Leadership for a Growing Planet," will focus chapter activities on environmentally related activities in their communities, including sprayer calibration.

Kits of information have been sent to high school agriculture departments interested in conducting a sprayer tune-up activity in their community. The kits contain lesson plans, brochures and videos for teaching sprayer safety and maintenance to agriculture students and applicators of crop protection chemicals.

Agriculture instructor William Peale, Pendleton, Oregon, says that the information is filling a need for teachers. "We've looked at the material and it's well done. Many teachers haven't had a lot of training in this area, and probably haven't been

doing a complete job of covering the topic." Peale says he teaches a unit on sprayer technology and safety every spring. "I see using this activity as an extension into the community of what we've been teaching in class."

Besides helping applicators ready their equipment, chapters are being encouraged to publicize the need for sprayer calibration by running news articles in their local papers, constructing displays for businesses where farmers gather and organizing meetings for applicators featuring local spraying professionals.

Coleman Harris, national FFA executive secretary, says that because of FFA and agricultural education's national scope, this type of environmental safety activity could make a real difference. "This sprayer tune-up activity is a unique opportunity for FFA members to have a substantial, nationwide impact on the reduction of pesticides sprayed on our farmland," he said. "Both the environment and American farmers are sure to benefit greatly as a result."

According to a study conducted at the University of Nebraska, as many as 25 percent of Nebraska applicators were not accurately applying the amount of spray desired. The same study showed proper calibration can save applicators about \$1.25 per acre per chemical applied.

In addition to the National FFA Organization, Sprayer Tune-up Week is endorsed by the Alliance for a Clean Rural Environment (ACRE), the National Agricultural Chemicals Association, (NACA) and the National AgriChemical Retailers Association (NARA). ***

Sprayer Tune-Up Information

Chapters interested in a Sprayer Tune-up Week kit of information should contact: Spraying Systems Co., Agriculture Division, ATTN: Sprayer Tune-Up Week, North Avenue, Wheaton, IL 60188-9908. Supplies are limited.

Another good source of information is the Sprayer Calibrator Corporation. They market a simple, easy-to-use spray tip tester that measures the flow of sprayer nozzles in gallons per minute. For more information, write to them at: P.O. Box B, Fort Collins, CO 80526.

WHAT'S ON HIS MIND?



He's thinking about the best way to produce his next crop.
And our next meal.

He knows his work helps feed most of the world.

He also knows that a farmer has important environmental responsibilities. Starting with the quality of his family's drinking water. And extending to the water we all drink.

And he knows he must work even harder to keep our water safe.

That's why farmers and ranchers are turning to ACRE, the Alliance for a Clean Rural Environment. ACRE provides free information about the safe use of crop protection chemicals and tips on safeguarding water quality.

ACRE and the American farmer. Thoughtful stewards of our future.

For more information, call or write:



P.O. Box 413708 ■ Kansas City, Missouri 64179-0386
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ACRE is a non-profit, non-political information source fostering stewardship of water quality and the environment, supported by makers of the crop protection chemicals used by America's farmers.

Ag Chemicals Technology and the Environment

*Here is how
chemical
companies
are working
to protect
the environ-
ment*

*By Sylvia A. Walters and
Christina M. Wilson,
Agricultural Image Makers, Inc.*

We hear about environmental protection on the radio, television and through popular music. We read about the environment in virtually every newspaper and magazine. Environmental protection is a major concern for all of us. It affects many aspects of our lives...from food to clothing, from vehicles to cleaning products, from children's toys to garbage disposal. Nowhere is concern for our environment more of a driving force than in the crop protection chemicals industry.

For several years, crop protection

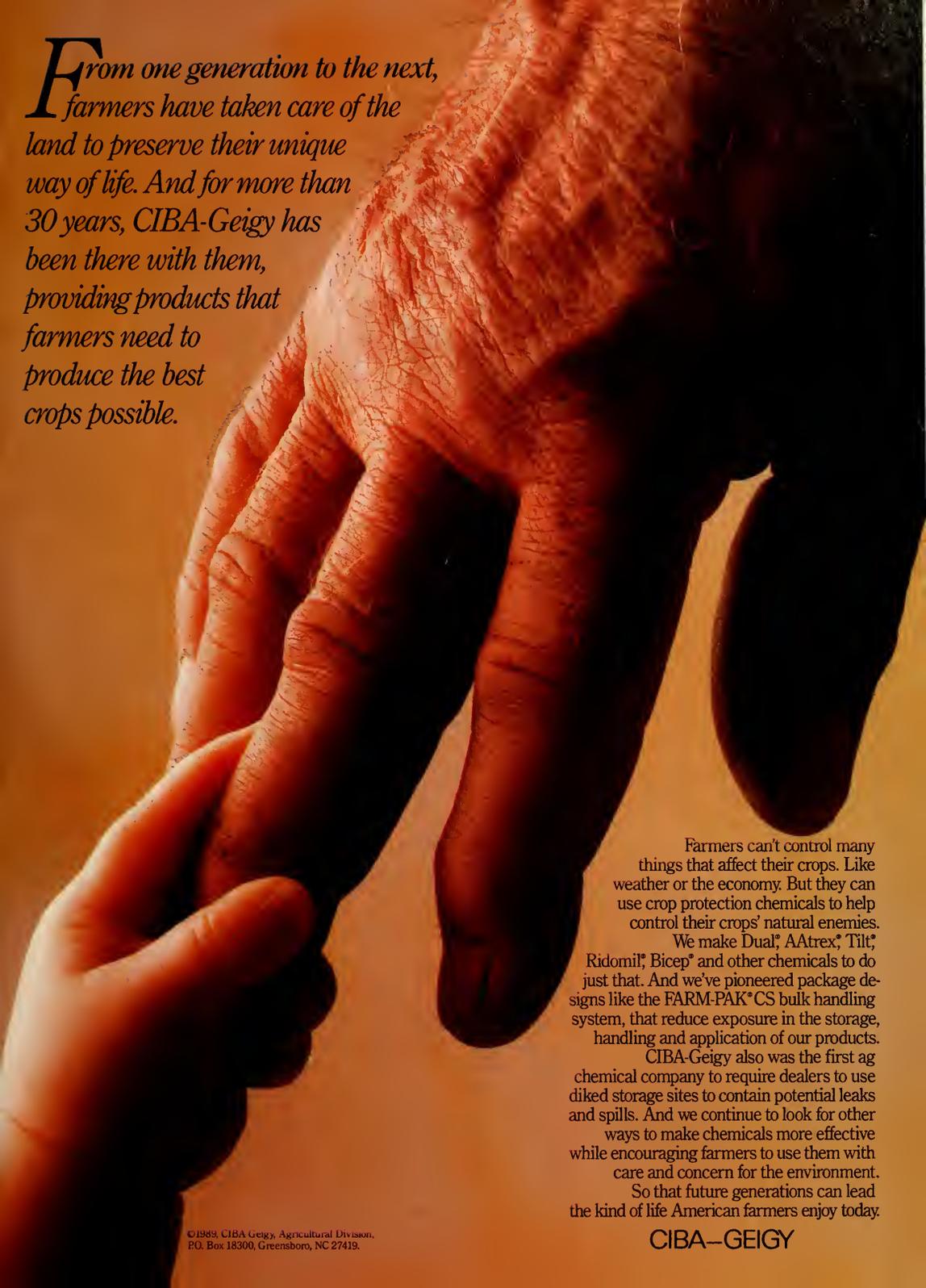
chemicals manufacturers have been developing new products and packaging with a clean environment in mind. Their challenge: to provide chemicals safe for the environment and consumer, yet effective in protecting plants from destructive pests, weeds and diseases. Revolutionary new technologies already are meeting the challenge in the development, packaging and use of crop protection chemicals.

Agricultural chemicals manufacturers are committed to the task. Leo Bontempo, president of Ciba-Geigy's

(Continued on Page 30)



Closed system equipment limits applicator exposure to chemicals. Insecticide goes from the "factory to the furrow" without direct human contact, eliminating dust, odor, and risk of spills.



*From one generation to the next,
farmers have taken care of the
land to preserve their unique
way of life. And for more than
30 years, CIBA-Geigy has
been there with them,
providing products that
farmers need to
produce the best
crops possible.*

Farmers can't control many things that affect their crops. Like weather or the economy. But they can use crop protection chemicals to help control their crops' natural enemies.

We make Dual[®], AAtrex[®], Tilt[®], Ridomil[®], Bicep[®] and other chemicals to do just that. And we've pioneered package designs like the FARM-PAK[®] CS bulk handling system, that reduce exposure in the storage, handling and application of our products.

CIBA-Geigy also was the first ag chemical company to require dealers to use diked storage sites to contain potential leaks and spills. And we continue to look for other ways to make chemicals more effective while encouraging farmers to use them with care and concern for the environment.

So that future generations can lead the kind of life American farmers enjoy today.

CIBA-GEIGY



Bulk packaging, such as in 110 gallon shuttles replaces the use of many small containers, leaving the farmer with no product store or dispose. Bulk packaging eliminates waste and potential pollution.

Agricultural Division, echoes the sentiment of industry companies. "We have long recognized that our products and actions, as well as those of others involved in agricultural production, impact the environment and future generations. We have been a responsible environmental steward and continue to intensify our efforts to protect and preserve the environment."

Let's look at a few of these pro-environmental technologies—the way of the future — already in use today.

Crop Protection Chemicals Taking New Forms

Chemistry. Tough subject. Right? But you must admit, it's fascinating. Scientists are becoming more and more sophisticated all the time in developing products that do what we want them to do, when and where we want them to do it, the way that we desire.

Crop protection chemicals manufacturers have developed a variety of new formulations. Formulations are the different forms an agricultural pesticide can take as an end product, such as a liquid, powder or granule.

Some new chemicals are applied at very low rates; they are effective, yet virtually non-toxic to man and animals. Small tablets that bubble when dropped in water like cold medicine and other easy-to-use products reduce the grower's exposure to the chemical; there is no mixing and no dust. Products developed through the science of

biotechnology and microbiology are proving to be effective and safe in the environment.

Manufacturers have developed products that are applied at very low rates, such as grams per acre, compared to older products applied at pounds per acre. (Imagine being able to store ag chemicals on a shelf instead of in an entire warehouse!)

Also, these new low-dose chemicals do not leach, or move, to groundwater, but cling to the soil until they are broken down by naturally-occurring bacteria.

One challenge of low-dose chemicals is to find formulations that can be accurately measured and applied by the applicator. The increased concentration allows growers to cover more acres with less chemical, leaving fewer packages to dispose of and less chance for the applicator to be exposed to the chemical.

Ciba-Geigy is studying formulations that include time-released capsules, briquettes, tablets and gels that could be sold in a water-soluble bag, and granular clay (to reduce dust and improve worker and environmental safety).

Formulations are being constantly modified to reduce potential hazard to users and/or the environment. An example is Rhone-Poulenc's Sevin XLR insecticide for vegetable and fruit crops; the formulation has been modified to reduce toxicity to bees. Other product

formulations have been altered to increase the safety margin for workers applying them.

Biological controls are sometimes appropriate for pest control. Ciba-Geigy has worked with bacillus thuringiensis (Bt), which has been used to control leaf-eating caterpillars on various crops for nearly 30 years.

Bt has not been popular because it was generally less effective and more difficult to make, ship and store than traditional pesticides. On the positive side, Bt is: highly selective (controlling only certain insects); regarded by the Environmental Protection Agency as safe; and low in toxicity.

With environmental concerns increasing over the last decade, the company began to look seriously at new strains of Bt as a supplement to chemical products. One new Ciba-Geigy Bt product will be formulated as a wettable powder and is expected to be on the market within the next one or two years.

Building the Better Package

Packaging? Who should care about packaging? The answer is, we all should. The handling of chemicals, and the containers they are sold in, is changing rapidly and dramatically.

First, bulk packaging, such as in 110-gallon shuttles, replaces the use of many small containers. Second, reusable, returnable containers are now available. Both bulk and reusable packaging reduce the need for container disposal.

Third, closed system equipment limits applicator exposure to chemicals. Fourth, water soluble bags dissolve in water, leaving no container to dispose of. Fifth, where plastic containers are still used, pressure rinsing of containers allows thorough rinsing of recyclable containers. Plastics from recycled containers are used to make new containers and other plastic materials, with no chemical residue.

In 1987, Ciba-Geigy introduced its first refillable package, Farm Pak CS. It eliminates package disposal problems and reduces personal and environmental exposure to the chemical inside. Ciba-Geigy introduced new products in water-soluble packaging in 1989. This packaging features an outer container which does not come in contact with the chemical, so it can be disposed of easily. The inner bag, contain

(Continued on Page 32)



Today, we're right in the middle of solving tomorrow's biggest problems.



America's farmers and agribusiness corporations are presently facing two major concerns: feeding the world efficiently and feeding it safely.

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▶ As a result, many of our agricultural products have quickly become

the industry standards. And we continue to reaffirm our leadership position by providing you with products born of leading-edge technology.

▶ A few examples: new herbicides based on unique chemistry that offer both superior performance *and* a whole new level of environmental compatibility; the first closed-handling system for granular insecticides that offers unparalleled user safety; and new products now in development for America's beef, swine and poultry producers.

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▶ Together, we're building a legacy we can all be proud of.



American Cyanamid Company
Agricultural Division
Wayne, NJ 07470

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ing the product, dissolves in the applicator's spray tank, releasing the chemical. This virtually eliminates the possibility of spills and direct worker contact during mixing operations.

A closed handling system, Counter Lock & Load, developed by John Deere and American Cyanamid, has virtually no human exposure. "For the first time, corn soil insecticide can go from the 'factory to the furrow' without direct human contact," says Pat McDonnell, Marketing Manager, Insecticides, American Cyanamid. "There are no bags to rip open, no dust, no odor and no risk of accidental spills."

Development of the system was, in part, a response to growing concerns regarding the burning of empty pesticide containers and other related environmental issues. Counter Lock & Load

containers come on a special pallet, which makes it easy for growers to return them to local dealers, who in turn send them back to Cyanamid for refilling. Growers who used the system last spring liked it because it minimized contact with the chemical, provides a safer method for storing pesticides, and has less dust and smell and no bags to dispose of.

The System 110 mini-bulk system also is being marketed by American Cyanamid. This features 110-gallon containers, which eliminate the problem of container disposal. Mini-bulk saves the applicator time in rinsing and disposing of containers and the mini-bulk containers can be refilled.

"Mini-bulk is the best technology available today for handling liquid pesticides. A farmer or applicator can work with this dealer to get the quantity when he needs it," says Ken Root, executive director of the National Agrichemical Retailers Association. "He has none of the product left to store or dispose and there is no waste, no pollution."

Rhone-Poulenc Ag Company is working to produce safer packaging, including: steady flow containers to eliminate splashing; solid handles on packages, instead of hollow handles which trap product and make rinse-out difficult; water dissolvable bags that can be dropped directly into the applicator tank; and bags with pouring spouts for filling application equipment without coming into contact with the product. Because it is difficult to control the use of empty packaging, internal coatings of the various packaging systems have been modified to prevent absorption of product residue.

Safer Use by Growers

Ag chemicals manufacturers are working to assure chemicals are safe and safely packaged for safe handling and application.

There are many practices and technologies which are helping ensure that crop protection chemicals are applied safely, both for the applicator and the environment. They include: precise sprayer calibration; new mapping equipment for precise application; systems which make sure that the exact right amount of chemical is applied and that the application is even

throughout the field; and containment systems at storage facilities to contain chemicals in case of a leak or spill.

Chemical manufacturers, the Cooperative Extension Service, and agricultural organizations are all involved in continuing education efforts to inform farmers and other users of chemicals about the latest technologies available for wise, safe use of the chemicals.

Much emphasis has been placed on sprayer calibration so that no more chemical is applied than is needed and using chemicals in conjunction with other growing practices to control weeds and other pests. Many growers now carefully scout for insects before they decide to spray.

Manufacturers have initiated joint efforts to address environmental concerns, such as ACRE, the Alliance for a Clean Rural Environment, which provides ag chemical users with information on safeguarding ground and surface water supplies.

ACRE has distributed information on a variety of practices that help to protect the environment. Topics include: establishing grass waterways and buffer strips; protecting surface water by managing crop residues, calibration and maintenance of spray equipment; selecting a site and constructing a well; sealing abandoned wells; and other common sense practices to prevent runoff from fields. To receive further information, contact: ACRE, P.O. Box 413708, Kansas City, MO 64179-0386, (800)545-5410.

Working Together to Protect the Environment

Crop protection chemicals have become an important part of modern agricultural production in this country. Likewise, urban dwellers have come to depend upon pest management chemicals for control of insects, diseases and other pests. Even though these chemicals are beneficial, it is vital that their use does not harm the environment.

The manufacturers, distributors, retailers and end users of these chemicals are drawing together as partners to ensure that agricultural pesticides are developed and used with the protection of the environment in mind. ...

*Formulations
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users and/or
the
environment*

Time For A New Commitment

by Thomas M. Dille

As I look back on my early years, I remember that one of the things I enjoyed most was talking to people of an older generation about what it was like "in the good old days." There's a universal appeal that comes from comparing our lives today to those of a generation or two previous. You have to marvel at the changes time has wrought.

That sense of change is even more dramatic for those who have grown up on a farm. In the last three generations, agriculture has undergone changes that are breathtaking in their breadth and scope. We've gone from a rural society to an urban one. Farmers made up 35 percent of our population just 60 years ago, but less than two percent today.

Technology has evolved from an age of horse and hoe to one of tractor and computer. Today, farm produce prices are often determined more by events halfway around the world than by demand at the local elevator.

Change in our industry continues to arrive faster, and from more directions, than ever. Increasing concern about the way modern agriculture goes about its business is resulting in forces of change brought on from outside the agricultural community.

An example is the furor over Alar and apples. As a result of an influential television program and a media-smart environmental group, an entire segment of agriculture found itself unable to sell its products.

While a book could be written on the Alar episode, the important point to remember is that if the American public had even a basic knowledge of where its food and fiber come from, and shared a vision of the promise agriculture holds for the future, the crisis might never have developed.

Yesterday's attitudes and ways of doing business simply aren't up to the task of addressing this ignorance and our own concern for the environment. It's time to build on our strong base of traditional values, particularly our enduring love of the land, that have made our agricultural system so successful.

We need to develop a new vision, a new commitment, and even a new code of ethics on which to base all of our decisions. Equally important, we must encourage all members of our society to share in that vision, to take a stake in it, and to help us find solutions to present and future problems.

This task will require each of us to develop a personal commitment to make sure our own small piece of the

agricultural system is one that ensures safe food, a sound environment, and preservation of our precious groundwater.

A good way to get started on that commitment is with a blank sheet of paper. Reflect on what you do in your daily life. How do you affect people's understanding and appreciation of agriculture? How do your activities affect the environment? List those things that need improvement.

Next, commit to learning everything you can about how to change or improve those practices that fall into the negative category. A great deal of practical information is available in trade journals, on pesticide labels and manufacturer manuals, through university and private research. Attend meetings and discuss ideas with your peers.

Start putting into practice some of the things you learn. Set a few goals and work toward them. As you integrate what you've learned into everyday routine, look for ways to tell others, especially those outside your circle of friends, family and colleagues.

Build On Enduring Love of Land

There are a number of ways you can take your message to others. Speaking to a church group, at a career day in a local school, or to a service organization are obvious ways of reaching people you want to inform.

Use every opportunity you can to tell your audience what's happening at the farm level to meet the three objectives of safe food, clean groundwater, and a sound environment. Talk about the promise biotechnology holds, the development of highly-specific, low-dose pesticides, and the many contributions farmers make to preserving the environment.

Remember, too, that half of communicating is listening. When you're telling your story, don't neglect to listen to what your audience may be telling you. They won't always agree with you, but maintain an open mind and you may learn something valuable.

It won't be easy for us agriculturalists to make all the changes outlined here, but it is vital. And although it may be more comfortable to keep doing things "the way Dad did," remember that if Dad had that attitude and had never changed, his stories of "the good old days" wouldn't be so good after all.



Thomas M. Dille is President and Chief Executive Officer of Rhone-Poulenc Ag Company. During high school he was an active FFA member. In 1988, he was awarded the Honorary American Farmer Degree by the FFA.

Where Do Pesticides Come From?

A state FFA officer shares what she learned by working at a major agricultural research facility

By Liz Jost, New Jersey FFA President

Modern science applied to today's agriculture is the primary reason for the top quality food supply that we all enjoy. As a food industry major at Delaware Valley College, our food supply is especially interesting to me.

Last summer I was an intern at American Cyanamid's Agricultural Research Division in Princeton, New Jersey, and had the opportunity to meet and work with some of the people who develop agricultural pesticides.

It is estimated that by the year 2050, the Earth's population will reach 11 billion people. That's a 250 percent increase since 1980. With the shortage of agricultural land, increased agricultural production is the only viable solution to the problem of world hunger.

Although agricultural pesticides are field tested around the world, it all begins in the laboratory with the discovery of a chemical compound that shows "interesting activity." Scientists don't always find exactly what they're looking for. They will admit that there is sometimes as much good luck as science in discovering products.

Discovery

Discovery can be accomplished several ways. The "random screening" method is one of trial and error. In this method, a chemical compound is chosen for testing because it has never been experimented with before. If a new product is discovered, it could be unique from anything else available to farmers and offer great sales potential.

Mixing the solutions in preparation for testing is a time-consuming task. It is estimated that 15-20 thousand samples are screened before one shows interesting activity. But there is some help. A robot does much of the weighing, measuring



Liz Jost and scientist Rich Farley observe armyworms.

and mixing of compounds and solutions, saving scientists a great deal of time.

A second method is "direct synthesis." This uses a product that has already been registered and proven to be effective, as a beginning point. That product is then altered slightly, in search of a more desirable product.

A third method, "bio-rational synthesis," has been successfully applied in medical research, but has not yet led to any new agricultural products.

Testing

After the chemical compound is discovered and determined to be active, a patent is obtained, and then the product moves into Phase II. This stage includes greenhouse and/or laboratory testing. The more interesting the compound seems, the more people will get involved with the project.

Testing is divided into three departments. Metabolism and Residue studies review the impact of a potential product on plants, animals, soil, air and water. Many of the safety tests required for registration are conducted.

In Formulations and Process Development, scientists work to develop a method by which farmers or ranchers can use the product. Among other considerations, the pesticide must be formulated to ensure that it won't gum up the bottom of the sprayer. Product stability, effectiveness

and cost efficiency are their main goals.

The final area is the analytical, physical and biochemical research group. Their job is to gather information about the compound and solve many of the problems that the other groups may encounter.

Getting Close

As the compound enters Phase III, one specific purpose is chosen for the product, such as killing a particular weed. Scientists need to find a convenient, environmentally sound, and affordable way for the consumer to use the product.

When the testing for Phase III is completed, the product is ready for the registration procedure. Even if a compound is effective, if it fails to meet the strict environmental standards at any time during the developmental process, experimentation ceases.

Registration involves compiling all the information that was gathered in the first three phases of testing. Every plant product must be registered by the Environmental Protection Agency and the states in which it will be used before it can be sold. These agencies have very strict guidelines for agricultural products.

Other Uses

Finally, after registration, Phase IV begins. New alternate uses for the product are investigated and possible new mixtures or formulations are explored. ...

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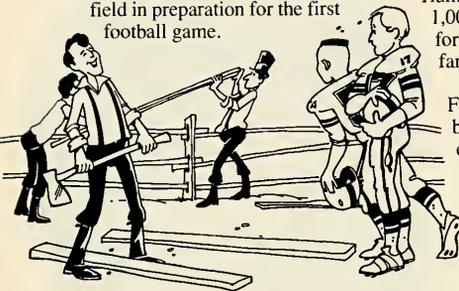


CHAPTER SCOOP

News, Notes and Nonsense from Chapters Around the Nation. Send yours to the Editors.

Found two good ideas in the Mansfield, Texas, Chapter newsletter. Every member signed a greeting card "from the advisors and members of the chapter," then reproduced it in their newsletter. Also the next issue will be published during FFA Week and mailed to all eighth graders.

Members in Mt. Carroll, Illinois, FFA Chapter put up 200 yards of fence around the football field and also raked the field in preparation for the first football game.



Officers of the Fleming County, Kentucky, FFA had a 3.4 cumulative grade point for the first grading period. And 12 of the 20 seniors made the honor roll.

Kristy Yarbrough won first place in the Lincoln, Arkansas, Creed speaking contest and was presented a new FFA jacket.

Hamilton City, California, FFA parked 1,000 cars at a craft fair to earn money for a new stereo system at the school farm.

FFA in Wayne County, Tennessee, built the float for the homecoming queen.

For this year's Greenhand Work Day in Fullerton, California, 28 members cleaned and painted the livestock area. A barbecue then was served by the chapter officers.

Wall, South Dakota, members participated in the community tree fair and created a tree with ornaments made of wood.

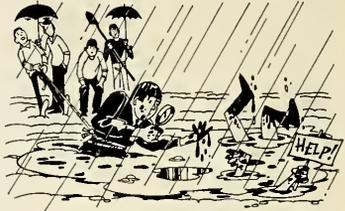
An annual Christmas lunch for 600 children is served by the Rubidoux FFA in Riverside, California. FFA donates the meat from two market hogs raised by the chapter to support the lunch and gift exchange for needy children.

The Gilbert, Arizona, FFA Chapter sponsored a back-to-school luncheon for all the administration, teachers and staff, welcoming them back from vacation and thanking them for their support.



An assembly line of FFA pizza makers was set up by Columbus, Kansas, Chapter. They sold the homemade pizzas and customers bought them as carry out.

The Crestview, Ohio, FFA went to soil judging on a rainy day in October. Even though it was muddy the members tried their best.



Marysville, Ohio, Alumni sponsored an FFA work day at Camp Muskingum and 40 members, parents and Alumni worked all day at projects such as cutting hedge from the fences and adding borders to flower beds. Members also got some playtime in to use the camp facilities.

Fresh corn was a popular seller and good fund raiser for Manteca, California, FFA.

A new catfish farm for the Rayne, Louisiana, FFA will be completed in the summer.

Members of LeFlore, Oklahoma, FFA toured a center for sustainable agriculture.

Educational farm tours for pre-school to third grade children was organized by Heritage FFA in Monroeville, Indiana.

Essex, Massachusetts, FFA was hired to stuff a 4,000 envelope mailing as a fund raising project.

Del Ray Fox, reporter for Sentinel, Ohio, FFA has published a chapter newsletter - the first ever for his chapter.

A golf hole is being added to the school grounds by Silver Lake FFA at Kingston, Massachusetts. It's the only par 3 hole in the state located at a school. It will be used by the golf team.

Two good ideas sent in by Aram Donigian, reporter for Elgin, Orgeon, FFA. The chapter held a banana split party to welcome old and new members back to school. Plus they picked up rocks in farmers' fields and sold firewood to finance their trip to national convention.

A Honey of a Project

Bryan Ashurst continues a family tradition of beekeeping

By Kermit and Evelyn Kliever

It's summertime on the Southern California desert and temperatures are expected to climb to 115 degrees today. Bryan Ashurst's alarm buzzes at 6 a.m. He yawns, climbs out of bed, and prepares for a long day of work at RJA Pollinating Co. where he and his crew build and move shades for 10,000 colonies of bees.

The tent-like shades, a necessity in the desert, cover the bees as they are moved from field to field, pollinating melons and alfalfa.

The shades are only one phase of a family business begun in the early 1900's by Bryan's great-great grandfather. Bees, pollinating, honey production, queens and stings have been a part of Bryan's life since he bought his first colony seven years ago.

That colony was purchased from his dad, Richard Ashurst, who bought his first bees from his father, who bought his first bees from his father... and so on, back five generations.

The Ashursts live in Westmorland, an Imperial Valley community of 1,000. Bryan, a senior at Brawley Union High School, has the same agriculture instructor, Kermit Kliever, as his Dad did.

Busy As a Bee

During his first year in FFA, Bryan bought 200 colonies of bees, bringing his total owned to 236 colonies. For his supervised agricultural experience program, he worked extracting honey for RJA Pollination Company, the firm owned by his father. During his second year, Bryan drove a truck, moved bees, operated a forklift and became head of the shade crew. His expertise as a budding apiarist (beekeeper) earned him top place in Imperial Valley's Project Competition, which involves several hundred FFA students.

"I earn most of my income renting my hives to farmers for pollination," Bryan explained. "We move the bees from Imperial Valley to central California in Janu-

ary and February to pollinate almonds. Then we move them to San Diego county in early spring, where they pollinate avocados and also multiply. They come back to Imperial Valley in late spring to pollinate melons and alfalfa during the summer months."

Bryan explained, "Bee pollination increases production dramatically. Under the right conditions, you can get 700 pounds of alfalfa seed per acre on a pollinated field, only 100 pounds per acre without pollination. Likewise, melons become odd shaped when they are not pollinated. So farmers need beekeepers and apiarists need farmers."

Income varies, as with all farming, but in 1990 Bryan's gross income was \$82 per colony on both rentals and honey production. The net income per colony was \$17.

Expenses include hauling, equipment, shades and bee replacement. "We lose up to 30 percent of our bees each year moving them," Bryan's father stated. "I buy bulk bees from northern California to replenish my colonies, as well as traveling to North Dakota every fall to buy bees."



Bryan has to keep the bee hives shaded from the California sun.



Ashurst's bees produce 400,000 pounds of honey during the summer as a by-product of pollinating alfalfa.

Photos by Authors

Bryan's bees travel with his father's and his major profit is from sub-pollinating. He pays his share of the travel and replacement expenses, but isn't involved in the labor. All of his out-of-school work time is spent building and moving shades.

Bryan re-invests all profit from pollinating back into his bees. However, he is on a salaried income when he works building shades. "Most of this money goes into my pickup," Bryan says with a grin.

Fatherly Advice

Bryan's father advises that when managing a business, "There will be good years and bad ones. Don't spend all your money when you have a good year, but save for the lean ones." He speaks as owner of 10,000 colonies of bees and one whose company is among the largest single bee owner operations in California.

Mr. Ashurst is one of five advisors on the State Apiary Board, giving advice to California's Director of Agriculture.

Richard Ashurst employs nine workers year-round and fifteen in summer, including several FFA students. The FFA students work with Bryan constructing and moving shades.

It is during summer months that alfalfa honey, 400,000 pounds of it, is produced as a by-product of alfalfa seed pollination. Pollination earns approximately three times the income that honey does. Mr. Ashurst says, "Pollination covers the expenses. Honey is the profit."

Bryan will graduate in June and hopes to earn his State FFA Degree this year. He will spend the summer working his bees, then begin college in the fall. He plans to major in marketing. After graduation from college, he will be a full-time apiarist, like his father, grandfather, great grandfather and great-great grandfather. ...

You Make It Happen

A series of articles to help FFA members get the most out of life

You Gotta Have Goals

By Zig Ziglar



The dictionary says a goal is an aim or purpose. It's a plan, something you expect to do. I want to convince you, as a member of FFA, wherever you are and whatever you do, you should have goals. J.C. Penney expressed it beautifully when he said, "Give me a stock clerk with a goal, and I will give you a man who will make history. Give me a man without a goal, and I will give you a stock clerk." Everyone should have goals. Mothers should have goals. Salespeople should have goals. Students, laborers, doctors and athletes should have goals.

To stress the necessity of goals, imagine Sir Edmund Hillary, the first man to climb Mount Everest, explaining how he was able to accomplish that feat. Suppose he explained he was just out walking around and one day he just happened to find himself at the top of the tallest mountain in the world! Of course you'd think that was ridiculous — but is it any more ridiculous than you thinking you can accomplish anything significant without specific goals?

Do most people have goals? Well, most people do expect to "make it" in life, but tragically most of these people have never taken the steps to properly set goals for themselves. Statistics show that if you take 100 young men at random and follow them until they are 65 years old, only five of them will have achieved financial security. Only one will be wealthy. A 1953 Yale University study of their graduating seniors discovered that only 3 percent of them had taken all the steps to setting goals. Twenty years later the 3 percent who had taken all the steps had accomplished more than the 97 percent who had not. Do you need goals? I think you can see the answer to that question is absolutely yes!

When you have definite goals you release your own power, and things start happening. Goals, however, are not reached by merely thinking about them. There must be a clear cut plan of action. Jean Nidetch wasn't a doctor or nutritionist, she was just a lady who wanted to

be thin. She successfully lost the weight that she wanted to lose, so she set a goal to help others lose weight. Her obstacle was that she was not a recognized authority in the field of weight control. Jean decided to design a package that conveyed to others that she was just like them, only thinner. She turned her goal into a multi-million dollar business — Weight Watchers — despite the obstacles she faced. Jean Nidetch reached her goal because she had a plan and followed a procedure.

A part of successfully achieving your goals is not only working hard, but also working accurately toward your goal. People who reach great heights of success are those who carefully lay out a definite plan to do so. They not only set a goal, but also establish a course of action to reach that goal.

As a member of FFA, what are your goals? Why are you a member? One of the greatest mistakes you can make now or later in life is to get busy without accomplishing anything through these efforts. Don't be a member, just to be a member. Have specific objectives that you are working toward and put actions to these objectives.

Jean succeeded because she applied a formula to her dream. You can do the same. Here are seven steps you need to take in order to make your dreams realities.

First, identify what you want. Second, clearly spell out why you want to reach that particular goal. Third, list the obstacles that stand between you and your goal. Fourth, identify the growth process — the things you need to now — in order to get to your goal. Fifth, identify the people you need to work with to reach your goal. Sixth, develop a detailed plan of action to reach success. Seventh, set the date that you expect to reach that goal. These seven specific steps will move you from the dreaming stage to the accomplishing stage of your path to success.

A salesman can know all the techniques involved, a halfback can be a fast runner, a mother can have all the answers, but without a goal each one will not climb as high as his or her ability actually allows. What about you? Are you pursuing that deep-down desire of your life? Are you taking the steps necessary to reach the goal of your choice? If you will, then I truly will SEE YOU AT THE TOP!

FFA New Horizons is asking some of the country's top experts in motivation and personal development to share their ideas of how FFA members can achieve their dreams. This new series will cover topics such as handling peer pressure, strengthening your self-esteem and with this article, setting personal goals.

Premiering this series is motivational speaker and author Zig Ziglar, who has spoken at the national FFA convention three times, including the 1990 convention last November.

Happy Campers *(Continued from Page 14)*

between Widrick and the three other ponds. The scenery is breathtaking, but the campers soon find that nature can have a rough edge to it.

The camp's leaders admit the sleeping cabins and other facilities are rustic, but their focus is on the people, not the accommodations. "We're not the Hilton," says assistant director Todd Lighthall, "but we're not here to *be* the Hilton."

The main goal of the camp is to build confidence, pride, self-esteem, responsibility and an appreciation for nature. It is also a chance for FFA members to interact with state officers who conduct leadership workshops.

The campers' days are filled with leadership classes, sporting events, nature workshops, swimming, and many other activities. The schedule can be challenging, especially when talk around the campfire lingers late into the evening. "You're too tired to go on," explains counselor Mary Alden, "but there's too much going on to sleep. There is a chance you would miss something."

Alden is one of the 20 dedicated college-aged counselors, mostly past state officers, who run the entire operation.

She has been coming to camp for 11 years, first as a camper, now a counselor. Alden says that that camp plays a larger role than just being a place to meet friends and run around the woods. "For many kids with a troubled home life, camp is an emotional retreat where they feel loved." She says that about 80 percent of the campers return the next year.

Camping can be a foreign experience for many of the FFA members, especially those from New York City. Advisors say that a common question asked by students when they arrive is "where are all the sidewalks?" One group of campers from the city asked to be taken far away from camp to see the stars, in total darkness — something they had never witnessed before. It was to be one of many new experiences.

The other experience that is even harder to explain is what happens inside themselves. Counselor Alden says, "To survive in the city, you have to protect yourself — be on guard. You wind up building walls that don't come down easily. Camp restores your faith in human beings. It confirms your natural instincts."

Alden says that the success of camp is limited only by the camper's desire to get involved. "Camp is a lot like life. If you

invest little, you get little. If you grab every opportunity with gusto, the rewards are endless. It is all in the individual's attitude." That is the real secret to the legendary "Oswegatchie Magic."

At camp, these FFA members are cut off from their safe, normal circle of friends and comfortable surroundings of home. It's like moving to a new town, only in this town, everybody is new — and that is what brings them together. They have all shared a common, frightful experience and have come out friends. In the end, they come to find out that the magic isn't in the lake or stars or the pines, but in themselves and in the people around them.

So You Want to Go to Camp?

Many state FFA associations operate summer camps for their members. Any FFA member interested in attending summer camp should ask their advisor for information. If there is no summer camp in your state, consider yourself invited to Camp Oswegatchie. Starting in July, the camp runs four to six one-week sessions, depending on demand. Cost for the camp is \$100. For more information, write to: Camp Oswegatchie, c/o FFA New Horizons, P.O. Box 5632, Alexandria, VA, 22309-0160.

People-To-People Marketing *(Continued from Page 17)*

You'll need to have regular hours of operation; allocate your time between labor and marketing; diversify your crops to meet the need for a year-round inventory; comply with building codes and local ordinances; and develop merchandising, advertising, promotional and customer-related skills.

In U-Pick, or Pick-Your-Own operations, the customer comes to the farm, does the harvesting, pays cash for the produce harvested, and transports it home. U-Pick operations are a natural to add to a roadside stand or other types of small-scale farming. By letting your customers do the picking, you lower harvest-labor, shipping, packaging and storage costs. The customer buys peak-of-freshness produce at low-cost, while enjoying a country outing.

Special challenges include a large parking area, potential damage to crops by inexperienced pickers, getting enough pickers to harvest the entire crop, and the need for increased accident and liability insurance.

U-Pick requires top level field management, including customer check-in and check-out. Another challenge is matching volume of produce available for sale with the number of pickers.

Restaurants which feature regional specialties, vegetarian dishes or unique cuisine are good prospects for direct farm sales. Restaurants are willing to pay top dollar to get high-quality, specialty items to add to their menu.

Most restaurants have limited cooler space, however, and require daily delivery. Consider going in with your neighbors so you can offer a wide variety of produce, and set up a small delivery route with several restaurants in one trip.

Retail Outlets: Direct sales to grocery stores can succeed if the farmer has enough

production on a regular basis to provide for the retailers' needs. Farmers must convince the retailer that they will be reliable in supplying quality produce over the harvest season.

If you only like to grow crops, indirect marketing is the way to go. If you like merchandising and dealing with people, however, such as with customers at a farmers market or chefs at a restaurant, or if you have family labor available to help with a farm stand or farmers market, you may prefer a more direct sales route. •••



One must be very quiet around Henry's locker. Loud noises have been known to start an avalanche.

FFA IN ACTION



Four agriscience students examine a project showing the path of water traveling through a community which emphasizes the importance of water quality.

Virginia

Agriscience Fair Attracts Fun Projects

What happens to a fern when watered with Pepsi? What happens when you *don't* eat junk food? These and other fun questions were answered by seventh and eighth grade agriscience students at Frederick County Middle School in Winchester,

Virginia, during their second annual Agriscience Fair, December 7.

The projects are the result of work and planning that started the second week of school when students were asked to come up with an idea for their agriscience project. A list of possible ideas compiled by instructors Tonja Cupp and John Gryder helped the budding agriscientists find an area of interest. Their next step for the students was to outline their idea, write up a report and then construct their project for the fair.

The top three projects in the eighth grade were awarded \$25, \$20 and \$15, respectively, and the top seventh grade project winners received \$20 for first, \$15 for second and \$10 for third. The winner from each grade goes on to compete at the federation (regional) level. The local FFA Alumni sponsors the cash awards. The projects were judged by a science teacher, the high school agriculture teacher and an Alumni member. The awards will be presented at the chapter banquet this spring.

The fair is the high point in an agriscience course that instructor Cupp



Agriscience teacher John Gryder helps seventh and eighth grade students understand how plants are affected when "watered" with different liquids.

says is designed to introduce agriscience to all middle school students. "Through this program, students become aware of, explore and apply science to agriculture, which helps them understand the nature of science and its application in the food and fiber system." Many of the projects are used as the students' first effort at a supervised agricultural experience program. Frederick County Middle School is one of the leaders in Virginia in developing a junior high agriscience program.

Other agriscience fair projects included; how plants grow (or don't grow) in the dark, what happens to plants when connected to batteries, water pollution, a model of water use in a community, over-fertilization of plants, bees and beekeeping and various media (soils) of germination.

Texas

Barn Builders

The Columbus, Texas, FFA is in the planning stages of building a new show arena and remodeling the existing show barns at the FFA fairgrounds. Members have met with county fair officials, four 4-H clubs, FFA Alumni, school board members and several local businesses to get suggestions, labor and financial support.

Plans include expanding the existing show arena by adding a 40' x 60' barn, rebuilding all sheep and hog pens to include room for increased participation and to remodel existing restrooms and storage facilities.

Ohio

Alumni Alliances

The Oak Harbor, Ohio, Chapter has a successful alumni relations program.

The alumni relations committee selects a number of activities which past Oak Harbor FFA members are invited to assist with or participate in with current members. These include helping with chapter activities, providing shop work for students, participating in chapter recreation, selecting seed varieties for the school farm, helping with the chapter award selection process, assisting with sales programs, helping train judging teams, attending the local banquet, attending FFA meetings and providing specialty guest lectures and/or field trips.

(Continued on Page 42)

IF AMERICA ONLY NEEDED ONE LEADER, WE'D PROBABLY BE IN PRETTY GOOD SHAPE . . .

. . . But America, American agriculture and the FFA needs lots and lots of competent and aggressive leaders! No program develops leaders like the FFA Washington Conference Program (WCP).

WCP is a national leadership development conference held each summer in Washington, D.C. The five-day conference is designed to strengthen your skills as a leader in the FFA as well as in your home, school and community!

To reserve your space at WCP, simply complete and return the registration form below or for more information contact the National FFA Center, P.O. Box 15160, Alexandria, VA 22309.

1991 Washington Conference Program Registration Form

Please complete a separate form for each individual attending. Duplicate if necessary.

Male

Female

Please indicate 1st, 2nd, and 3rd choices

___ June 11-15 ___ July 16-20

___ June 18-22 ___ July 23-27

___ June 25-29 ___ July 30-August 3

___ July 9-13

Student (\$395.00 each)

Advisor (double occupancy, \$450.00)

Advisor (single occupancy, \$625.00)

Advisor & Spouse (\$675.00 combined)

— spouse meals not included

Other, please specify _____

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Method of Payment

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Account # _____

Exp. Date _____

Signature _____

Check Enclosed — Made payable to National FFA Organization

FFA IN ACTION

(Continued from Page 40)

Virginia Fair Demonstrators



Jason Pappas won the FFA horticulture demonstration contest at the Virginia State Fair. His topic was "How to Repot, Propagate and Braid an Ornamental Ficus." Contestants gave their presentations in the new horticulture pavilion. Contestants were from chapters throughout the state. Winners in various categories were eligible to go on to the National Junior Horticulture Association competition in Green Bay, Wisconsin, in October.



Joey Reinhardt, Virginia FFA state vice president, congratulated Jason who won first and Robbie Hazelwood who was second. Both are from Lee Davis FFA in Mechanicsville. Their advisor, Carl Mitchell, is in back.

Oklahoma Rambo Regulars

Rambo is the Owasso, Oklahoma, High School mascot. He is actually an 11-year-old Ramboullet ram belonging to Mr. Robert Linder. Four Owasso FFA girls attended to Rambo during the football season and are known as Owasso Ram Rousters.

About six years ago a tradition was started at Owasso when FFA brought the mascot to all home football games, plus to the Homecoming parade, Christmas pa-

rade, and the new Drug Free Rally parade.

The Ram Rousters spend a couple of hours getting Rambo ready for the games and parades—wash, blow dry, card, shear and clip. (Keri La Borde)

New Jersey Pace Setters For Fun

The New Jersey Chapter Officer Leadership Training conference prepares teams for their responsibilities as leaders of chapters as well as encourages them to have fun.

The state theme "New Jersey FFA - Setting the Pace" was a part of each action packed session. Emphasis was placed on positive attitudes, proper image, confidence, teamwork and leadership. Officer teams could compete in mini contests such as opening ceremonies contest during each session. Officers could practice their public speaking by giving pitches or invocations. Chapter officers also served on committees where teamwork and leadership came into play.

Weekend fun included a Halloween dance as well as Halloween Treasure Hunt. The weekend ended on a high note with the Camp Bernie Chapter Banquet. Members were given participation certificates and much deserved awards. Overall the conference was a great learning experience for members from 16 chapters. The conference was planned and conducted by the state officer team. (Sharon Duckworth, State Reporter)

Texas Pride Winning Pets

Elementary school students were invited to enter their pets in the third annual FFA Pet Show organized and sponsored by the wildlife management class members in the Axtell, Texas, FFA Chapter.

Grand champion of the show was "Skittles" owned and shown by Russell Butler and the reserve grand champion was "Binky" owned and shown by Leonard Graham.

Show superintendent was Bobby Bardin. Mike Voss was the clown and Kris Hollingsworth was announcer. Robert Mathis did the classifying and Melissa Montie was secretary. A concession stand was organized by Danny Skains, Frankie Farley and Lanning Hysaw.

Kentucky House On Wheels

The Logan County, Kentucky, FFA Chapter helped promote FFA as part of the annual Logan County Tobacco Festival. The officers each drove a tractor in the parade sponsored by local tractor dealerships; and committee chairman and junior officers road in the back of one of the members' pickups.

After the parade Dan Costellow, Eddie Givens, Brent Hallman, Gary Jenkins and Brian Sitz participated in the outhouse race. Not only did they have to push the



"Home Movers" were, left to right, Brent Hallman, Brian Sitz, Gary Jenkins, Dan Costellow and Eddie Givens.

outhouse down the 50-yard straight stretch of pavement, but halfway through the race the rider had to get out of the outhouse to find a specific page from a Sears catalog and take it with him to the finish line. (Dan Costellow, President)

Illinois Chicago White Sox Get Crabapples

In July, 110 FFA members from the Chicago Ag Science Chapter planted over 100 flowering crabapples alongside the old and new Comiskey Park, home of the Chicago White Sox baseball team.

Mayor Richard M. Daley spoke to the students, planted trees and even had time to take pictures and speak with them.

The event appeared on Chicago's four major television news broadcasts. This is one of the many projects that the Chicago Ag Science Chapter participates in to help make America green. (Latecia Williams, Reporter)

(Continued on Page 44)

(Continued from Page 42)

New Hampshire

Life For the Cemeteries

Members of the Coe-Brown Northwood Academy FFA in New Hampshire are helping clean up and restore area cemeteries that have been abandoned.

The project came to light when local residents expressed concern for the disrepair or neglect in a number of small, out-of-the-way burial grounds.

The FFA identified this as a project to help members use skills learned in agriculture classes. It also ties in the curriculum of other departments because members are planning projects for use in their English, computer and history classes.

For its initial on-site project the chapter chose a small, pre-Civil War cemetery located behind Nottingham's New North Cemetery. The first team of chapter members who conducted a site evaluation identified the location of five tombs surrounded by a fence of granite posts and iron rod rails. Brush and trees were badly overgrown and leaves and debris on the surface were over a foot thick.

After meeting Nottingham Cemetery Superintendent Webb White at the graveyard, the evaluation team decided to remove the brush and debris, repair the fence and to search for indications of other graves. Because of the delicate nature of old headstones and their markings, the FFA opted not to do any cleaning or repair of actual stones until they can receive training and advice from an expert.

On November 2, seven members in the landscape management class equipped with trucks, chain saws and a variety of hand tools began work at the Nottingham site. The trees and brush removed from the site accounted for five truck loads that were hauled to the town dump. Approximately four truck loads of leaves were also removed and placed in refuse piles at the cemetery side. Several containers of old cans, bottles, discarded plastic floral displays and plant pots were also removed.

After the leaves and debris were gone they found evidence of as many as seven other possible grave sites including two apparent children's graves marked by plain field stones placed at the head and foot of the graves. Members used probes they made to gently search for evidence of markers buried further down beneath the accumulated humus of the cemetery's

surface. Two markers were discovered in this manner.

Current plans call for FFA to return in the spring to attend to the actual stones and to replace or repair the iron fence rails. Research will also be carried out to find out any information possible about who was buried at the site.

Washington

Green Production Crew



In recent years the wreath making project of the Walla Walla, Washington, FFA has grown into quite a production. Members gather the greens and set up an assembly line to produce holiday wreaths members sell in their community. This year they made 148 wreaths. (Mike Martin, Advisor)

Arizona

Team Training

While most high school students were out of school on Saturday, October 27, Antelope, Cibola, Kofa and Yuma, Arizona, Chapters began a day of leadership training. The session lasted from 1:00 p.m. to 10:30 p.m. and consisted of six leadership training sessions, dinner and a dance for the 120 members.

The first workshop was presented by

state FFA president Clint McCall, state FFA secretary Cheryl Faulkner and state FFA vice president Shanna Hammock. They spoke on the importance of communicating and trusting one another. Members were asked to trust another member to hammer a nail into a board while they held it.

Communication was demonstrated when one member had to give directions on making a peanut butter and jelly sandwich while Cheryl did exactly what she was told to do.

Developing self-esteem was the message in the skit conducted by the Antelope chapter officers.

Stress and how to handle it is a concern of every high school student today. This was the topic for the workshop put on by Kofa members. The Kofa officers offered a stress rock to squeeze at any time when confronting stress. They also provided telephone numbers to contact.

Dressing to impress and using proper etiquette were discussed by the district officers in their workshop. The workshop opened with the "FFA Love Connection." Shanna Hammock was the hostess for the show, while Holly Sharp was the participant. They video taped dinners with each of Holly's dates. The first "date" took her to a pancake restaurant while he was nervous and scared to speak with Holly. Her second date consisted of a fast food restaurant followed by a football game. He was crude, rude and obnoxious as well as drinking. The guy made a smashing hit with Holly on her third date by having a quiet evening at the Hungry Hunter. As the "show" came to an end, Holly reported on how she got first impressions from each contestant.

Learning to converse with a stranger in hopes of becoming better friends was the theme for the Cibola Chapter workshop.

The final workshop by the Yuma Chapter was about trust and cooperating with others. One activity they used was falling backwards and having a friend catch you, then falling backwards and having a stranger catch you. Cooperation took on a whole new meaning as members were given group projects to perform.

Dinner and dance that night was a great success. There was also a pumpkin carving contest. Everyone walked away with a new friend and a fresh look on life.





MY TURN

Danny Grelher



Danny Grelher

Over Christmas break I was sitting in front of the television and came across a fascinating program. (No, it wasn't my traditional Frosty the Snowman or my absolute favorite starring Rudolph the Rednose Reindeer in search for a home for misfit toys!) It was a documentary special which showed how far we had come in our space program. One of the primary focuses of the program dealt with the Apollo missions to the moon. I have always been fascinated with space and space travel, but this documentary suddenly became very real and important to me. It wasn't because it reminded me of Total Recall of The Return of the Jedi, it made me think about our organization and what had taken place during the "meeting of the minds" at national convention in November.

During one Apollo voyage, an astronaut looked down from the moon to the Earth. As he gazed in awe of the Earth's brilliance he began speaking of its magnificence and beauty. He talked of the purity and wholeness that the Earth possessed, how its waters blended with the land. The clouds shared the sky with the clear blue and there were no signs of division — no signs of sectionalism. No signs of war or strife or aggression. Just a simple peace and tranquility. At that time, he proclaimed, "My, wouldn't it be wonderful if the world was as peaceful and perfect as it appears."

I am excited to say that we FFA members have torn down the walls of section-

alism. We have broken the chains of selfishness.

I was never more impressed with any group as I was with our convention delegates from every state as they tackled the issue of equity in the Fixed 475 amendment. ("All Together Now," December-January, 1990-91). You have set the example for all to follow with your maturity and professional approach in dealing with the most emotional issue of our organization's history!

We have truly become a united organization.

Now, because of our sacrifice and open-mindedness, we have truly become a united organization. We have positioned ourselves to move forward and make progress as an organization. I applaud each of you for your commitment to excellence for you realized that in unity there is strength.

What a lesson for the world to learn! In the midst of operation Desert Shield and the crisis in the Middle East, wouldn't it be wonderful if Saddam Hussein and the rest of the world's leaders together could follow the example that we have made and give a little to save a lot?

As we celebrate National FFA Week, let us remember the example of Washington and Lincoln. Both had a vision for a better, united nation. May we also intensely pursue that dream with bold visions of our own built solidly on loyalty, integrity, and a commitment to excellence! As John F. Kennedy said, "One person can make a difference. Every person should try." You can make it happen!

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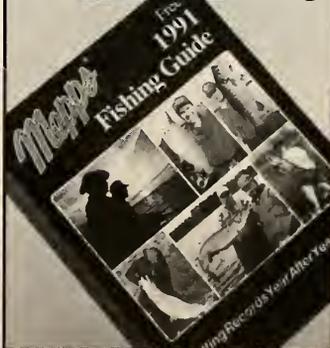


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J O K E P A G E



Teacher: "Students, if I lay two eggs here and three over there, how many will there be all together?"

Voice from the back of the room: "Personally, I don't think you can lay any eggs."

*Tony Hotfil
Milton, Kentucky*



"Now, will the mighty king of the jungle get his eyes examined?"

Chris: "Did you hear about the guy who went to college and made a million dollars off a box of Cherrios?"

Bryan: "No, how did he do it?"

Chris: "He sold them for donut seeds."

*Richard Mitchell
Corsicana, Texas*

Patient: "Dentist, do you do gum work?"

Dentist: "Sure."

Patient: "Good. Can you get this gum off my shoe?"

*Sarah Gray
Stanley, Virginia*

Teacher: "Where did King John sign the Magna Carta?"

Student: "At the bottom."

*Janet Thomas
Stonewall, Mississippi*

Q. Why was the skeleton so lonely at the dance?

A. He had no body to dance with!

*Dan Andrews
Wauneta, Nebraska*

A man joined the monastery where he took a vow of silence. Every ten years he was permitted to speak two words.

The first ten years went by and when asked if he had anything to say he nodded. He was told to speak his piece. "Bed hard"

Another ten years went by and he was asked if he had anything to say. He nodded and said, "Food cold."

The next ten years went by and he was asked again. He answered, "I quit."

He was told, "I don't blame you, you've been complaining the whole time."

*Chris Irons
Jamesville, Virginia*

This summer my five-year-old cousin, Myra, and her six-year-old best friend, Crystal, staged a wedding ceremony in our living room. Myra, playing the priest, was marrying Crystal to an invisible groom.

"Crystal," Myra said solemnly, "Do you take this man for your awfully wedded husband?"

Crystal replied, "I do."

Myra then informed her, "I now unite you in holy macaroni."

*Kristy Pitts
Guage, Kentucky*

Q: Why did the Greenhands run out of ice cubes?

A: The one with the recipe left early.

*Sheri Hayes
Newark, Ohio*

Ricky: "Did you hear about the ship that carried a cargo of yo-yos?"

Joey: "No. What happened?"

Ricky: "It sank 1,001 times."

*Nancy J. Mendoza
Bracketville, Texas*

Charlie, the Greenhand



"I'd like to order a king-sized pepperoni pizza."

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THE BEST-BUILT, BEST-SELLING AMERICAN TRUCKS
ARE BUILT FORD TOUGH.

*1989 New Truck Buyer Study **1990 IntelliChoice Inc., San Jose, CA. Resale cost estimate after five years. Ford F-150 and Chevy C-1500 base models with selected options. Actual resale prices and operating costs may vary.
†"Best-Built" claim based on an average of consumer-reported problems in a series of surveys of all Ford and competitive '81-'90 models designed and built in North America. Sales by Division.

Buckle up—together we can save lives.

**BAIL OUT HERE AND YOU STAND AN EXCELLENT CHANCE
OF GOING NOWHERE.**



So stay in school.

*This message is brought to you by the United States Air Force.
Because we know how far a good education can take you.*

AIM HIGH. AIR FORCE 