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VIRGINIA EXTENSION

THE VIRGINIA COOPERATIVE EXTENSION SERVICE MAGAZINE

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Following
the
Industrial
Rainbow

Virginia Tech Virginia State Virginia's Land-Grant Universities

COMMENTARY



M. R. Geasler

M. R. Geasler
Vice-Provost
Extension Division

(The following is a condensation of an address by Roy Meek, Virginia's delegate to the Council for Agriculture Research, Extension, and Teaching, at the July 13 breakfast for agricultural leaders during Agri-Tech '84 at Virginia Tech.)

About ten years ago, members of the Southwest Virginia Agriculture Association were concerned because they felt that the progress of the Extension, teaching, and research programs at our land-grant college was being hampered by a lack of understanding. This concern, shared by agricultural lay leaders in other states, led to the formation of the Council for Agriculture, Research, Extension, and Teaching (CARET).

CARET's first reason for being is to form a structure in which we can work together to tell the great success story of American agriculture, pointing out that there is more involved than just production agriculture. We want to develop grass-roots programs that meet identified needs. We don't care which of the stool's three legs—Extension, research, or teaching—addresses these needs because we know that if one weakens and breaks, we in agriculture fall on our backsides.

We also must become involved in the budgetary processes that generate funds on the state and national levels. We in CARET must educate others so that those in agriculture can continue to receive the benefits of technology. The future is clouded by a lack of concern by those not directly involved in our business.

We see the development of technology being slowed by the curtailment of research money. Without new technology, there is no way that we can become more efficient. We see positions in our state Department of Agriculture, Extension Service, and colleges of agriculture vacant and frozen because of budget cuts. These cuts seem grossly out of proportion with those involving non-

agricultural agencies. Those who make the noise seem to get more attention than those who contribute the most.

In recent years, an uninformed media has depicted agriculture as a government ward whose hand is out for unlimited funds. No one mentions that media commentary was prepared with energies created by a belly full of food produced and purchased at less than cost.

But the news isn't all bad. We have expertise within an established framework that has made this nation the envy of the world. We are simply at a point where we can scrap it or tap it.

Virginia, through its agricultural colleges at Virginia Tech and Virginia State, has furnished some great leaders in American agriculture. It was in Virginia that organized feeder cattle sales began. It was here that livestock grading began so that small producers could commingle livestock for sale. We were the first to test bulls in off-farm supervised test stations to select for production traits; the first to develop a beef cattle improvement association; and the first to sell livestock by teleauction. We developed the only computer sale, which continues to operate internationally from its headquarters in Christiansburg, Virginia.

Our voices are lost, however, when mixed with those of the many other worthy causes crying for recognition and support. A powerful minority when working together, we in agriculture will become whimpering weaklings if we attempt to go our separate ways.

We don't ask for assistance in getting a government bail-out, but we do ask that you support the land-grant college agricultural research-Extension team so that it will continue educating the people who will provide the new technology. Through our combined efforts, we can strengthen our cry so that it will be heard. That cry is "Give us knowledge and we will feed and clothe you."

VIRGINIA EXTENSION

The Virginia Cooperative Extension Service Magazine

VIRGINIA EXTENSION

Editor

William C. Burseson

Designer

Creed Taylor

Contributing Editor

Harry W. Yeatts

Computer Typesetter

Melinda Shaver

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FRONT COVER

A new plant or an addition to an existing one is the goal of a new community resource development program. See story on page 4. (Photo by D. D. Galyean)



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IN BRIEF

NEWS OF INTEREST FROM ACROSS VIRGINIA



After more than two centuries, Virginia continues to be a model in local government. Last spring, local government and business officials in *Hanover* and *Surry* counties played host to rural development leaders from twenty-four industrialized nations to show them about American rural government and to give them ideas on how to handle rural problems in their countries.

The visitors, who are members of the Organization for Economic Cooperation and Development (OECD), and represent nations in Europe, North America, Australia, and Asia, were guests of the U.S. Department of Agriculture. The delegates visited the two counties under the auspices of Extension's community resource development program.

In *Hanover* County, the delegates learned about economic development in rural areas and toured Kings Dominion amusement park and Bear Island Paper Company—two of the county's major enterprises. In *Surry* County, they focused on agricultural development, hearing about community improvement programs and seeing demonstrations on rural refuse collections, rural emergency medical treatment, and volunteer fire department services.

"We brought the delegates to *Surry* and *Hanover* counties," says *J. Douglas McAlister*, Extension CRD program leader at Virginia Tech, "because we wanted our foreign visitors to see practical examples of

economic and community development—not just hear textbook theory. We also wanted to show working relationships between local government, citizens' groups, and the land-grant university. We really tried to show the visitors how the university and the Extension Service are partners with business and local government."

□

In good weather and bad, women in tennis shoes have been seen hiking all over *Washington* County. All that walking—28,257 miles last year—has resulted in the members of the county's Extension Homemakers clubs receiving their second straight Walk for Life Award from the Governor's Council on Physical Fitness.

The award was presented during the Golden Olympics in *Richmond* to county health education program chairman *Doris Minton* by State Attorney General *Gerald Baliles*. The award is sponsored by Blue Cross/Blue Shield of Virginia.

The members have begun a new program this year. Walks are held in different parts of the county on the first Thursday of each month for anyone wishing to participate. The walks are announced in the news paper, by radio stations, and in the clubs' newsletters. The "Walk for Life" program is part of the Extension Homemakers effort to improve the health of its members and community residents.

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A total of \$7,250 in scholarships was awarded by the Virginia Extension Homemakers Council to fourteen individuals during the group's annual meeting at Virginia Tech.

The \$750 *Maude E. Wallace* Scholarship, named in honor of the woman who served as home demonstration agent and assistant dean of Extension from 1929 to 1938, went to *Stephanie J. Craun* of *Mt. Crawford*.

Seven \$500 *Ella G. Agnew* scholarships, named in honor of the first home demonstration agent in the nation, were awarded to *Joyce Anne Alexander*, *Bland*; *Elizabeth A. Carr*, *Franklin*; *Penny R. Huffman*, *Whitetop*; *Evelyn L. Linn*, *Alexandria*; *Kyong Ho Mun*, *Fairfax*; *Mary K. Robinson*, *Arlington*; and *Dedra Wright*, *St. Paul*.

Six \$500 *Mrs. Guy Roop* scholarships, named in honor of the president of the Virginia group who became the first president of the national organization, were awarded to *Kay V. Adcock*, *Amherst* County; *Barbara J. Fain*, *Reston*; *Judy F. Harlow*, *Falls Church*; *Warlene D. Johnson*, *Rapidan*; *Mary A. Laplace*, *McLean*; and *Betty J. Moore*, *Jonesville*.

□



The Southeast 4-H Educational Center at *Wakefield* has a new eleven-room residence lodge. The lodge, named for *Mr. and Mrs. C.W. Yancey* of *Disputana*, was built at a cost of \$250,000 and will be used by various groups that visit the center and desire overnight accommodations. The lodge is named the Yancey Lodge in honor of the couple whose gift made the structure possible. State Senator *Elmon T. Gray* said at the dedicatory ceremony that "being the outstanding businessman that Yancey is, it is fitting that his name be associated with this building because it will provide the extra margin to make the center self supporting."

□

Four Virginia legislators were recognized during Agri-Tech '84 at Virginia Tech for their distinguished service to Virginia agriculture. Those honored were State Sen. *Howard P. Anderson of Halifax*, Del. *Richard M.*



Bagley of Hampton, Del. *V. Earl Dickinson of Mineral*, and Del. *Alson H. Smith Jr. of Winchester*. They were presented citations by Tech President *William E. Lavery* and College of Agriculture and Life Sciences Dean *James R. Nichols*.

Anderson, as chairman of the Senate Committee on Agriculture, Conservation and Natural Resources and of the Agricultural Opportunities Commission, has been of service to agriculture since he began his legislative career as a delegate in 1958. He has been in the Senate since 1972, and his most recently sponsored action provided additional support for agricultural research. This meant additional funds for the Virginia Agricultural Experiment Station this year.

Bagley, chairman of the House Appropriations Committee, was cited for his leadership in helping Tech receive approval for such projects as the Forest Products Center, farm land for Tidewater, the Animal Sciences Building, the laboratory and greenhouse at the Southern Piedmont Research and Continuing Education Center, the Virginia-Maryland Regional College of Veterinary Medicine, and most recently, 2.5 million dollars for the experiment station.

Dickinson, a former lumber manufacturer and farmer, also supported completion of the Forest Products Center and the 2.5 million-dollar research addendum, as well as other projects that benefitted agriculture.

Smith, who was cited as an "effective advocate of the agricultural interests of his 16th House District, Frederick County, and the City of Winchester," supported a new research laboratory at the Winchester Fruit Research Station. He also helped secure funds for Tech and the Department of Agriculture and Consumer Services to pursue the potential for developing and promoting Virginia wines. He supported the Forest Products Research Center and experiment station funds, as well.

□

James W. Hayes, a Franklin County educator for eighteen years, is the new director of the West Central 4-H Educational Center at Smith Mountain Lake. He and his staff of four full-time employees are working to improve the center's programs and facilities.

Hayes is also active in Boy Scouts and is a football and basketball coach for the Franklin County department of recreation.

□

Some old Extension faces can now be seen in new places. *Clinton V. Turner* has left his district director post in the Northeast District to become administrator of 1890 Extension programs at Virginia State University in *Petersburg*, succeeding *Milton C. Harding*, who has retired. *J. David Barrett* is the new West Central District director in *Roanoke*. He had been acting director since *Wayne M. Keffer* was named program leader for 4-H youth last fall.



□



When National Hospital Week, National Extension Homemakers Week, and National Volunteer Week are in the same seven-day period, it is too good an opportunity to miss. The result: a community health fair sponsored by the *Shenandoah County* Memorial Hospital in *Woodstock* and the county Extension office.

"Health Fair '84—Pathways to Healthful Living" focused attention on health education and tried to educate the public about local health-related services. More than fifty various community agencies, hospital departments and services, and community service organizations—including all eighteen Extension homemakers clubs—had exhibits.

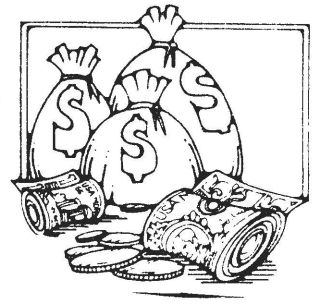
Visitors to the fair could have their blood pressure, hearing, vital capacity, and diabetes tested by medical personnel. This testing proved to be quite worthwhile when it was discovered that forty-five visitors needed to be referred to doctors for further tests or treatment. The most dramatic result of the testing was the finding that one pre-schooler was partially deaf. There also were lectures and films on a variety of subjects ranging from hunter safety to hypertension. An Extension specialist with the U.S. Department of Agriculture, *Ron Daley*, lectured on stress and its relationship to personal effectiveness.

Beverly S. Butterfield, Shenandoah County Extension agent, says that the health fair had a hidden benefit. The meetings that hospital, Extension, and local health personnel held to plan the fair have led to regular meetings involving nine local, state, and federal agencies located within the county. "There is much more cooperation between the local agencies now as a result of the health fair," Butterfield says.

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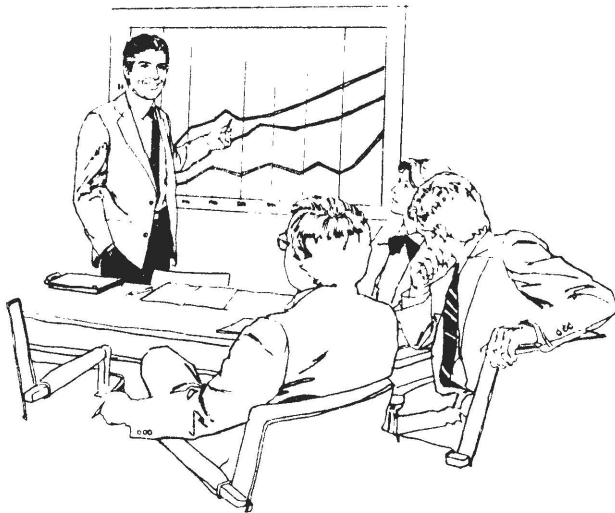
Finding Treasure at Rainbow's End

By William C. Burleson



Each year, more than five thousand agencies, organizations, states and other groups in the United States chase a rainbow that has a \$15-billion treasure at its end. To make certain that Virginia finds its share of the treasure, a program was instituted this year to provide individuals with the right treasure-hunting tools.

The \$15-billion treasure at the end of the rainbow is the amount of money that is spent each year by U.S. industry to locate new plants or to expand existing ones. The program, which is the first to be offered under the banner of the Virginia Institute for Economic Development, supplies individuals with information about how they can aid their communities' industrial development efforts.



In early spring, fifty-two persons, representing planning districts, consulting firms, community colleges, local, state and federal agencies, cities, counties, and towns, gathered in Virginia Tech's Donaldson Brown Center for Continuing Education to begin a series of seminars and lessons that would show them the correct way to conduct an industrial development program in their respective communities.

For ten weeks after the initial seminar, participants completed a series of outside readings and mailed-in lessons. Then, they returned to campus for three more days of seminars and for graduation, at which each received a certificate that established his or her expertise in industrial development.

The participants represented all types of communities. There were persons from cities like Richmond, Danville, and Roanoke as well as from small communities like Bremono Bluff, Monterey and Chase City. Unexpectedly, all fifty-two persons who started the course, completed it. "We really expected some dropouts," says course

coordinator Donald P. Lacy, a Virginia Tech community resource development specialist. "They are busy people, and we thought that some of them would not be able to complete the correspondence lessons and would fall by the wayside. It proves that they wanted the information in the course."

J. Douglas McAlister, Extension program leader in community resource development at Tech, notes that the course, with some improvements, will be offered about every six months for the next two years.

McAlister credits Lawrence P. Johnson Jr., director of community and business services for the Virginia Division of Industrial Development, with coming up with the idea for the program. "Many people felt such a program was needed, but Johnson worked on the idea for three years, getting the necessary support to begin the effort."

For some time, there was a concern about how to get Virginia communities to increase their industrial development efforts, but there was no incentive to do anything about it. Then the commonwealth did something to provide that incentive. It established the Virginia community certification program. Simply put, the certification program outlines certain steps that a community must take to demonstrate its willingness to be included in the state's industrial development effort. If the community does not comply, it will not be considered as a location for an industrial prospect that contacts the state about possibly locating in Virginia. The certification program was the stick that caused many agencies and communities to start looking at the procedures needed for a successful industrial development effort.



It was only natural that the State Division for Industrial Development would turn to Extension's community resource development people and those associated with the Governor's Employment and Training Division. The three agencies have a long history of cooperating on programs designed to help communities across the Old Dominion. And each works independently with many community and business leaders throughout Virginia.

As Tech president William E. Lavery told the opening session of the first seminar, "It is only natural that higher education would be involved in industrial development. Each state college and university campus has faculty expertise that could prove valuable to local business leaders when they are planning a program." He noted that the university has established a position for a person whose primary responsibility will be to help local, regional and state industrial development efforts.



Bob Veith

Virginia Tech president William E. Lavery, left, talks with Scott Eubanks, director of the Virginia Division of Industrial Development, center, and Lawrence P. Johnson Jr., director of the division's community and business services, about progress of state's industrial development program.

McAlister notes that orderly economic development is a topic that concerns all state agencies. "It is recognized that community development in one section may benefit an entire region. By the same token, it may take more resources than available in a single community to achieve the desired economic goals."

Scott Eubanks, director of the state industrial development agency, told the participants that each community should know its strengths and weaknesses and have a plan upon which to build. "With more than five thousand agencies across this nation participating in the hunt for new industrial neighbors, it is imperative that those in Virginia be as prepared as possible. We want to be certain that those communities contacted by an industrial contact are prepared to entertain them."

Lacy says that the program is built upon the proposition that "information reduces uncertainty. Since each community is a collection of unique experiences, historical circumstances, leadership resources, and organizational styles, and since each community has special goals and expectations, we have no magic formula to use in learning what is needed to succeed. It takes hard work."

The first three days of seminars brought forth a parade of educators, government specialists, and practitioners in the art of industrial development to inundate the

participants in a stream of facts and information. The participants were told repeatedly that the community certification program is not a competition between areas.

"The program," says Johnson, "is not a competition but it sets standards that must be met. These standards are not punitive but must be met if a community wants to become a viable candidate for a new industry. Those communities that do not meet those standards would not be considered by a prospect in any circumstances."

"Perhaps the greatest message coming from this program is teamwork," says McAlister. "Just as three agencies work together to present this program, there are many forces in a community that must cooperate in a successful industrial development effort. On the local level, it includes the chambers of commerce, banks, utilities, colleges, regional economic development councils, planning districts, local architects and contractors, and private developers and consultants. They all have parts to play in industrial development."

During their final stay on campus, the participants were able to review their work, ask questions, and receive information that reinforced and emphasized the steps in planning a local industrial development program. Then came graduation time with university provost David P. Roselle presenting the certificates of completion.

Perhaps the greatest compliment to the program may lie within the comments of the participants. Nearly all spoke glowingly about the project which had occupied nearly three months of their time.

"I found myself using much of the information in my day-to-day activities, long before I completed the course," says one participant. "I definitely believe this will allow me to do a better job in helping to prepare a plan for community development. And it will help those with whom I am sharing the material in understanding the procedure and what and why certain things need to be done."

Such remarks as these are very satisfying to those who worked for three years putting the course together--are preparing for the next class this fall. 73



Junius Haskins Jr., right, assistant director of Lynchburg Community Action Group, Inc., accepts certificate from university provost David P. Roselle during a luncheon that followed completion of the course.

IMPACT

DOLLARS AND SENSE FROM EXTENSION

This fall, forty-eight Virginians are learning all aspects of farming by taking a course being developed by the Virginia Cooperative Extension Service. The two-month course is being taught at the Southern Piedmont Research and Continuing Education Center at Blackstone. In the spring, the Nottoway Teaching Farm will begin operating to guide the students through the steps essential to establishing a profitable small farm.

The teaching farm is a joint operation of Extension, the Virginia Department of Corrections, and the Virginia Department of Agriculture and Consumer Services (VDACS).



Wayne Compton, Extension district leader and educational director of the farm, says that the course is aimed at helping limited-income Southside farmers diversify and increase their farm incomes and will use various agricultural programs as information sources. But, Compton says, the course isn't just limited to people in Southside Virginia. "The programs are excellent for anyone wishing to farm but who has limited knowledge of agricultural practices. We start the participants in basic farm resource analysis and take them through the entire course in ten two-per-week sessions."

Session topics include evaluation of farm resources, determining crop-livestock mix, production cycle steps, harvesting, product handling and

preparation, identifying markets, financing, and record keeping.

The site of special small farm demonstration plots to assist in training is an abandoned farm owned by the Virginia Department of Corrections, and Compton says that it needed plenty of work to make it productive again. Thirty acres of the farm are suitable for intensive cultivation, and the remaining one hundred acres will be used for hay, for pasture, and possibly for a Christmas tree and loblolly pine project.

Virginia Extension is developing the educational programs, while VDACS is helping with the funding and procuring of markets for supplemental farm products. Classroom instruction will be conducted at Virginia Tech's Southern Piedmont Research and Continuing Education Center at Blackstone.

Piedmont Hospital is making available its buildings and water system, and the corrections department will provide farm management and prison labor. The prison inmates who work on the farm will thus get a chance to acquire training for entry-level agricultural labor.

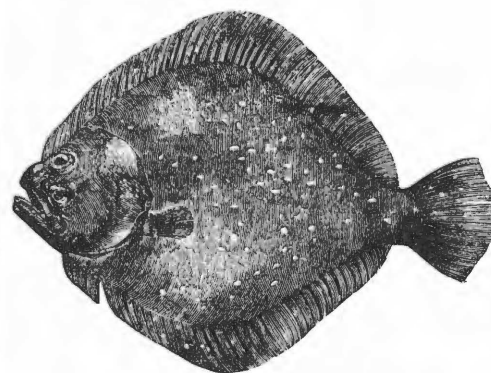
"We hope that the Nottoway Teaching Farm will help small farmers remain a dominant influence on Virginia agriculture," says Compton. "Too many lack the latest management skills and knowledge needed to increase their income. We intend to change that."



The Virginia Graduate Marine Science Consortium, of which Virginia Tech is a member, was designated early this year a sea-grant college program by the U.S. Department of Commerce. College status is the highest in the national sea-grant program and is awarded only to schools that conduct significant research in the area of marine resources.

The consortium, created in 1980, includes the four institutions offering graduate degrees in marine studies—

Tech, the College of William and Mary, Old Dominion University, and the University of Virginia. Consortium members were recognized in a special summer program in Richmond by Governor Charles Robb. Special ceremonies were held later at Tech.



Tech began its first sea-grant project in 1971. Research, Extension, and education efforts were conducted in ocean engineering, food science and technology, and related fields in marine research. The university also edited and published the program's national magazine, *Sea Grant Today*, for five years. The national program began in the 1960s to increase the gainful use of the nation's marine resources. The Virginia program is the twentieth to receive college status.



Virginia agriculture officials are planning a marketing strategy for the sweet, solid cabbage grown in the Blue Ridge Mountains. In not too many months, officials hope that people will drool at the thought of eating "Virginia's Mountain-Grown Cabbage." "We want to play up the idea that because it is mountain grown, there is an optimum combination of day-night temperatures that produces a high-quality cabbage," says Bill Mapp, marketing specialist with the Virginia Department of Agriculture and Consumer Services.



Thomas E. Tabor III, Carroll County Extension agent, says that more than forty farmers are growing about 1,600 acres of cabbage this year. "Our cabbage is real hard, firm, and sweet. What makes it that way is the elevation, rainfall, and the soil. You can cut our heads open and they'll be harder than a rock."

Southwestern Virginia will be established as a production area for cabbage, Mapp says, which means prices will be published twice a week through the U.S. Department of Agriculture's federal-state market news service. As a result, Carroll County prices will be printed in magazines read by buyers and merchandisers. "The wholesale food industry will be able to see how much cabbage is being sold for in Carroll County—whether they could get in the fields and harvest that week or whether it was raining," Mapp says.

Tabor says that officials are working to provide local farmers with daily cabbage prices from throughout the country so they can determine the best time to sell. The farmers are also being educated on how to grade heads according to size.

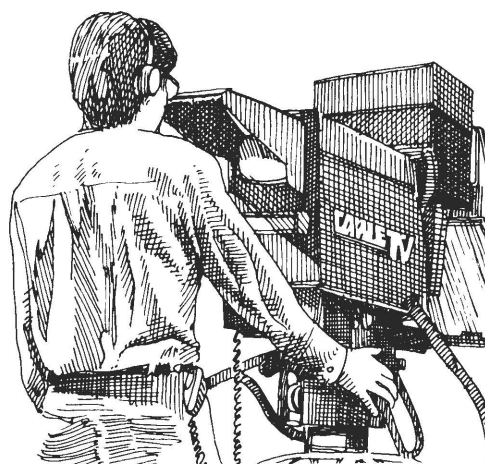
A logo—although not yet adopted by the cabbage growers—has been prepared. It shows a map of Virginia with a large head of cabbage superimposed over the Blue Ridge Mountains near Carroll and Patrick counties. Mapp says that such Virginia produce as Turbeville cantaloupes and Hanover tomatoes have been successfully marketed in part because of their names. And he thinks there may be the same potential for "Virginia Mountain-Grown Cabbage."



Extension's philosophy of continuing the education process by teaching volunteers to teach others is now moving into community television production. The new area is called the video master program.

In the Richmond area and in James City and York counties, home economics agents are working with Continental Cablevision to provide a five-week video production course that includes such subjects as camera techniques, editing, and studio and remote production. The volunteers learn to put together a show that can be used on the public access channel.

Elizabeth D. Pessner, Northeast District consumer education media specialist in Richmond; Denise Shaw, James City County agent; and Ann Wilkins, York County agent, organized the volunteer program in a fashion similar to other Extension "master" programs. The volunteers receive in-depth instruction, and in return promise to create programs for Extension.



The Richmond group finished the course in December and is producing television programs on home economics, horticulture, and 4-H, Pessner says. Another group is starting the training with Storer Cable in Chesterfield County.

The volunteers, who range from fourteen years old to those of retirement age, are interested in learning video production for a variety of reasons. For instance, many participants are using the program primarily to provide a community service, while the younger volunteers want to learn about it as a possible career. One volunteer, a magician, is using the program to improve his act, says one home economics agent.

The results will be Extension programs on cable community access channels that help those individuals who may not have been reached by traditional programs in Extension information.



Halifax area tobacco farmers are pleased over the reception that their first supplemental cash crop, cantaloupes, received from Virginia food stores. Members of the Southside Virginia Produce Cooperative planted seventy-four acres this spring and began marketing their commercial-type cantaloupe in early July.

The move into the commercial cantaloupe market follows the tobacco farmers' successful marketing of broccoli to supermarkets through the 105-member produce cooperative. Last year's thirty-five-acre pilot broccoli project has bloomed into a three-hundred-acre business this year.

The debut of Virginia cantaloupes was enthusiastically received. "Buyers came into the fields to taste the first ones," says Charles O'Dell, Virginia Tech horticulturist.

Halifax County is already noted for its Turbeville cantaloupe, which is grown and sold directly to consumers by county farmers. The cantaloupes being marketed by the Southside Virginia Produce Cooperative are complementing and competing with California shipments to grocery chains.

The cooperative hopes to receive premium prices for both broccoli and cantaloupe.



Profit: Farming's Forgotten Goal

(Editor's Note: The following is a condensation of remarks by H.H. Dickenson Jr., executive vice-president of the American Hereford Association, at Virginia Tech's Animal Industry Day.)

Optimizing production to maximize profits is a concept that is receiving greater emphasis today as the best alternative to profitable operations. While this management concept is important, it is also a very elusive subject to address.

When the Pilgrims came to America, there were an estimated one million Indians occupying the same land we live on today. They were the New World's original farmers, producing corn, squash, peas, and hunting for meat. Those one million Indians spent their entire time obtaining food.

Today, there are just a few more American farmers—about four million. But these four million farmers produce enough food to feed themselves and 220 million other Americans with enough left over to feed one-half of the rest of the world. In the past thirty years alone, technological advances have tremendously accelerated these capabilities. Thirty years ago, one U.S. farmer fed eighteen people. Today, he produces enough to feed seventy people, with a big surplus left for the world trade. The affluence of America is a direct result of the farmer's and stockman's increased productivity.

Since 1950, output per man-hour on the farm has increased three-and-one-half times, compared to only a one-and-one-half increase in industry. There were nearly three times as many farmers in 1950 as there are today. In the animal segment of U.S. agriculture, beef marketed per breeding female has increased by 65 percent. Milk yield per dairy cow has doubled. Eggs laid per hen have increased by 35 percent. Pigs reach market 20 percent younger and 14 percent leaner. And now in 1984, what is the result of this marvelous American agriculture production story?

The result is that a goodly portion of our agriculture is on the brink of bankruptcy. In the midst of a very affluent society, the industry that serves as the basis for this affluence is about to go broke. How can an industry that has expanded production with fewer suppliers get itself in this condition?

We have discovered that increased production is not the road to instant wealth. In fact, it is not even the answer to keeping one's head above water. The bankruptcy case of an Illinois corn farmer is a good example. Every year since 1979, this young man was named the state champion corn producer, logging an average of about 300 bushels per acre. In 1984, he went broke as his production capabilities buried him.



Photos by Bob Velti

H.H. Dickenson says "a goodly portion of our agriculture is on the brink of bankruptcy."

His demise started with what I'll describe as the "internationalization" of American agriculture. Until after World War II, the United States was both isolated and insulated from the world community. Today, the entire world, both east and west, looks to us as the epitome of agricultural technology and production.

In the mid-1960s, when the world was running short of food, a giant export trade came into being for the first time. By 1970, the emphasis in U.S. agriculture was on more production. American farmers and stockmen were told to produce more for this world market. Technological advances went into overdrive and when practical application of that technology was combined with the psychological, political, and economic motivations then evident in agriculture, the production boom that resulted surprised the world.

In 1980, this export demand came to a screeching halt. Since mid-1981, there has been a 25 percent reduction in U.S. agricultural exports. For the first time, we are faced with export competition from nations that just a few years ago were net importers and who are now net exporters due to government subsidy programs that encourage uneconomic production. In addition, the cost of our U.S. government programs has escalated.

It is fair to say that our domestic production has not been able to adjust to this world market situation. While

historically it has been easy to increase production in response to an increase in demand and prices, it's virtually impossible to lower production to be compatible with a reduction in demand and prices. The result of this internationalization of U.S. agriculture has taught us a hard lesson—that simply increasing production is not the road to profitability.

One deterrent to our efforts to optimize production is that we in agriculture are a nation of specialists. Our commodity production is directed by specialists with expertise in a single commodity. One thing specialists are very good at is helping increase production in their respective fields. One thing that they are not particularly good at is helping farmers fit that specific commodity production into a cost-benefit analysis with the rest of their operation.

In the future, farmers will have to do their own homework. They are going to have to make cost-benefit analyses. They are going to have to commit themselves to this management scheme, even if their calves weigh less per head than those of their neighbor. If, in the end, their profit margin keeps them in business, those traditional "braggin' rights" won't seem so important.

How do farmers go about optimizing production in relation to available resources and thus maximizing profits? First, they must determine what their current production costs are. They must consider what their land resources really are in terms of what can be done cheaply. They must analyze their labor situation, its costs and what its capabilities might be. And certainly they must take an objective look at the market in terms of what it will pay for a specific product.

I believe that the livestock industry has devoted a disproportionate amount of time and effort in trying to design livestock programs to capture top market prices.

It is estimated that about 70 percent of livestock production costs are for feed—grass, hay, or grain—and three-fourths of that is for maintenance only. It also is estimated that reproductive traits are five times more important economically than growth traits and ten times more important than carcass traits.

If this is true, shouldn't we have feed resources and forage use as priority items when we make management decisions, and shouldn't our selection be based first on the reproductive traits? Shouldn't we stock our farms with the kind of livestock that makes optimum use of our resources rather than adding costs to increase unit production?

If we turned to an optimal production format, how would it affect some of these production truths we have so long applied? For example, in crossbreeding, the biological relationship says that crossing different types results in production benefits. As a result, crossbreeding is an accepted part of the livestock business.

"Mongrelization," disguised as crossbreeding, has tended to disrupt our market structure and is causing some real problems for producers and feeders alike who have based their management decisions on predictable production costs. The most widely divergent breeds were expected to provide the best cross. This is true if maximum pounds per unit is the goal.

Under a predictable, well-defined management system, I would see some changes in crossbreeding concepts. I would envision crossbreeding using similar rather than very different breeds—similar mature weights, milk production potential, and feed requirements. The resulting product would be what our resources were



Some say that "increased growth and size are directly related to increased profits. But what does this philosophy cost in terms of more feed, reduced carrying capacity, and lower fertility?"

designed to accommodate. The result would be better cost control and a more uniform product that would be more predictable for our priority consumer, the feedlot.

Changes should take place in the way our breed associations think. In the beef cattle industry, we have more than fifty different breeds. For the most part, we have allowed ourselves to pursue the same goals regardless of the variation that exists between breeds. The performance program that is used by a Hereford also applies to the Charolais. Show judges apparently look for the same attributes in an Angus that they use in placing Chianina.

It is time to begin improving and promoting those traits and characteristics that are inherent in our breed rather than trying to make all breeds the same. This would make it easier to utilize breeds in matching genetic production to available resources.

Times have changed. The next decade does not offer much optimism for sustained prices—or for increasing the volume sold. In agriculture, we must concern ourselves with input and output. In the livestock industry, management decisions must be based on total pounds produced from a given base of resources as opposed to pounds of production per animal.

We are seeing a trend on the part of our universities to incorporate the use of the optimum concept in the teaching and research areas. Computer use is still limited, but better software is being developed. Until such computer programs are available for all, a pencil, a hand calculator, and a keen mind are needed components.

Resources are different for each operation. There is no fixed recipe for successful animal productions that is applicable to all operations. The uniqueness of one operation is identified by such variables as forage production, market alternatives, energy costs, different biological types of animals, feed nutrients at various costs, different levels of labor, and many others. These variables and their interactions pose challenges to the producer who needs to combine them into a successful management system.

The key is to produce food at a reasonable profit. It would appear that a farmer's best chance for that is through optimum production. ㊦

PEOPLE

Robin Silver

She Doesn't Horse Around

For as long as Robin Silver can remember, she's been crazy about horses.

"My older brothers accuse me of knowing more about horses than I know about myself," says the nineteen-year-old 4-H'er. "And they're probably right."

The Roanoke County teen does indeed know a lot about horses. She can relate facts ranging from how many pairs of ribs a horse has to how many quarts of liquid a horse's stomach will hold. Her equine expertise encompasses much more than book knowledge, however.

The energetic 4-H'er has owned and cared for horses since she was eleven. A member of the Roanoke County 4-H Light Horse and Pony Club, she has won close to 400 ribbons, medals, trophies, and plaques in horse-related competition.

Some of her more recent honors include being the senior-high individual at the state 4-H horse judging contest and having the top record book in the state horse project. She also has the distinction of being the Roanoke Valley's first 4-H Horsemaster—a title awarded to 4-H'ers who complete a rigorous series of skill and knowledge tests. Silver is only the sixteenth 4-H'er in the state to become a member of this elite group.

"Becoming a Virginia 4-H Horsemaster involved a lot of time and work," says the Vinton resident, "but it was worth it. I learned so much."

One memorable experience for the young horsewoman was the 100-mile trail ride requirement. "I was having trouble finding time to fit the ride in, so I finally just had to make the time," she recalls. Three days and many hours in the saddle later, Robin had completed the requirement. "I didn't



Robin Silver

really start feeling it until near the end," she says, laughing.

That same determination and drive has been evident in many of the teen's accomplishments. Just last year, she realized a life-long dream of opening her own riding stable. After five months of preparation and renovation, Blue Mountain Stables in nearby Franklin County was ready for business.

The 4-H All Star specializes in teaching hunt seat equitation to junior riders. "I really enjoy the challenge of working with younger kids," she says. "I've learned a lot about patience from them."

And her ten students have learned valuable lessons from their instructor as well. "I try to teach more than how to ride a horse. My kids learn about the horse itself—how to saddle it,

groom it, and care for its basic needs," she says. "Too often a kid will come out of a class knowing how to ride a horse, but without any idea of how to care for one."

The horse-loving 4-H'er carried her concerns a step farther when she served as teen leader at the 4-H Horseless Camp held for 4-H'ers and their parents. "Frequently a kid will get a horse and their parents will have no idea of how to help them care for it," she explains. "By educating both the parents and their children, the horse becomes a project they can share and enjoy together."

To help finance her horse projects, the college sophomore works part-time as a sales clerk at The Western Store and raises purebred collies. "I've delivered three generations of collies. I don't think my dogs could have puppies without me being around," she jokes.

Robin has completed both the 4-H dog care project and veterinary science project. "Both projects taught me how to keep happy and healthy animals," she says.

Although this is Robin's last year to participate as a 4-H'er, she plans to remain active in the organization by becoming an adult leader. "I gained knowledge and self-confidence through 4-H," she says. "Everyone has natural talents and 4-H helps develop them to the fullest."

— *Sherrie R. Whaley.*



Robin Silver and Rosie make jumping look easy.

Milton C. Harding

A Man of Many Talents



Harding chats with Louis J. Schiemann Jr., Franklin County Extension agent, left, and Norris B. Bell, director of the Donaldson Brown Center for Continuing Education, during a meeting on the Tech campus.

For Milton C. Harding, 1890 administrator at Virginia State University who retired June 30, there were two influences during his childhood that shaped his adult life—cotton and Extension.

The experience with cotton was a negative one. "I was raised on a limited-income, cotton-peanut farm near Garysburg, N.C.," he recalls. "I decided early in life that I was not going to pick cotton forever. There just had to be something better than that."

The experience with Extension was positive. "I remember Extension agents coming by the farm to talk to my father when I was about ten years old. The Extension agent was a person who I thought knew everything and had my respect. I was convinced that I wanted a career like his so I could help farmers with their problems."

Harding, who worked for Extension for thirty-eight years, calls these his "early motivators." Another event that proved to be very important in shaping the life of the North Carolina

native was the death of his mother when he was a high-school student. "Just before she died, she made me promise that I would complete college," he recalls. "She always wanted me to graduate from college. There was no way that I was going back on my promise to her."

Harding fulfilled his promise in 1943 when he got his B.S. in agriculture at Hampton Institute. Harding graduated into a world at war and after a short stint managing his family farm, he found himself in the Army Air Corps. When he was stationed in Kearney, Nebraska, an army regulation authorizing a discharge from service for persons with agriculture degrees crossed his desk at almost the same time that he discovered an opportunity for a job he wanted. He applied for the job—at Hampton Institute—was referred to Ross Newsome at Virginia State, and got a contract before being discharged in 1946.

Harding was anxious to get about the business of earning a living. His newly accepted position gave him

\$1,800 a year, with an additional \$10 a month for travel expenses. He reported to work in Prince Edward County shortly after his discharge in February 1946. He worked for seventeen months with the Prince Edward agent, J.B. Lancaster.

It was during his stay in Prince Edward County that Harding met an attractive school teacher from Norfolk. When word came that Harding was going to be named an agent in Lunenburg County, he proposed to her. She accepted, and shortly before leaving for his new post in Lunenburg, he and Delores Brown were married.

Almost as soon as Harding and his bride moved to Lunenburg an affection for the community developed that still continues today. Harding smiles as he recalls those early days in Lunenburg. "I was a one-man operation. I handled 4-H, home economics, agriculture, and resource development. I also answered the phone and cleaned the office."

"I quickly learned the value of volunteers. If there had not been so many people willing to volunteer their services to help me get my job done, not much could have been accomplished. The volunteer is a key component of Extension."

His work in Lunenburg taught him about dealing with people, too. "It was a challenging experience, being a young agent and trying to convince those older farmers that you knew what you were talking about," he says. "It was hard for many of them to take the advice of a youngster in his mid-twenties when many were more than twice that old and had been farming for most their lives. That made the experiences that came about when Extension was combined seem easy."

He enjoyed his work with 4-H and still keeps in contact with many of those who came through the program in the 1950s and later. For instance, one former 4-H'er, who now heads a million-dollar business in Massachusetts, wrote him recently to reminisce about old times. Harding feels that through 4-H, he made a contribution to society that is being enlarged by his former charges.

He also sees his mark upon the land of Lunenburg County. He sees many conservation practices being used that he helped put into place. "It wasn't easy convincing many of the farmers. But if you convinced one to



Courtesy of Milton Harding

Milton Harding, right, takes a break during a 1949 field day in Lunenburg County to talk with fellow Extension workers Ross Newsome, state agent, left, and Edward W. Mundie, agricultural engineering specialist.

try something and it worked, it wouldn't be long before his neighbors were doing the same thing."

Idleness is a word that isn't in Harding's vocabulary. He hates having nothing to do. Despite the fact that he was the only agent serving the black community in Lunenburg, and had four young children at home, the North Carolina native decided to try sports officiating. He had played basketball, and baseball and done "a little" boxing at Hampton. Soon, he was a familiar sight at area high-school football, basketball and baseball games. He also found time to officiate college football and basketball games in Virginia and North Carolina.

The pressures of officiating also helped him when the black and white Extension offices were merged and Extension became integrated in 1966. "You had many instances in football and basketball when you were working in a hostile environment. If you let it bother you, you didn't last long. You just shut out the crowd and did your job. You made mistakes, but they were honest ones. That is what you had to do when the two Extension services were merged. You shut out the distractions and did your job."

Harding was used to working with whites, having already begun working with integrated teams of officials on the sports scene. "There were no problems in officiating as long as you did a good job. The same held true in Extension," Harding says.

During this time his four children were growing up, and Harding wanted to do a little more growing himself. This desire to grow led him to get a master's degree from North Carolina State University in 1968 and in later years to do more postgraduate work at Hampton, Cornell University, and Virginia Tech.

In 1970, he was named unit chairman in Lunenburg County, becoming one of the first blacks to reach that post in Virginia. He continued to work with farmers, helping them get the most from their land. "I enjoyed my relationships in the county. The people knew me and I knew them. I know I made a difference. I won their confidence and made some changes that helped them."



Bill Burlinson

Milton C. Harding, left, and J. B. Lancaster remember the seventeen months they worked together in Prince Edward County just after Harding joined Extension in 1946.

Harding decided to retire from officiating when he became unit director. After twenty-seven years, he decided to leave the field to younger people. He also felt that sports officiating might infringe on his Extension duties. He believed that to be successful he had to devote all of his efforts to the job.

In mid-1975, the opportunity arose to become associate director of the Virginia Cooperative Extension Service and administrator of 1890 programs at Virginia State University. He applied, was accepted, and in October resumed his new duties.

"I think I have made some definite contributions to Extension during my nine years here at Virginia State," Harding says. "The overall program is stronger and the relationships between Petersburg and Blacksburg have never been better. A lot of people have contributed to this, but I have done my share to give Virginia a quality Extension program."

He enjoys tinkering with the piano and began taking lessons four years ago. He is often seen at various Extension functions, stroking the keyboard and entertaining his audience. But he generally plays for his own enjoyment. "One of my regrets in life is that I did not listen to my mother when she wanted to teach me piano. She taught my two sisters and it gave me the impression that piano was a girl's skill. You know what crazy ideas boys get."

The Hardings have kept their farm in Lunenburg County and may retire there when Delores retires from her faculty position in the English Department at Virginia State. "I am leaving that to Delores. She packed up and moved with me to Petersburg. I will let her select where we will retire. I have enough interests and minimal talent to keep me from being bored wherever I go," he says smiling.

He and Delores, wherever they live, will have time to visit the children. One daughter, Beverly, lives at home. A second daughter, Carolyn Quinn, lives in Richmond, and a third, Phylcia Smith, lives in New Jersey. Their son, Milton C. Harding Jr., is in the U.S. Army, stationed at Ft. Myer.

Whatever Harding does after retirement, one thing is certain: he will not be bored or inactive. After all, he has that "minimal talent" upon which he can rely.

— William C. Burlinson

Averting Financial Disaster in the Home

By Mary Ann H. Johnson

Garnisheed wages and foreclosed mortgages are not distant nightmares to some people, but impending crises that threaten their very existence.

To help these individuals learn to manage their money, Extension home economists in Alexandria and Prince William County have organized a program in which volunteers teach financial management to those who request it.

The program, which is called the Financial Counseling Service, is a confidential, free, self-help effort organized by Extension. The agents recruit and train the volunteers and place them with those individuals or families in need of the service. The client and the volunteer meet regularly, on a one-to-one basis, and work on the problems and discuss ways to use money more wisely.

The service, which has been in operation for more than a year, currently has thirty-three clients in Prince William County who are being helped by volunteers. In Alexandria, home economics agent Betty J. Adams now has ten volunteers working with twenty clients—with more clients seeking aid. "We see it as a continuing need," says Prince William County agent Marilyn W. Grizzard, who is planning more sessions to train volunteers to act as counselors.

The programs in Prince William and Alexandria differ in some aspects, but each are alike in that they have the same goals.

Before starting the program, the agents did a survey to determine if there was a need for the service. The survey indicated many needed this kind of help, and in all likelihood such a program should be a continuous one.

The amount of money people make has little to do with how skilled they are at money management. "The people who call our office for help have incomes that range from \$18,000 to \$50,000," Grizzard says.



Linda Whitehead, Prince William coordinator, right, confers with Jean Grewe, Extension secretary, who is working as a consultant in the financial management program.



Alexandria coordinator Marsha Schubert talks with a volunteer counselor about a new client.

"Sometimes we find that individuals just need some support...someone on whom they can bounce ideas and who will pat them on the back when they have followed the budget," says volunteer Susan Kelley, who worked at a savings and loan before leaving work to raise a family.

"The help can be very specific," says Grizzard. "For example, one client had a succession of medical problems. The family members didn't know what their medical insurance would or would not cover and, what was worse, they didn't know where they could go to find out the information."

Jim Jones, the volunteer who helped the family members understand their medical insurance and worked with them to establish a budget, says, "They would take the money they had and pay the medical bills of the one who needed help at the time, but wouldn't finish paying previous bills." Jones, a branch administrator with an engineering firm, also does counseling for a social services agency.

In another case, the family had no idea how much was being paid out. Bills were paid as they came but no records were kept. When the money was gone, the next bill wasn't paid. In this case, the volunteer felt successful when the family at least kept the bills together in a folder and began to have an idea of the total amount paid out, says Linda Whitehead, who coordinates the Prince William program with Grizzard. As coordinator, Whitehead, who was a teacher before becoming a full-time homemaker, hears comments about the cases from many of the volunteers.

The coordinator of the Alexandria program, Marsha Schubert, says that it is a constant battle finding the right balance of volunteers and clients. "You don't want to have

more volunteer counselors than clients because they drop from the program when they have nothing to do. Neither do you want to get more people wanting help than you have volunteers to take care of them. Then, potential clients may hear how you don't have enough staff to help them and the counselors get discouraged from being overloaded. You never find the perfect balance but you constantly are working toward it."

Schubert became interested in the volunteer program shortly after moving to the area when she was hunting for something to spell her from her homemaking duties. She started as a counselor but soon became coordinator and her activities have greatly increased since then. She still finds time, however, to occasionally counsel a client and coordinate the other counselors, as well as to work as a high-school special education teacher and a part-time salesperson. "I guess you might say that I am people oriented," she says.

The Financial Counseling Service deals only with individuals and families who seek help, and all the adult members of the household who contribute to the finances must be willing to participate. In addition, the program will not deal with families faced with substance abuse or chronic gambling problems.

The families learn about the program from friends or from newspapers, radio, or television. Agencies working with families about other concerns often will tell those with financial problems about the Extension program. When Grizzard and Adams started the programs in their respective units, they contacted businesses, churches, agencies, and services that would likely deal with persons in financial distress.

At the same time, the agents were getting the word out that they were recruiting volunteer counselors. "We found them in places that generally help people," says Grizzard. "Churches and schools were good recruiting locations." The volunteer training programs the agents conducted not only included information on financial management, but also on such counseling techniques as active listening, problem solving, and behavior modification skills.

"Each family is different," says Jones. "We have to

learn to help each one. For example, one of my clients will do exactly what I suggest—really follow the budget. The next needs a lot of urging, telephone calls, and reminders to stay with it." Many of the clients realize they need help, Kelley says, remembering one client who tore up the family's credit cards before calling the Extension office and asking for help.

The volunteers are well qualified, say the agents. They work in such places as legal and personnel management offices. Some work with financial matters professionally. For instance, one volunteer is a budget officer for a government agency, while another is a budget analyst with the federal government. Another volunteer is a cardiac technician with a rescue squad, and several real estate agents volunteered because they saw the problems some families had when they couldn't budget well enough to buy the home they wanted.

"Though we get a lot of training, we still have a lot to learn," says Jones. "When the client asks a question, you just can't say 'I don't know.' You have to go and find the answer." And the volunteer counselors are very careful to allow their clients to make their own decisions. They don't assume the financial affairs of the families. "Some decisions are not what I would do," says Whitehead. "One family, for example, chose to leave the gas turned off through the summer in an effort to limit its bills until it could get ahead."

Trust, confidentiality, and a willingness to follow a financial plan are vital to the success of the relationship, say the agents and volunteers involved in the program.

The idea of providing financial management is spreading. In Chesterfield County, home economics agent Sandra Henderson is planning to use the same philosophy in a slightly different manner. This fall, she will provide a training program for social services personnel and visiting teachers so that when they encounter individuals and families who need financial counseling, they will have some financial management skills, too.

In either case—with volunteers or with social service workers and teachers—such programs are a way to help individuals in need of financial management skills. 73



Alexandria volunteer Bernie Katz works with a client.



Volunteer Jim Jones prepares to leave work and visit a client after completing a day's work at the office.

INNOVATIONS

RESEARCH TO BENEFIT VIRGINIANS

The idea that the length of daylight affects fall lambing has been reinforced by a second test of artificial daylengths. Keeping Columbia and Columbia-cross ewes in a dark barn for several hours a day is an effective way to get fall lambs. The older ewes that have previously lambed are more likely to become pregnant under controlled daylight.



"We're not sure why the sheep react this way," says Steven Umberger, Tech Extension sheep specialist, "but we recommend that producers who try the photoperiod treatment use sheep that already have lambed. The idea basically is to get sheep to breed by making them think it's fall since sheep normally mate in the fall and lamb in late winter.

By limiting the ewes exposure to daylight to eight hours per day for six weeks, beginning in early spring, producers can stimulate spring breeding. "Fall lambs give farmers more marketing flexibility," Umberger explains. "They can send lambs to market when supplies are low and prices are high. It also allows them to use some fall pasture and save on feed." Farmers who try the controlled daylight method had a ewe pregnancy rate of 50 percent or better.



Virginia farmers appear eager to try no-till forage production, says Harlan E. White, Virginia Tech Extension agronomist. According to his annual survey of no-till seedings in Virginia, the number of acres planted in the Old Dominion have gone from essentially none in 1981 to 9,437 last year.

The annual forage survey of county Extension offices reveals that almost half of the 20,000 acres seeded in alfalfa each year are now seeded by the no-till method. The growth of no-till is also illustrated by the fact that the number of no-till seeders available for use on Virginia farms rose from 83 in 1982 to 244 last year.

White says the rate of no-till seedings of grass and clover for pasture or hay totaled 17,948 acres, as compared to 2,300 in 1982. Those figures, coupled with the 17,779 acres of small grain that were planted no-till last year, shows "a fairly phenomenal acceptance of the new practice."

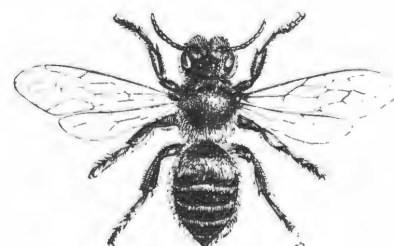


A high-tech system has been developed at Virginia Tech to monitor insect activity and is giving entomologists more information for the control of crop-damaging insects.

John Eaton, associate professor of entomology says, "This is a state-of-the-art piece of equipment that was developed in the department with the assistance of personnel from Tech's computing center." With the system, entomologists can determine what environmental stimuli cause insects to move and play, and thus migrate.

"If we know when they were going to migrate, we could control them better."

Eaton explains that the computer-controlled monitoring system enables researchers to monitor both environmental changes and the activity of as many as thirty-two species of insects. The system allows continuous monitoring for as long as twenty days in simulated environments under controlled laboratory conditions.



Monitoring began with the cabbage looper moth, a pest that feeds on agricultural crops across the United States. The cabbage looper is one of eight species of migrant moths that cause \$105 million in damages each year in the southeastern United States.



By the time late-born thoroughbreds reach the yearling sales in the middle of their second year, they are almost at the same stage of physical development as their brethren who were born a few months earlier.

That is a conclusion gained from a nineteen-month study reported by Virginia Tech graduate student Lauri Goater of Orono, Maine. Other members of the research team are T.N. Meacham, Tech associate professor of animal science; Arden N. Huff, Tech Extension animal scientist; D.R. Notter, associate professor of animal science; W.E. Beal, Tech assistant professor of



animal science; and R.A. Magnusson, former Tech assistant professor of veterinary medicine.

The study involved 260 thoroughbreds at thirteen Virginia horse farms. Bi-monthly measures were obtained from birth to July of the yearling year. The measurements included heart girth, wither and hip height, body length, chest width, knee to ground, cannon bone circumference and body weight as estimated by heart girth. The study found that foals born in the May-June period were bigger at birth and experienced a faster rate of growth during the first 270 days of life than those born in January and February.

In July of the yearling year, differences in these body measures were found less often, and actual differences between the groups were smaller than in January. The project was supported in part by the Virginia Agricultural Foundation.

□

Eliminate the electricity needs for a town of 2,000 households for a year, and you would equal the savings realized by Virginia industries in 1983 as a result of a series of Extension energy management courses.

The 225 industry managers who participated in the courses revealed in a survey that their annual energy budgets totalled \$260 million. Through methods learned in the seminars, most energy managers found that they could reduce budget outlays by 10 percent. This is a remarkable savings since even a 1 percent reduction could mean

spending \$2.6 million less for electricity.

The program has been so successful, it has been expanded nationwide.

□

A new fish-washing process that can extend the shelf life of fish may be available to Virginia seafood processors next year. Normally, fresh fish has a shelf life of four to six days, depending on the species, says George Flick, Virginia Tech Extension food scientist. But the new fish washer can extend this period to between twelve and seventeen days. This could mean new markets and more profits for Virginia seafood processors who seek to tap the Midwest as a greater outlet for fish.

"If a processor now gets a markup of 17 percent, he should be able to get at least an additional 3 percent for a product with a longer life. This means that a firm's profits would go up substantially," Flick says.



Mid-Atlantic producers will have a better idea as to what to do with their cattle—and when to do it—after all the results are in from a two-year study on forage-based, growing-finishing alternatives.

The project involved one hundred head of angus and angus-hereford crosses each year. The cattle were divided into five herds that grazed for half the winter at the two participating Virginia research stations. In February, two herds were sent to the ARS facility in Oklahoma and three herds remained in Virginia. The Oklahoma herds grazed on wheat fields in early spring and traditional warm season perennial pasture during the summer. They then



received the traditional high-grain finishing for market. One Virginia herd received grain while grazing on grass, and the other two were finished with a high corn silage after the grazing season.

After marketing, half of each carcass was electrically stimulated to improve taste. The meat was then sent to USDA's Beltsville, Md., facility for tasting panels to judge. The carcasses of the high-grain Oklahoma beef graded slightly higher than that of the Virginia beef. An economic analysis is being made to determine the effectiveness of each procedure.

When completed, the study will aid producers in deciding about whether to sell the animals as calves, yearlings, or cattle and whether it is best to retain ownership and feed them on the home farm or to ship them west for finishing.

F.P. Horn, location leader at the U.S. Department of Agriculture's Agriculture Research Service in El Reno, Okla., worked on the project with V.G. Allen, Virginia Tech assistant professor of agronomy; D.C. Meyerhoeffer, animal scientist at El Reno; R.C. Hammes Jr., Virginia Tech assistant professor of agronomy at the Virginia Forage Research Station; F.S. McClaugherly, superintendent of the Southwest Virginia Research Station; and J.P. Fontenot, Tech professor of animal science.

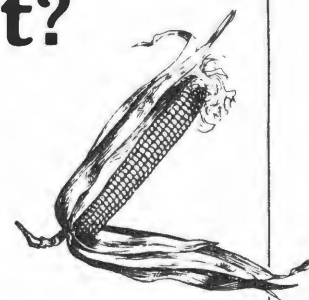
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Missing. Over five tons of unwanted human body weight. Last seen in ten southeastern Virginia counties and cities on 950 people prior to Extension-led weight control programs. Since the programs emphasize modification of weight-gain behavior, much of this weight may never be seen again.

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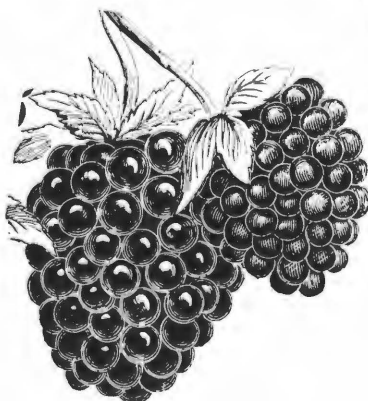
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