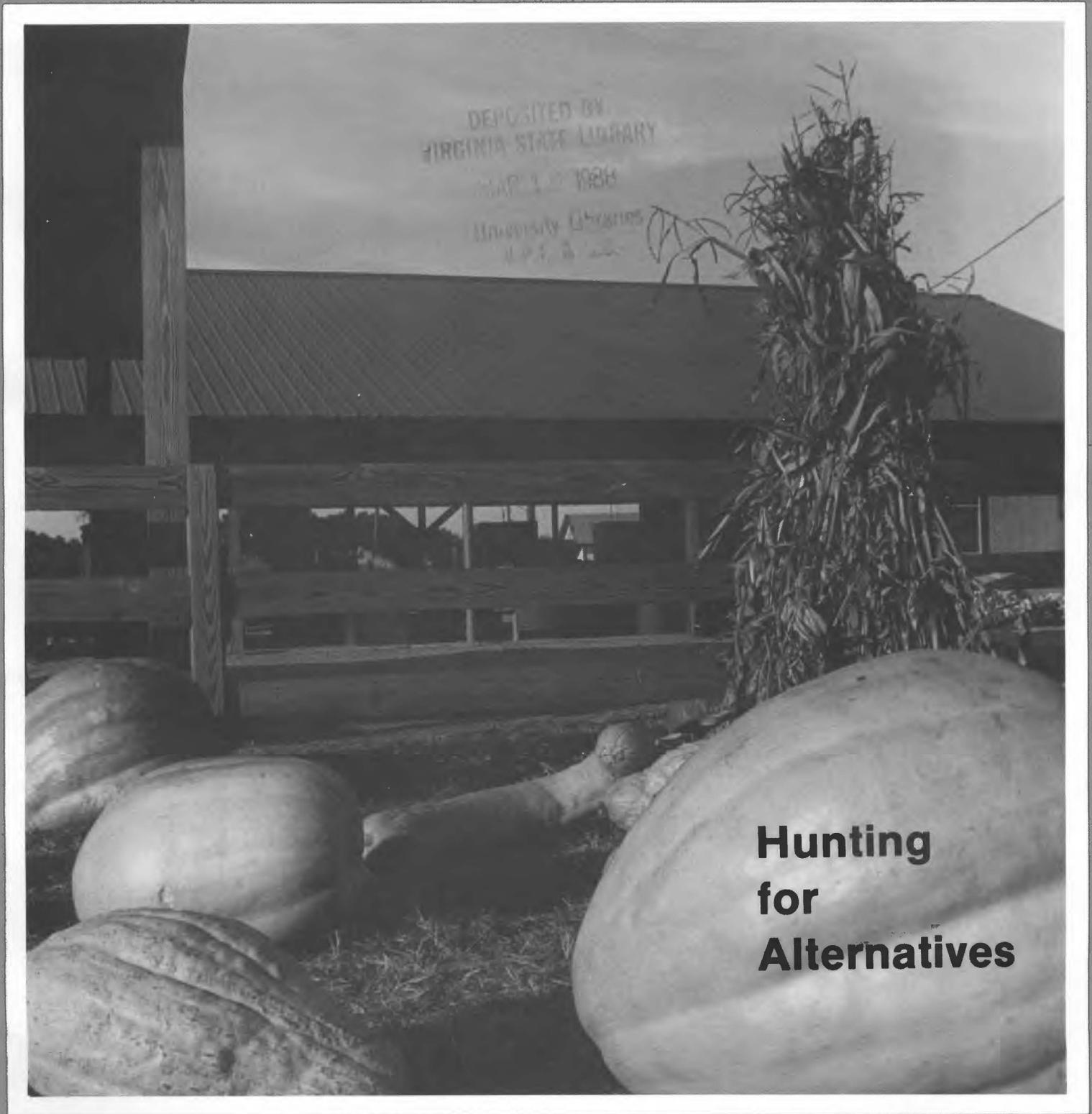


VIRGINIA EXTENSION

THE VIRGINIA COOPERATIVE EXTENSION SERVICE MAGAZINE

Vol. V, No. 4, 1987



**Hunting
for
Alternatives**

COMMENTARY



Mitch Geasler

M. R. Geasler
Vice-Provost
Extension Division

Land-grant Idea Still For All

The Morrill Act passed by Congress in 1862 established the land-grant system and initiated what at that time was a radical change in philosophy in higher education. The assumptions upon which the land-grant philosophy was based were that higher education should be available to the industrial classes; higher education should be practical as well as classical; science should be part of the curriculum; and higher education should be supported by the federal as well as state and local governments.

The basic philosophy of the land-grant system was a sharp deviation from the European classical system. In the late 1800s, only the wealthy had access to higher education. Classical studies were stressed and, for the most part, led the students into the learned professions of law, medicine, and the ministry.

The intent of those who conceived the land-grant system was to design a model of higher education that established "people's" colleges. These colleges would allow the sons and daughters of mechanics and farmers to attend at minimum costs, thereby improving the conditions of life of all the people and supporting the growing industries in the young nation.

Justin Morrill, the author of the land-grant concept, believed that children of the nonwealthy should have as much opportunity to acquire an education as those who had money. Morrill had a first-hand knowledge of the problems of going to college, being the son of a blacksmith.

Philosophically, the change was from educating elite gentlemen in the classical studies to teaching students about how to apply science to the common purposes of life.

This land-grant college legislation called for a system of local institutions that would respond to local needs. A land-grant institution was authorized in each state by the 1862 legislation. In 1890, a comparable system was introduced for the black population living in seg-

regated southern states to assure that the teaching, research, and public service missions of the land-grant system would be applicable to the needs of everyone in each locality.

The land-grant system has undergone many modifications over time. For the most part, it has been only recently that the land-grant university has not been dedicated almost entirely to the sciences with little attention being given to the humanities and the arts. The latter were part of the land-grant education, but only to the extent that they helped meet the basic educational needs of the student.

More recently, the land-grant universities have placed greater emphasis on the need to become comprehensive institutions that emphasize all segments of education. These changes have neither diminished nor degraded the philosophy of the land-grant university. On the contrary, the system has become stronger.

I perceive some strengths and concerns when I apply the land-grant philosophy to the current land-grant university. The Morrill Act established the land-grant system and the Hatch and Smith-Lever Acts subsequently established research and extension at those institutions. Combined, these acts form the foundation of an educational system able to respond to the educational needs of all peoples.

Nowhere in the land-grant philosophy is there a prohibition from becoming a comprehensive university that includes the humanities and the arts. Our concern is, however, that many faculty members at Virginia Tech and similar institutions do not understand this land-grant philosophy.

Those in the university who hold extension appointments continue to be concerned about those "local" needs within the Commonwealth of Virginia and about developing programs to address the concerns of those living in Virginia's communities. Much of the research effort, especially that associated with

(Continued on inside back cover)

VIRGINIA EXTENSION

The Virginia Cooperative Extension Service Magazine

VIRGINIA EXTENSION

Editor

William C. Burleson

Contributing Editor

James N. Cranor

Computer Typesetter

Charlotte Hungate

Pasteup

Melinda Shaver

Virginia Extension magazine (ISSN 0745-7200) is published four times a year (spring, summer, fall, and winter) by Educational Communications' Extension Information Office for the Virginia Cooperative Extension Service at Virginia Polytechnic Institute and State University, Blacksburg, VA, and Virginia State University, Petersburg, VA, in cooperation with the U.S. Department of Agriculture. Second-class postage is paid at Blacksburg, VA 24060.

Editorial Inquiries or Comments: Address to Editor, *Virginia Extension* magazine, 202-C Media Bldg., Virginia Tech, Blacksburg, VA 24061. Other publications are invited to reprint the material in this magazine at any time. Credit is requested.

Circulation Inquiries: Address to Distribution Center, Extension Division, 112 Lansdowne Street, Blacksburg, VA 24060-0512.

Virginia Cooperative Extension Service programs, activities, and employment opportunities are available to all people regardless of race, color, religion, sex, age, national origin, handicap, or political affiliation. An equal opportunity/affirmative action employer. Dr. Paul E. Torgersen, Interim President of Virginia Tech; Dr. Wilbert Greenfield, President of Virginia State; Mitchell R. Geasler, Vice-Provost, Extension Division of Virginia Tech; Clinton V. Turner, Administrator-1890 Extension Programs at Virginia State.

FRONT COVER

Pumpkins are among the crops that provide additional income. Story on page 2 (Photo by Rick Griffiths)



page 2



page 8



page 14

2 Finding Right Niche Can Mean Black Ink

There are many types of products that can help farmers make a profit.

7 Impact

Fescue-clover makes good pasture; no-till reduces soil losses; and more.

8 Study Shows IPM Means \$\$\$ to Producers

National study shows that integrated pest management is making money for producers and agribusinesses.

10 People

Perry Mitchell: An Extension Booster
Catherine Stoltzfus: A Calorie Counter

12 Young Dominions Make Final Curtain Call

Young Dominions in Fauquier County have made their final appearance, ending twelve years of service to 4-H.

13 Innovations

Weed control means more soybeans; sandy soil may hide nutrients; and more.

14 Who's Watching Over the Children??

Providing day-care for the children of employees is an idea whose time has almost arrived.

15 In Brief

The first catfish are harvested at Virginia State; the 4-H Foundation has a new director; and more.

Articles without by-lines are by the editor.

Finding the Right Niche Can Mean Black Ink

By Sherrie Whaley

Five years ago Oakley Farm was a bastion of rural tradition.

Owner George Beals spent his days tending his purebred hogs, planting and harvesting row crops, and tinkering with his farm machinery.

Today, the hogs and row crops have disappeared from the Spotsylvania County farm and tradition has given way to diversification and alternative crops—terms that have become the watchwords of 1980s agriculture.

“I’ve tried to change with the times,” Beals says. For the 37-year-old farmer that meant looking to lower-risk forages and a reworked farm plan to ensure the survival of his family farm. He now sells hay for horses, raises barley and oats, has a small cow-calf herd, and manages timber for firewood sales.

Beals also plans to market his land for recreational purposes. “Hunt clubs, land leases, and open-space use, such as nature trails, will provide economic returns from the land that we love,” he says. “We’ve kept it to ourselves for years, and it’s foolish to think we can continue to sit on it. We’re close to a metropolitan area and the type of open space we have is fast becoming a rare commodity.”



Sherrie Whaley

George Beals is willing to change with the times. He’s planning to market some of his land for recreational purposes.



Rick Griffiths

Health-conscious-consumer demands for leaner meat products have resulted in calves being bred for frame structure, growth, calving ease, and smoothness of muscle.

Such forward thinking is becoming common as Virginia farmers search for ways to supplement shrinking incomes from traditional farm products. Virginia Extension is offering help during this transition period by identifying promising product mixes, researching production techniques, and stressing marketing organization.

“There’s a niche out there for so many things,” says Charlie O’Dell, Extension horticulturist at Tech. “I wouldn’t close the door on anything at this point.”

For example, the rising popularity of fresh fruits and vegetables has created a demand for a wide assortment of produce. Extension professionals, such as Phil Ramsey, are helping farmers take advantage of this new-found enthusiasm. Based in Halifax County, the Extension agent devotes 100 percent of his time to the alternative crop boom.

In cooperation with Tech specialists, Ramsey is conducting research on a wide spectrum of vegetables such as spring greens, Belgian endive, broccoli, cantaloupe, seedless watermelons, gourmet melons, and vine-ripe tomatoes. Oriental vegetables also look promising, he says.

“Bokchoy and snow peas, which are both stir-fry vegetables, looked real good in tests this spring,” he notes. “They grew well in our climate and soils.”

Andy Hankins, Extension’s alternative agriculture



Sherrie Whaley

Wine grapes represent the largest and fastest growing segment of Virginia's infant grape industry.

specialist at Virginia State University in Petersburg, is focusing his efforts on such crops as shiitake mushrooms, herbs, ginseng, aquaculture, and dried flowers. He and other Extension experts are also beginning work on low-input agriculture—growing traditional crops with reduced use of pesticides and commercial fertilizers.

“These new enterprises aren’t for everyone,” Hankins warns. “Often, they will require more time and management than a traditional agricultural enterprise does.” He recommends that Virginia farmers start slow and small when beginning a new venture. “They should know the production risks involved and identify an accessible market,” he says.

For many small or part-time farmers, this market access is obtained by joining a cooperative. “Growers are finally realizing the importance of organizing their marketing efforts,” says Charlie O’Dell. “They are joining together to secure more clout in the marketplace. As this continues, I expect to see even more people turning to alternative crops.”

Because of Virginia’s proximity to East Coast population centers, state growers have a built-in marketing advantage over their western U.S. counterparts and can provide consumers with fresh, high-quality foodstuffs.

A sampling of the specialty enterprises that Virginians are turning to include:

LITE BEEF — Health-conscious consumers are demanding leaner meat products, and enterprising Virginia cattlemen are cashing in on the craze with “lite” beef. “Genetics are being altered slightly, but the real change is that cattle are being sent to slaughter earlier than normal to obtain a lower fat

product,” says Ike Eller, Extension beef specialist at Tech.

SOD FARMING — In the business of “instant lawns”, demand exceeds supply. That’s good news for sod growers like Louis Brooking of Hanover County who has close to 150 acres planted in sod. As the only sod farmer in the Richmond area, most of Brooking’s sod is sold for commercial landscaping. Approximately 20 sod farms are in operation statewide and have about 6,000 acres in production. But, Extension turf specialist Jack Hall warns of a variable sod market: “Demand is tied directly to housing construction.”

GRAPES — Wine grapes are the largest and fastest-growing segment of Virginia’s infant grape industry. Over 1,300 acres are in production and thirty-eight wineries are licensed by the state. “It’s remarkable how much progress has been made in a relatively short amount of time,” says Bruce Zoecklein, Extension enologist; “Virginia has some world-class wines that are comparable to the premium wines produced in California and Europe.”

Table grapes, both seeded and seedless, account for only 100 acres of grape production, says Tony Wolf, Extension grape specialist at the Winchester Agricultural Experiment Station. “It will take major changes in the marketing structure before table grapes can become a viable alternative,” he notes. “A wholesale market would have to be developed.”

PEPPERS — Bell peppers fit well with the part-time farming that is predominant in mountainous southwestern Virginia. The region’s cool climate is conducive to thick-walled, crisp peppers that are



Sherrie Whaley

Peggy Alexander is one of the Virginia herb growers who have developed markets for culinary and fragrant herbs, herb vinegars, teas, seasoning blends, potpourri, herbal honeys, and gift packs.

popular with consumers. The 175 members of the Southwest Virginia Vegetable Growers Association market bell peppers predominantly, and lesser amounts of tomatoes and squash.

Exotic peppers have caught the interest of Extension researchers in central and Southside Virginia. Fifteen different types, ranging from chili peppers and Hungarian peppers to stir-fry and Mexican peppers, will be tested next year as specialists search for the most promising mix for commercial production.

HERBS — The production of both fresh and dried herbs is on the rise in Virginia. Arlington grower Tom De Baggio is among approximately 30 commercial herb growers in the state. While De Baggio sells potted herbs to his urban neighbors, other growers such as Fluvanna County's Peggy Alexander have developed markets for culinary and fragrant herbs, herb vinegars, teas, seasoning blends, potpourri, herbal honeys, wreaths, and gift packs. In 1987, growers formed the Virginia Herb Growers and Marketers Association for additional marketing power.

CHRISTMAS TREES — Floyd County is the undisputed "king" of Christmas trees with more than \$2 million in sales annually. "White pine is the predominant type, but I'm also seeing an increase in spruce, hemlock, and fraser fir," reports Floyd County Extension agent Dave Gardener. Although the biggest concentration is in rural Floyd County,



Ralph Blevins raises Christmas trees in the shadows of lofty Whitetop Mountain, 4,000 feet above sea level.



Bob Veltri

The nursery business is booming in Virginia. There are approximate 450 nurseries across the state.

there are hundreds of Christmas tree growers throughout the state—and the number continues to grow.

GINSENG — In Southwest Virginia, interest in ginseng has been spurred by a reduction in burley tobacco quotas. The valuable plant grows wild in the Appalachian Mountains and, in the wild form, its precious roots bring \$130-160 per pound. A few Virginia growers are cultivating ginseng in small quantities. "Cultivated ginseng brings \$30-40 per pound," says Andy Hankins. "Experienced growers can expect to gross \$70,000 per acre selling both roots and seed." Start-up costs, however, can run as high as \$25,000 per acre.

NURSERY PLANTS — Business is booming in Virginia's nursery industry. Roughly 450 nurseries are successfully marketing azaleas, shade trees, native plants, and container plants. "Between 75-80 percent of all nursery stock sold in Virginia is imported from out-of-state," says Paul Smeal, Extension nursery production specialist. "Not only can growers tap the state market, but they can supply nursery stock from Norfolk to Boston." Drawbacks include a high initial investment and no returns for approximately five years.

ALFALFA SPROUTS — This high-value specialty crop fits in well with the conventional apple orchard and broiler operation owned by Shenandoah County farmers Bob and Robbie Peer. The husband-wife farming team is a major supplier of alfalfa sprouts to grocery chains and restaurants in the Washington, D.C., area. "Sprouts have enabled the Peers to diversify and that seems to be the key to survival on today's small farm," says Ned Conklin, Shenandoah County Extension agent.

BROCCOLI — Broccoli production is on the rebound in Southside Virginia after a 1986 freeze destroyed much of the crop and broke the spirits of tobacco growers who were looking to broccoli for supplemental income. "We learned a lot from that disaster," says Charlie O'Dell. "Spring broccoli is out of the question, and fall broccoli must be harvested no later than November 20 to avoid a killing freeze." Over 800 acres are grown statewide, but the bulk of the commercial crop is marketed by the Southside Virginia Produce Cooperative in Halifax County.



Preston Heath shows off some Washington County broccoli.

SHIITAKE MUSHROOMS — Approximately 200 Virginians are now raising shiitake mushrooms, a nutritious gourmet product that is grown on hardwood logs. Growers who belong to the newly-formed Appalachian Mushroom Growers Cooperative have committed to sell 60,000 pounds of shiitake this spring to a large supermarket chain in the Tidewater area.

MOHAIR — Bill Britt and Charles Geoffin are growing a good “crop” of hair on Britt’s 26-acre Spotsylvania County farm. The two raise Angora goats for mohair, a durable and luxurious fiber in worldwide demand by fashion designers and furniture-makers. The goats are also adapting well to the steep slopes of southwest Virginia. Two flocks are under test in Buchanan County as part of the Powell River Project’s efforts to find new uses for the region’s rough terrain.

YOGURT — Hedgebrook Farm Yogurt in Frederick County is one of many small cottage industries in Virginia taking advantage of the interest in farm-fresh, all-natural foods. Sisters Kitty Nichols and Robin Eddy use Jersey milk from the family dairy



Approximately 200 Virginians are now growing shiitake mushrooms.

Sherrie Whaley

and honey from the Shenandoah Valley in their creamy, Swiss-style yogurt.

AQUACULTURE — Raising fish for food, sport, and bait is a \$2 million business in Virginia. Fish-for-fun ponds are popular in tourist areas, while rural farm ponds are being used to raise caged fish for local needs. Taking the lead in expanding the industry, Extension specialists and researchers at Virginia State University have established 10 ponds as breeding grounds for hybrid striped bass, yellow perch, and other promising species. “The potential for freshwater aquaculture is good because there are nearly 100,000 acres of farm ponds already in existence in the state,” says Virginia State’s Andy Hankins.

BED AND BREAKFAST INNS — The number of bed and breakfast inns scattered throughout Virginia increases steadily as rural Virginians search for additional income. Floyd County’s Brookfield Inn is one of roughly 42 vacation enterprises that are bringing new tourist dollars to rural Virginia.

KIWI — Surprisingly, production of the exotic kiwi fruit is possible in Virginia. While the familiar brown, fuzzy kiwi can be grown only in the Tidewater region, the hardy kiwi (a smaller version with an edible green skin) has potential statewide. Grown on trellises, the kiwi fruit is very productive once established. Virginia Beach blueberry grower Robert Burns has planted kiwi on his farm and is working closely with Virginia Tech specialists at the Hampton Roads Agricultural Experiment Station.

HOME-BASED BUSINESSES — Increasingly, rural Virginians are looking to home-based businesses for extra income. Virginia State Extension specialist Ann Lastovica is helping ensure the success of these ventures by offering seminars expressly for beginning entrepreneurs. “Most entrepreneurs fail simply because they don’t have the necessary management skills,” says the family management specialist. “I introduce them to some of these skills and try to whet their appetites for more information.”

SMALL FRUITS — Strawberries, blueberries, raspberries, blackberries, and other small fruits are in high demand by consumers. Farm-fresh fruit is sold through a finely-tuned marketing system of farmer’s markets, roadside markets, local retail outlets, and pick-your-own farms. Herb Stiles, Extension fruits specialist, expects an increase in

Paul Valeri



Elbridge Busic

Angora goats in Spotsylvania County are supplying mohair.



Bonnie Appleton

Burford holly shows promise as a major holiday green.

wholesale marketing due to recent variety improvements and handling methods that have helped extend the shelf life of small fruits.

SHEEP — The Shenandoah Valley is leading the way in the expansion of sheep and lamb production in Virginia. With steady demand at the meat counter and a stable wool market, sheep has consistently been one of the most profitable livestock enterprises in the state, says Steve Umberger, Extension sheep specialist. "Our sheep and lamb numbers have increased 29 percent since 1985. The outlook continues to be favorable.

HOLLY — Burford holly, a major landscape plant found in the eastern half of Virginia, shows promise as a holiday green, feels Bonnie Appleton, Extension horticulturist at the Hampton Roads Agricultural Experiment Station. "About 99 percent of the cut English holly used by florists and retailers is imported from the west coast," she says. "Our burford holly is more attractive and showy and has better berry production." During the Christmas season, she tests customer acceptance of the holly and hopes to plant Virginia's first holly orchard in 1988.

CAULIFLOWER — A major obstacle to cauliflower production is the lack of a market facility able



Bob Veith

Raising fish for food, sport, and bait is a \$2 million business in the Old Dominion.



Revis Gentry, left, and Hurley Vernon examine their high-bush blueberries in Carroll County. Small fruits have a high consumer demand.

to precool the crop. "The proposed state-supported facility in Carroll County could be a springboard for the industry," says Charlie O'Dell. "Cauliflower is a natural for the cool climate along the Blue Ridge Parkway. Cabbage growers in the region could easily make the switch to cauliflower." A 1988 pilot project will also test the effectiveness of cauliflower in Smyth, Washington, and Wythe counties.

CANTALOUPE AND OTHER MELONS —

Flue-cured tobacco growers are looking to summer cantaloupe as a companion to fall broccoli. Eastern Virginia vegetable growers are also increasing plantings of the tasty melons. Promising research on small icebox and seedless watermelons is also underway by Extension specialists. "We've got to have products flowing into the marketplace year-round," says O'Dell. "By developing good product mixes, this can be accomplished." ☞

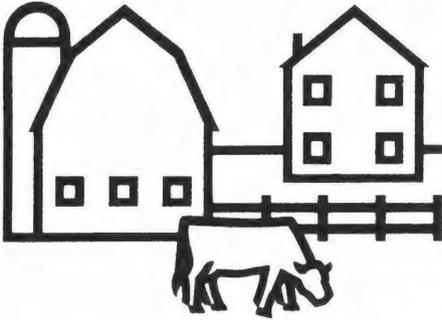


D.D. Galyean

Cantaloupe is proving to be a good supplemental crop in some areas of the state.

IMPACT

DOLLARS AND SENSE FROM EXTENSION



Fescue-clover pastures produce longer grazing and fatter cows says a four-year study of six year-round forage systems for beef cow-calf production.

The study, conducted at Virginia Tech's Middleburg Agricultural Experiment Station, shows little difference in calf gain between pastures of fescue red clover, orchardgrass red clover, or orchardgrass alfalfa maintained for grazing calves, hay harvest, and winter grazing.

But the cows did better on fescue, and it produced longer periods of winter grazing, which saves the farmer from having to harvest hay.

□

No-till or minimum tillage reduces phosphorus, soil, and pesticide losses, thereby reducing the nonpoint pollution potential of farmland. That is a result of a study by a team of Virginia Tech agricultural engineers that conducted the demonstrations on twelve experimental fields under the sponsorship of the Virginia Water Resources Research Center at Tech.

Team leader Saied Mostaghimi says that even on conventionally tilled land, "crop residue from the previous year reduced runoff, soil losses, and phosphorus concentra-

tions." To study runoff, the researchers used a rainfall simulator on six conventionally tilled fields and six that were not tilled.

Compared to conventional tillage, no-till reduced erosion up to 98 percent. A combination of a subsurface injection of fertilizer and a moderate amount of crop residue resulted in the lowest loss of total phosphorus.

The research also raised the question of whether no-till increases the likelihood of groundwater contamination. Concentrations of atrazine and 2,4-D in sediment and atrazine in runoff were higher for no-till than for conventional treatments, but total losses were less. Future projects are expected to examine this problem more closely.

□

The ban of phosphates in detergents is expected to change the laundry habits of Virginians. The ban, which went into effect January 1, is expected to cause consumers to switch from powdered to liquid laundry detergents, say a team of Virginia Tech researchers.

The team, Rebecca Lovingood, Janice Woodard, Irene E. Leech, Dennis Hinkle, and Judy Barber, found that liquid detergents were the most effective in removing soil, especially in hard water. In soft water, liquids were equal to phosphate detergents. Lovingood, Woodard, Leech, and Barber are in the College of Human Resources; Hinkle is in Administrative and Educational Services.

The researchers used home laundry equipment to wash stan-

dard loads with two brands of each type of detergent—those containing phosphates, those with carbonates, and those containing neither. It was the first research of its kind that used Virginia soils and water. Information from the study was used by Extension to develop an educational program for Virginia consumers.



Phosphates cause problems because they increase the phosphorus in sewage by 25 to 30 percent. Conventional sewage treatment methods remove less than 20 percent of the phosphorus, so the remainder goes into streams, lakes, and estuaries to stimulate the growth of algae and rooted aquatic plants. This, in turn, decreases the oxygen in the water and leads to fish kills and other detrimental effects.

□

Study Shows IPM Means \$\$\$ to Producers

By Terry Canup

One of the most outstanding successes in agriculture since the early 1960s is integrated pest management (IPM). Thirty million acres are being influenced by this program, netting farmers more than \$500 million annually while creating another \$400 million for industry.

A national impact study has documented the success of Extension's IPM program. A good IPM program has five major elements—field scouting, biological controls, cultural controls, threshold limits to determine when to treat, and chemical controls when needed.

Perhaps the most striking monument to a successful IPM program is in Eureka, California, where thankful growers erected a bronze statue to honor the success of an imported beetle against a range weed. IPM success stories abound in almost every state.

"Before 1970, many farmers preferred a sterile field concept for pest control," says William A. Allen, an IPM pioneer entomologist who is now assistant director of Extension for agriculture and natural resources. IPM got its impetus in the late 1960s when secretary of agriculture Clifford M. Hardin encouraged pest control that "provided the least potential hazard to man, his animals, wildlife, and other components of the natural environment."

Funding to study alternate pest control soon followed from such sources as the U.S. Department of Agriculture, the Environmental Protection Agency, and the National Science Foundation. Interestingly, the boll weevil, which played such a prominent role in getting Seaman Knapp to develop the Extension concept, was the focus of studies in the 1910s that laid the ground work for IPM.

Dwight Isley, University of Arkansas Entomology professor, studied the biology and ecology of the boll

weevil and used the information to determine how many of the pests comprised a level dangerous to the crop. He developed monitoring and ambushing techniques that promoted the judicious use of insecticides.

Isley trained scouts to monitor insect populations in cotton fields in 1926. His work, however, lay dormant from World War II until the clarion call in the 1960s because of general satisfaction with the scheduled applications of insecticides for pest control.

Isley's principles re-emerged in 1971 when Extension initiated two major pilot programs, one on tobacco in North Carolina and the other on cotton in Arizona. Within the next year, state Extension services began their own projects.

Some gathered data showing IPM was a good economic move for farmers as well as being environmentally sound. By 1982, at least forty-two colleges and universities had developed Extension IPM education projects. Although Extension project leaders had numerous success stories to tell, federal administrators were unable to secure the definitive answer to questions about what was being bought with line-item funding for IPM. The funding was running about seven million dollars a year.

USDA requested proposals to measure the social, economic, and other effects of IPM on clientele groups. A Virginia Tech team won the grant and began immediately coordinating data from fifteen states that conducted case study evaluations of their IPM efforts.

Additional information was obtained by Tech researchers from Extension IPM personnel and private pest management consultants through the use of separate national surveys, covering every state and three territories.

The surveys showed formal Extension IPM



USDA photo

Control of the cereal leaf beetle is now possible, thanks to IPM programs.

programs were in progress on twenty-seven million acres, involved more than 250,000 rural people, and affected forty different commodities.

Information was gathered from Extension clientele by using the case-study approach, a detailed analysis of an individual case using a variety of data collection approaches employed by state researchers.

The case studies indicated that gross revenues and net returns were higher for IPM users than non-users in all but one state where no difference was shown. The better returns, however, were not consistently related to lower pesticide costs; in four states, IPM users had higher pesticide expenditures, but they were more than made up for in economic returns by better yields.

The thirty-two-month study concluded that the forty eight million dollars spent nationwide by the federal government to support IPM between 1973 and 1983 was providing good returns to the agriculture industry. Growers interviewed in this study alone realized fifty-four million dollars in returns each year.

Extrapolated to the fifteen-state, nine-commodity farm segment examined in this study, IPM users experienced an increase in net returns over non-users of over \$578 million per year, the report states. It also estimates that private IPM consultants nationally may be grossing \$400 million each year.



An IPM scout shakes insects onto a cloth for counting.



Virginia Cooperative Extension Service director Mitchell R. Geasler, right, presented the IPM national impact study to USDA Extension administrator Myron D. Johnsrud during a meeting at Virginia Tech.

D.D. Galysian

These figures probably are low; there are IPM programs in most states, and some IPM principles are applied on acreages outside the formal programs. Farmers rated increased yields, improved crop quality, and fewer environmental concerns as major selling points of IPM.

Ninety-four percent of the private IPM consultants began offering pest management advice after 1970. The majority instituted this service after 1980, which indicates they followed Extension's lead. Thirty percent of the firms employed former Extension employees, and most looked to Extension and land-grant universities for help. Seventy percent of these firms did not consider themselves in competition with the Extension Service for clients.

"This report is opening some people's eyes about how much money can be made in the IPM consulting business," Allen says.

The Virginia Tech research team was headed by Edwin G. Rajotte, former Tech research associate who is now an assistant professor of entomology at Pennsylvania State University, and included Allen, Richard F. Kazmierczak Jr., Extension research associate at Tech; George W. Norton, associate professor of agricultural economics; and Michael T. Lambur, Extension specialist in evaluation.

The report includes completed case study reports from California, Georgia, Idaho, Indiana, Kentucky, Maryland, Massachusetts, Mississippi, Montana, Nevada, New York, North Carolina, Oregon, Texas, Virginia, and Washington. 73

PEOPLE

Perry Mitchell

An Extension Booster

Service has always been a big word to Peronneau "Perry" Mitchell. The Chatham resident has spent most of his seventy-two years serving others and trying to improve the community in which he lives.

"I have always felt that you should try and help others," Mitchell says. "When I was a student at Virginia Tech, we were constantly reminded that the University's motto was *Ut Prosim*, 'That I May Serve'. And as a long-time Rotarian, I am well aware that Rotary's motto is 'Service Above Self'. I have tried to live by both these mottoes all of my life."

Although the retired Farm Credit Service manager hasn't limited his service to one specific area, he has devoted a great amount of his personal time working with Extension, especially 4-H. The 4-H Educational Center at Smith Mountain Lake has received a great deal of Mitchell's attention. He has served in a variety of leadership roles, including board member and officer since the facility opened in the early 1960s.

Mitchell was raised on a farm in eastern Bedford County. He attended New London Academy on the Bedford-Campbell County line. This was an association that he has not forgotten, and he frequently attends reunions at the school.

"I was fortunate," Mitchell recalls, "that my grandmother was such a forward looking woman. When she died, she left trust funds to educate her grandchildren. It wasn't much, but it allowed me to



Bill Burleson

Perry Mitchell has a deep interest in history.

enroll in agricultural economics at Virginia Tech in 1933.

A decision to take a communication course in his senior year placed the quiet-spoken Virginian in his life-time job. "I decided to take the communication course that was being taught by E.R. Price, who headed agricultural information. He must have made an impression on Price, for a short time later he recommended the Tech cadet for a position with the then Production Credit Corporation as a trainee.

The recommendation apparently helped as Mitchell found himself working in the Warrenton and Farmville offices of Production Credit (now known as Farm Credit) shortly after graduation. This began an association that was to make Mitchell the person with the second longest association with Farm Credit when he retired

two years ago after forty-eight years.

The only interruption to his career was World War II. As a member of the well-known Darby's Rangers, the forerunners of today's Green Berets, he saw action in North Africa, Italy, France, Norway, and Germany. The men who served in the three ranger battalions still keep in touch. Mitchell hopes to attend one of their annual reunions. He maintained his contact with the military by remaining in the Reserves until 1965 when he retired with the rank of lieutenant colonel.

While a student, Mitchell met the former Frances Seay of Lynchburg on a blind date arranged by his roommate. The two obviously liked each other—they were married four years later. The union, which ended with her death in 1976, resulted in two daughters, Frances Brooks of Tampa, Florida, and Mary Elizabeth Ford of Richmond, and three grandchildren.

Following World War II, Mitchell rejoined Farm Credit and became manager of the Pittsylvania County Farm Credit office in Chatham, a position he held until his retirement in 1985. He derives a great deal of satisfaction from the number of area farmers that he was able to help during the years. It was a job he obviously enjoyed.

Bobby Stump, unit director of the Pittsylvania County Extension office, says Mitchell is one of the county's valuable resources. "He always is ready, willing, and able to help us if we need. And he is a valuable source of advice when we are looking for ways to improve our programs. He has especially helped our agricultural and 4-H programs."

Catherine Stoltzfus

A Calorie Counter

"Diets just don't work if you want to keep the weight off. People who want to lose weight and keep it off have to change their eating habits or they will find that the extra pounds will come back. And the only sound way to lose weight is to do it gradually. If you lose a lot of weight in a short period of time, then the pounds will come back in a short time."

These thoughts are not original to Catherine Stoltzfus of Rileyville, but they express the philosophy that led her to go into the business of helping others control their weight. And the Page County homemaker knows of what she speaks as the changing of her eating behavior helped her shed and keep off twenty-five pounds.

"I always have had to watch my weight," says the forty-five-year-old mother of three. "I am now thirty-five pounds lighter than I was as a teen-ager. I really got interested in working in the area of weight control after I had my third child. I had a great deal of trouble losing weight. I would go on a diet and do pretty good for a week and then break over."

"I enrolled in an Extension program that was designed to help you lose weight through diet modification and exercise and was successful. Needless to say, I had the backing of my entire family. This is very important when you are trying to lose weight," she says. "The Extension program helped me and got me interested in weight control."

She admits that teaching weight control was not in her mind when she and her husband, Omar, got their degrees from Eastern Mennonite College in 1971.

"Omar and I were married before we started to college. We actually met on an Indian reservation in Canada where we were both working for a summer. We started dating and then decided to get married. I wouldn't recommend marriage for everyone before they go to



Bill Burleson Photos

Catherine Stoltzfus likes what she finds in a computer printout.

college, but it has worked for us," she states.

Following graduation, the couple decided to move to Page County where Omar was offered a teaching position. Catherine did some substitute teaching until the eldest child, Randy, was born. That was sixteen years ago and there are two additional Stoltzfus youngsters, Gwen, thirteen, and Karla, ten. After a few years, Omar decided to leave teaching and became a painting contractor.

"In 1980, I started to work for a weight-control firm here. I found that I enjoyed helping people gain control of their weight," Catherine says.

She continued working for the firm for five years and then decided to go into business for herself. "I began questioning some of the dietary recommendations being made by the firm. They did not seem to follow the fundamentals of good nutrition that I had learned from Extension," she says. "I felt that I could not recommend diets with which I did not agree."

And so, in January 1986, Catherine began operating Calorie Control Classes out of her home. To help her understand the problems of business, she took an Extension course on how to operate a home-based business, which she describes as "very helpful". The course, which offers information about bookkeeping, accounting,

and the wise use of available resources, is offered by Virginia State to 500 Virginians each year.

She also has received an added bonus from her teenage son, Randy. "He likes working with our computer," Catherine says. "He likes to work with it for hours. He has put together much of the material used for our mailing lists, class lessons, and designs, and the recipes and artwork used in the cookbook we published. I really don't know what I'd do without him."

She says that her dietary program does not count calories but stresses proper foods and exercise. When they enroll, each of her students sets a goal for the amount of weight to lose and continues to attend the weekly classes until the goal is met. She has used some of the dietary information from Extension's Computer Management Network in putting the program together.

When not working with diets, Catherine likes to garden, because "you are not eating when you are pulling weeds", or sew. A rug on her porch is an indication of her efforts. She braided it from recycled coats and other material. She also likes to visit flea markets to add to her collection of Smith glass in blue and gold.

Or, as Jolene Griffith, Page County Extension agent, says: "Catherine is a perfect example of how Extension can help a person. Our programs got her interested in controlling her own weight and led her to consider working in that area. Then, Extension showed her the business principles needed to operate a business. She shows how Extension can sharpen a person's skills so that they can successfully operate a business."



Catherine Stoltzfus talks with Extension agent Jolene Griffith

Young Dominions Make Final Curtain Call

By Anne Kinneman

Amid the flurry of activity at the State Fair of Virginia this year, Bernice Pearson was giving her full attention to the young man beside her at the piano as he rehearsed his solo.

The Young Dominions were preparing for their twelfth and final year in Youth World at the State Fair. "We started here and we're finishing here, and we think that's appropriate," says Pearson, director of the group.

The Young Dominions are a 4-H follies group from Fauquier County. Members of the group, aged 9-19, sing and dance to state songs, gospel music, country music, songs from the 1950s, and Broadway tunes. Pearson accompanies the group on the piano.

"We started out with fourteen members. The first day they chose the name, their costumes, and arranged for the scholarship program," says Pearson. "They wanted this club to be special and to stand for something."

Although the group is 4-H, they don't take any money from the organization. They earn just enough to cover expenses and their scholarship program. Each year, the group awards a \$1,000 college scholarship to one of its members who is a high school senior. Other seniors in the group receive \$250.

This is the twelfth year that some member of the Pearson family has been in the group. Donna Pearson, Bernice Pearson's youngest daughter, graduated from the group last year. She was the recipient of the group's \$1,000 college scholarship and is now a freshman at Radford University.

Donna remembers when the group first started: "I was 7 then," she says, and too young to be in the group." But Donna would practice in her room while the group was practicing downstairs. Her practice paid off when a member became ill and Donna was allowed to stand in because she knew all the parts by heart.

Pearson says she just doesn't have any choice but to disband the Young Dominions. She has been putting 30-40 hours a week into running the Young Dominions. "But for the last five years, I haven't had that kind of time," she says. Pearson and her husband run their own business, The Pearson Auction Co.

"When we started, not one mother was working," she says. Now it is difficult for the group to find adults who have time to volunteer. "It's going to stop being as it is," she says.

"I've had two children in the group," says Sarah Lee Armstrong. "It was the best experience they could have had." Her oldest daughter is a graduate of Radford University and is now a public health nurse. "It is a good program, it gives (the members) poise, confidence, and a good self-image," she says.



Bob Veltre

Missy Marsh, an eighth grader at Cedar Lee Junior High in Fauquier, has been in the group since she was 9 years old. Her older sister, Leslie, was in the group when it was first started. "You get to go to different places and meet a lot of nice people," Marsh says of the group.

"I've been in about four years now," says Craig Heflin, a student at Cedar Hills Junior High, "I like the singing and everything we do."

Many of the same people come every year to see the Young Dominions perform at the State Fair. Russell Staples of Richmond has been coming for twelve years. "You almost think you're living with them like a family," he says. "I remember them, how they came through."

Several years ago, Staples was in the hospital during the time of the fair. Since he is such a Young Dominions fan, his friends taped the group and brought the tapes to him in the hospital. He hasn't missed a state fair show since then.

When the group was formed, it was the first of its kind. "In 1975, 4-H wanted a performing arts program. My older daughter, Kelly, and her friend thought it would be neat to have a follies group and asked if I would help them," Pearson says.

Pearson says she will miss coming to the State Fair of Virginia with the group. "This is home to us," she says. "We helped build this stage. The Young Dominions were always here on the first Saturday of the Fair."

"My favorite line is 'One more time,'" Pearson says. In rehearsal, the group would be ready to call it quits and Pearson would utter her famous line.

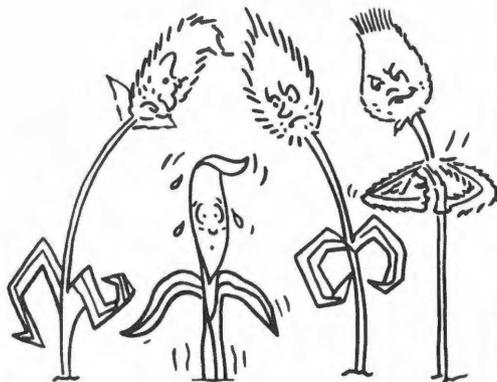
"They'll groan, but they'll do it. They're used to it."

Maybe Pearson will take her own advice. ☞

Anne Kinneman is a senior in Communications at Virginia Commonwealth University. She is a Richmond native.

INNOVATIONS

RESEARCH TO BENEFIT VIRGINIANS



Soybeans rank second only to tobacco as a cash crop to Virginia farmers, producing a gross income of between \$90 and \$100 million each year. It could be even higher if there were better control of weeds.

To help Virginia farmers realize the full potential of their soybean plantings, Virginia Tech researchers constantly search for new and better weed control techniques. Last spring, Scott Hagood, Extension weed scientist, planted more than 1,300 experimental plots with the major weeds that infest soybeans.

These research plots at Tech were planted with morning glory species, velvetleaf, jimsonweed, common lambsquarter, pigweed, and fall panicum. Both pre-emergent and post-emergent herbicides are being tested on these weeds. Following these tests, local testing will be done across the state. Hagood notes that the tests will provide Extension with the answers to many of the questions it is receiving about various herbicides. Hagood says the test data will go into the Virginia pest management recommendations.

□

Buried beneath the surface of southeastern Virginia's sandy soils are nutrients that can save farmers money they normally would spend on fertilizers, says Stephen J. Donohue, Virginia Tech Extension agronomist.

Although most soil samples show low to medium quantities of potassium and magnesium in coastal soils, these valuable plant nutrients may still be within reach of plants. The nutrients may have settled as much as twenty inches below the surface in the clay subsoil.

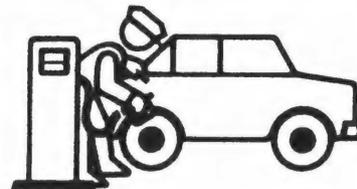
Because potassium and magnesium sink through sandy surfaces to clay subsoil, a subsoil sample could save a farmer between three and eighteen dollars an acre, depending on the recommendations for fertilizers to correct topsoil deficiencies. The subsoil test provides information for adjusting the topsoil fertilizer recommendations.

To collect samples, fields must be divided into uniform areas that are no larger than ten acres. Between two and five subsoil cores are then taken per acre. Donohue says the coring tube should be inserted in the ground to plow depth, then withdrawn; the top soil it contains should be removed and kept separate. Then, the empty coring tube is reinserted into the original hole until the top of the clay layer is reached.

The coring tube is then pushed into the clay layer and a three-to-four-inch core is removed. This is the subsoil sample. When sending this sample to the Virginia Tech soil testing and plant analysis lab, the farmer should note on the submission form that this is a "subsoil sample", Donohue concludes.

□

Virginia Tech and Dow Chemical Company have joined forces to develop a new molecular sieve that allows more gallons of gasoline to be extracted from barrels of oil. The sieve, which can be used as a catalyst and to separate molecules, also may be a key to the development of new chemical reactions. The sieve was developed by Mark Davis, associate professor of chemical engineering at Virginia Tech, and Juan Garces, chief scientist for Dow.



Davis explains that by using the sieve as a catalyst, the oil industry may be able to transform larger molecules of oil into smaller molecules of gasoline through a process called catalytic cracking. Previous sieves would not allow scientists to isolate any molecule of oil that was larger than eight angstroms.

The Davis-Garces sieve, which has openings of thirteen to fourteen angstroms, should allow a much larger percentage of gasoline to be obtained from one barrel of oil. This new material represents about a seventy-five percent increase in the size of the molecular pores: "A tremendous jump in the technology," says Davis. He added that other uses may include the separation and purification of biological compounds.

And, naturally enough, the new molecular sieve carries the name VPI-5. The five represents the fifth new material to be synthesized in Davis' lab.

□

Who's Watching Over the Children??

By Mary Ann Johnson

During the past decade, in increasing numbers, mothers of young children have taken jobs outside their homes. For many of these women, day-care for their children is a necessity. But, finding acceptable day-care is difficult. There are only about 60,000 slots available in licensed day-care facilities for an estimated 600,000 children who need this form of care, according to a report titled "On Behalf of Virginia's Children".

The pressures on these families to find acceptable, affordable day-care for their youngsters has created a demand for day-care facilities at the work place. Some businesses and industries have made positive moves to help their workers, realizing they have a stake in their employees' peace of mind.

"Employers realize that many of their workers have the welfare of their children on their minds," says Valya T. Vincell, Virginia Tech Extension specialist in child development. In some businesses and industries, the telephone lines are very busy during the period right after school as children check in with their parents and parents call to be sure their children are safe at home.

Knowing that production is probably decreased at that time has caused a few businesses and industries to respond. They have provided within their work places day-care for employees' children. This has given the employee-parents the peace of mind that makes them more productive workers.

The trend toward having a corporate day-care facility is growing in Northern Virginia, says Vincell. Some very large firms are providing day-care facilities for employees' children. Others use a voucher system to cover part of the cost of day-care. Some include day-care as a benefit that interested employees can select from among other offerings.

An article in the Washington Post says, "Companies can save from \$2 to \$20 for every dollar spent for child-care because of tax benefits, reduced absenteeism and turnover, higher productivity, better worker morale, and better recruitment."

But the demand for quality day-care is not coming close to being filled, Vincell says. Many businesses still take the view that it is not profitable for them to add such a service or benefit. They feel it is the parents' concern, and not theirs, she says. But the need persists, and, as a consequence, many parents are finding child-care in private homes.

In Virginia, the law allows individuals to care for up to five children, other than their own, in their own home. These persons can turn to the Virginia Cooperative Extension Service for help with the



The need for day-care is not expected to diminish.

business aspects of day-care, and for help with child development concerns too.

The first step in providing this assistance is a day-long program aimed at individuals who either provide or are planning to provide day-care in their homes. The program provides information that helps day-care providers learn about such business aspects as taxes, forms, legal considerations, insurance, accounting, and the other things they need to know to start and operate a successful business.

The program also helps the participants understand children. In segments on child development, they get information about how children grow and learn. For example, working with Virginia Tech dietician Ann Hertzler, they learn that two-year-old children have just developed their large motor skills. Hertzler's nutrition suggestions include the tots using these skills by wiping off tables after snacks. The value of sandboxes and water tables is that they help youngsters learn about shapes and sizes. By pouring from a big, fat can into a tall skinny can, they learn the two hold almost the same amounts.

How to use this kind of information to plan the day-care curriculum so that children will benefit from this experience is a part of the Virginia Extension program.

"The need for day-care is growing," says Vincell. "We have been working with the corporations with some success. In some of the new apartment complexes, developers are planning space for day-care centers for tenants.

"The larger numbers of children are being cared for in private homes. If we can help these individuals to both stay in business and provide a nurturing atmosphere for the children, Virginia will be the better for it," Vincell says. ☐

IN BRIEF

NEWS OF INTEREST FROM ACROSS VIRGINIA



Gov. Gerald Baliles

Virginia State University celebrated its first harvest of catfish by having a fish fry for Governor *Gerald L. Baliles* and members of the Virginia General Assembly. The catfish served were raised in cages in a farm pond at VSU's Randolph Farm in Ettrick, *Chesterfield County*.

Virginia State has been involved in fresh-water fish farming for nearly two years. Its facilities include twenty one-eighth-acre ponds that are stocked with experimental fish and a two-acre farm pond that is being used for caged-fish research. An additional twenty one-quarter-acre ponds are scheduled to be built in the coming year. Renovated laboratories are also planned so that controlled studies can be conducted in tanks and aquariums.

State's research specialist Scott Newton showed the 150 state representatives and other dignitaries how the fish are cared for and harvested at the farm. The tour included a close look at the hybrid striped bass, a species that the state task force on aquaculture identifies as having the most potential in Virginia.

The research, much of which has been supported by the U.S. Depart-

ment of Agriculture (USDA), includes evaluating winter production of rainbow trout in farm ponds, channel catfish, crawfish, and the hybrid striped bass. Officials also hope to look into other aspects of aquaculture as funding becomes available.

Baliles, House Speaker A.L. Philpott, Senate Finance Committee Chairman Hunter B. Andrews, and State Sen. Elmon T. Gray of Waverly told the gathering that the state would support the aquaculture program. The university also got promises of further support from McKinley Mayes, coordinator of 1890 programs for the USDA.

□

Virginia Extension was well represented when the 61 state winners in the Take Pride in America Program were announced in Richmond by first lady Jeannie P. Baliles. Winning first place honors were the *Nottoway County 4-H Program* and the *Bermuda Run 4-H Ecology Club* in *Chesterfield County*.

The Nottoway program was recognized for its work in building a nature trail at Ft. Pickett while the Bermuda Run club was honored for its ecology efforts in its locality. The *4-H History Club* in Virginia Beach received an honorable mention.

Also getting honorable mention were the *Warren County Master Gardeners* and the *York County Master Gardeners*. Both were cited for their efforts at beautifying their respective locales.

It was estimated that Extension played roles in about half of the awards that were presented. Many of the programs were cooperative efforts that enlisted assistance from several agencies in a locality.

The entries that were judged winners were forwarded to Wash-

ington for judging on the national level. This is the second year for the program. The Take Pride in America program is a nationwide effort aimed at preserving public lands and the natural and cultural resources in the United States.

□



Wayne Garst

A long-time veteran of Extension 4-H activities is now heading the Virginia 4-H Foundation at Virginia Tech. *C. Wayne Garst* of *Windsor*, Extension leader for 4-H activities in the Southeast Extension District, succeeded Thomas E. Walker who accepted a development position in Washington, D.C.

Born in Roanoke, Garst joined Extension as an assistant county agent in Bedford County shortly after his graduation from Tech in 1961. He also holds a master's degree in agricultural economics from Tech. He has worked as an assistant county agent in farm management, a unit chairman, district program leader, and Extension leader prior to assuming his new position.

□



Mitchell Geasler

Virginia was an outstanding host when more than 500 master gardeners convened this fall in Washington, D.C., for their first national conference. Virginia Extension co-hosted the meeting with the University of the District of Columbia Extension Service.

Diane Relf, Tech Extension horticulturist, co-chaired the conference steering committee and presented a lecture. Also appearing on the program were horticulture department head Thomas A. Fretz and faculty members Robert Lyons and Robert McDuffie.

Mitchell R. Geasler, director of the Virginia Cooperative Extension Service, was co-host at a special tree-planting ceremony on the Capitol grounds at a new mini-arboretum next to the U.S. Botanical Conservatory. A Douglas fir was planted as a permanent reminder of the master gardener movement and the first national conference. The conference also conferred the designation of honorary master gardeners on U.S. Rep. Jamie L. Whitten of Mississippi and Sen. Mark Hatfield of Oregon.

There are 15,000 master gardeners in the United States. To be a member, a person must agree to devote forty hours of volunteer assistance in horticulture in exchange for forty hours of horticultural instruction.

□

Twelve persons completed the first Virginia rural leadership development program. The two-

year program, supported in part by a \$200,000 grant from the W.K. Kellogg Foundation, is now in its second session and is looking for participants for the third class.

The members, who received certificates of achievement for completing the two-year course in ceremonies at Virginia State University, are Martha M. Myer, Clarke County; Van H. Petty, Cumberland County; Randall F. Shank, King William County; Janet M. Mitchell, Henry County; Richard L. Turner, Isle of Wight County; Denise W. Bland, Northampton County; Julia C. Bagwell, South Boston; Brenda J. Olafsen, Culpeper County; David K. Hauslohner, Grayson County; Stephen G. Meeks, Albemarle County; Daniel T. Payne, Rockingham County; and Michael W. Beahm, Botetourt County.

The class members participated in fifteen three-day seminars in twelve Virginia localities, a five-day session in Richmond when the General Assembly was in session, and a ten-day educational tour through Indiana, Illinois, Wisconsin, and Michigan. The program is being conducted by the Virginia Cooperative Extension Service.

□

Four Virginia educators were among a state delegation visiting Israel in the fall to study irrigation, water management, and fertigation—the process of using water to add chemicals to the soil. Extension agents J. Fred Diem of Northampton County and Larry L. McPeters of Halifax County, B. Blake Ross, Virginia Tech Extension agricultural engineer, and Susan “Rikki” Sterrett, horticulturist at the Eastern Shore Agricultural Experiment Station at Painter, accompanied four Virginia producers and four state agency representatives on the tour.

The group saw a cross section of water-related experiments and exchanged ideas about agriculture. The tour was under the auspices of the Virginia-Israel Commission.

The Virginia producers on the tour were Bobbie Conner, Nathalie, tobacco and broccoli grower; Charlie Parkerson, Suffolk, nursery producer; Louis Walker, Dinwiddie

County, grain farmer; and Paul Saunders, Piney River.

The commission was created in May 1986 by Governor Gerald Baliles to promote the exchange of technology and ideas. Virginia Extension director Mitchell R. Geasler heads the agricultural committee of the commission.

□



Rhoda Maddox

Virginia was well represented in Chicago when the honors were passed out at the annual 4-H Congress. Honored were a 4-H alumna and five 4-H'ers.

Rhoda Maddox of Winchester was one of eight former 4-H members who received the Gold Key Award. A nine-year 4-H member from Frederick County, she has served 4-H and Extension in a variety of ways over the years.

Receiving \$1,000 scholarships in recognition of their outstanding work in different program areas were Beth Lamb of Damascus, Sara Leffel of Eagle Rock, Janet Phibbs of Glade Spring, Patti Roudabush of Mount Solon, and Billy Vaughan of Virginia Beach. Lamb's recognition came in the clothing project while Leffel was named for her food-nutrition work. The consumer education project attracted Phibbs while Roudabush worked on the dairy project. Vaughan was one of six national winners in the swine project.

□

COMMENTARY continued

the Virginia Agricultural Experiment Station, is directed toward the needs of Virginians. To some degree, a similar level of concern needs to be incorporated in the minds of all faculty of the land-grant university.

Each segment of the land-grant university needs to think in terms of the two basic clientele groups it is meant to serve. First and foremost is the on-campus student population. Second is the off-campus population of the state who need the benefits provided by the academic disciplines. The latter obligation is not found at those public institutions that are outside the land-grant system.

For example, a faculty member in the biology department must be concerned about teaching resident students and about research related to that discipline. In addition, the biology faculty at a land-grant university finds practicing biologists across the state to be among their clientele. This client group might include biologists who work in industry or government, or those who teach in the public schools.

Who can better keep this group of Virginians abreast of the continuing changes in the biological field than the land-grant university faculty? I might cite similar examples for faculty in chemistry, business, music, art, electrical engineering, and architecture.

We have grown to think that all "public service" performed by representatives of the land-grant university comes under the responsibility of the Cooperative Extension System and, to a large extent, this is true.

Much more could be done, however, if each department of a university would define who

their appropriate public service clients are and then would develop strategies to reach them. As a land-grant university, it is important that all three missions be considered when promotion and tenure decisions are being made. That which is evaluated as "public service" should be activities that meet the needs of the citizens of the Commonwealth, not just those served by a local community activity.

Virginia Tech presently is going through a period of significant transition. The change in leadership has the potential for making a positive impact. The land-grant philosophy of this university that has served the Commonwealth so well in the past can continue to do so in the future.

The state recently has placed emphasis on applying research through the quick dissemination of resulting useful information. That is exactly what the Virginia Cooperative Extension Service has been about for nearly seventy-five years. It has been disseminating useful information that primarily has come from the colleges of Agriculture and Life Sciences, Human Resources, and Veterinary Medicine.

That same emphasis is needed throughout the university if we are to support the goals of the Commonwealth. We in the Extension Division encourage the leadership at Virginia Tech to build on the strengths provided by our tripartite mission. Virginia Tech can and should stand proud as one of the premier land-grant universities in the nation. Those of us associated with it should look forward to a future which will build on that tradition.

VIRGINIA EXTENSION
Extension Division, Virginia Tech
Blacksburg, Virginia 24061
3579 Requested

2nd class postage paid
at Blacksburg, Va. 24061