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THE INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES MAGAZINE

VOLUME 25 NUMBER 1 SUMMER 2009

FLORIDA 4-H *Celebrates* Its Centennial

UF UNIVERSITY of FLORIDA

perspective

If there's one lesson time has taught us, it's that things seldom go as planned. Take the story of Florida's first home demonstration agent, Agnes Ellen Harris.

Back in 1912, after leaving an academic position to pursue a career in extension, Agnes heard about tomato clubs that taught girls to can tomatoes. She quickly realized that the clubs could benefit communities where poor farmers had trouble keeping food on their family's table year-round. But there was just one catch — she had no experience canning.

Agnes spent frantic days practicing with canning equipment, but when it was time for her first public demonstration at the Gainesville courthouse, she just couldn't get it to work. The jars refused to seal.

Embarrassing as that may have been, Agnes didn't let her enthusiasm wither. By the end of her first year, she had enrolled more than 500 girls from 11 counties.

This year, Florida 4-H is celebrating its 100th anniversary. The organization started with corn-growing clubs for boys, established by UF agriculture dean J. J. Vernon, and was bolstered by the efforts of those like Agnes Ellen Harris. Today, as part of IFAS, Florida 4-H boasts a quarter million members.

In many ways, 4-H is a reflection of the IFAS mission. At its core, it's an investment in a better tomorrow. And during tough times like these, we have to remember the importance of that type of investment.

A century ago, 4-H began as a way to teach children from economically depressed areas better ways to use their resources. Today, 4-H is helping youth explore new realms that will also be vital to their future success, such as computer technology and the environmental and economic issues associated with energy.

Nationally, 4-H has established a goal to create 1 million new scientists and engineers, and I have every confidence they will meet this goal.

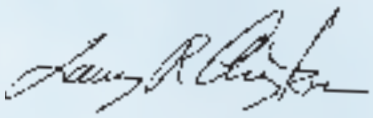
In Florida, IFAS is laying a sound foundation for the future work of 4-H. We're doing that the best way we know how — by taking the lead in addressing some of the nation's most challenging and important issues.

We are working hard to improve food safety. Along with statewide efforts to provide education on good agricultural practices, IFAS researchers are using cutting-edge microbiological techniques to fight foodborne pathogens. In January, two IFAS experts and the director of UF's Emerging Pathogens Institute were chosen to take part in a 13-person task force that will analyze FDA food safety protocols.

IFAS is also working to ensure the safety of our crops by developing tools to use against diseases that damage Florida's agricultural industry, such as a rapid diagnostic test for laurel wilt, a fungal disease that threatens Florida's $30 million annual avocado crop.

We are dedicated to developing next-generation biofuel technologies, novel insect controls, innovative ways to conserve energy and new cultivars for everything ranging from grass to strawberries. The list goes on and on.

Both 4-H and IFAS were born of hard times. Seeking practical and forward-thinking solutions has always been an essential part of our responsibility. The entrepreneurial spirit shown by J.J. Vernon and Agnes Ellen Harris all those years ago is still with us today, and IFAS will continue to meet the needs of tomorrow.



Sincerely,
Larry Arrington
Interim Senior Vice President
Agriculture and Natural Resources

UF UNIVERSITY of FLORIDA
IFAS

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THE INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES MAGAZINE

VOLUME 25 NUMBER 1 SUMMER 2009

Features

News Updates

People, Places and Things

On the Cover

Florida 4-H began in 1909 as a series of "corn clubs" for boys, founded by UF Dean of Agriculture J.J. Vernon. The clubs taught members about new corn varieties and ways to increase yields, with the hope that the boys would pass this information along to their parents, improving Florida agriculture. So what better place to start our salute to Florida 4-H'S centennial than with a photo that pays tribute to the crop that started it all? These five youngsters are shown in a stand of field corn in late July, near Alachua.

FOR MORE INFORMATION, PLEASE SEE PAGE 7. PHOTO BY THOMAS WRIGHT

BIG BATTLE *With a* Little BEETLE

IFAS scientists fight to save Florida's avocado industry from a devastating disease and its insect vector.

By Tom Nordlie

PHOTOGRAPHY BY JONATHAN CRANE, ALBERT "BUD" MAYFIELD, MICHAEL C. THOMAS and THOMAS WRIGHT

Got a penny? Take a look at Abraham Lincoln's nose. That's about the size of a redbay ambrosia beetle.

The threat posed by this invasive Asian insect is far larger. It carries a fungus that causes a disease called laurel wilt. The disease kills redbay and other tree species in the laurel family and it could devastate Florida's avocado industry.

Laurel wilt was unknown to science until shortly after the beetle was detected in Georgia in 2002. In late July, the laurel wilt pathogen was detected in the heart of Florida's 7,500-acre commercial avocado industry. However, more samples are being tested to confirm the finding. Unlike similar insects, the redbay ambrosia beetle isn't attracted strictly to weakened trees, says Jonathan Crane, a horticultural sciences professor at UF's Tropical Research and Education Center in Homestead. This means any avocado tree — including the estimated tens of thousands in residents' backyards — is potentially at risk.

"That's very bad news," Crane says. "I tell people, 'It's not a matter of *if*, it's a matter of *when* the beetle will show up in your area.'"

Crane, with UF agricultural economists Edward "Gilly" Evans and Alan Hodges and former extension agent Jason Osborne, has written a paper for the journal HortTechnology estimating laurel wilt's financial impact on Florida's avocado industry, the nation's second-largest.

According to Evans, if the disease eliminates half of Florida's $30 million commercial avocado crop — something that's possible — it would eliminate 275 full-time jobs and $27 million per year in total economic impact. Moreover, it would cause a substantial decline in property values because the disease eventually kills the trees, and it takes six to seven years to re-establish an orchard.

But IFAS is fighting to prevent this outcome, working with the U.S. Department of Agriculture, Florida Department of Agriculture and Consumer Services, and the U.S. Forest Service.

And IFAS faculty are receiving strong financial support in the battle against laurel wilt. The Florida Avocado Committee contributed $100,000; IFAS administration put in $50,000; the U.S. Forest Service provided $80,000 for research on redbay and a USDA grant provided $160,000 for short-term control. Numerous other grant applications have been submitted, Crane says.

These combined resources are being put to use in attacking three fronts simultaneously: detection and containment, immediate response, and long-term management.

Edward "Gilly" Evans, right, and Jonathan Crane examine avocados growing at UF's Tropical Research and Education Center in Homestead.

Detection and Containment Strategies

The state Division of Plant Industry maintains a toll-free hot line for reports of possible outbreaks of the disease at 1-888-397-1517. Crane urges Floridians to report symptoms on avocado or redbay trees, including wilted stems and leaves, black streaks in wood and strings of compacted sawdust protruding from tree trunks.

He cautions against transporting avocado and redbay trees, and buying or transporting redbay firewood.

Jason Smith, a forest pathologist with UF's School of Forest Resources and Conservation, and graduate student Tyler Dreaden have developed a fast diagnostic test for laurel wilt, using a technology called real-time polymerase chain reaction. (For a detailed explanation, see this issue's "How It Works" on p. 14). The test, sensitive enough to detect two spores in a sample, will be available to diagnostic laboratories wherever laurel wilt is a threat.

Smith is also researching how quickly the fungus spreads through an infected tree.

Immediate Response Strategies

Other strategies are being assessed to manage the beetle and the disease. Randy Ploetz, a plant pathology professor at the Homestead center, is evaluating the effectiveness of fungicides, and Jorge Pena, an entomology professor at the center, is testing insecticides, repellents and attractants.

Long-term Management Strategies

Although Pena has determined that the beetle is attracted to all Florida avocado varieties he has tested, there is hope that some might withstand the disease. Ploetz indicates that many important varieties are susceptible to laurel wilt, but that a few are less affected by the disease than others. Ultimately, Ploetz would like to be able to recommend laurel wilt-tolerant varieties for Florida.

Enhancing avocado trees' natural resistance could also help, and Smith believes some redbay trees can tolerate the fungus. He's leading a team investigating factors that contribute to resistance.

Greater understanding of the beetle and pathogen in their native environments could have important practical benefits. For example, pathogens, parasites and predators of the insect or fungus could be identified that would be useful in biological control programs, says Ploetz.

"The disease isn't known elsewhere, so we're starting from square one in some respects," he says. "We'll look at every possible angle for ways to control this thing."

For more information, see "Redbay Ambrosia Beetle-Laurel Wilt Pathogen: A Potential Major Problem for the Florida Avocado Industry," http://edis.ifas.ufl.edu/HS379 and "Laurel Wilt: A Threat to Redbay, Avocado and Related Trees in Urban and Rural Landscapes," http://edis.ifas.ufl.edu/HS391.

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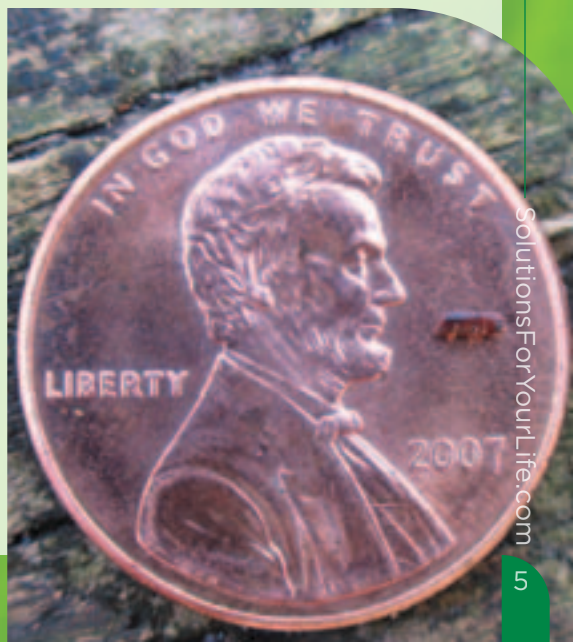

NEAR RIGHT A mature dooryard avocado tree with large sections of dead and missing leaves, caused by laurel wilt disease.

FAR RIGHT An adult redbay ambrosia beetle is about the size of Abraham Lincoln's nose on a penny.

LONGTIME 4-H AGENT ATTRIBUTES SUCCESS TO HANDS-OFF APPROACH

PHOTOGRAPHY BY TYLER JONES

Shelda Wilkens, right, encourages 4-H camp counselor Sammi Feliciani to draw a slip of paper from a bowl and get her assignment for Florida 4-H centennial activities.

Working with young people, it can be awfully tempting to jump in and just do the work yourself.

Shelda Wilkens, a 4-H extension agent in Seminole County, has an amazing ability to resist that urge.

For a recent spaghetti dinner 4-H fundraiser, kids came up with the theme, created and published the program, decorated, kept tabs on the money taken in, planned and ran the silent auction, served the guests and washed the dishes afterward.

When parents wanted to know what they could do to help, Wilkens — in typical fashion — told them simply, "Sit back and watch."

Seminole County extension director Barbara Hughes says it takes patience to sit back and let the kids figure out how to do the work themselves, but it's worth it.

"It would've been much easier for the adults to start washing dishes during the event. But in the long run, this way it's the 4-H'ers' event — not the parents' or the leaders' event," Hughes said. "She sits back and lets the kids do it, so then they know how to run events."

Wilkens' style may be a little unorthodox, but for 25 years it's made her one of the state's most successful 4-H agents.

The Minnesota native's laid-back management style doesn't mean she's not incredibly busy — a look around her office suggests nothing if not "busy person at work."

There are bags of landscaping rocks on the floor, supplies for an upcoming project. Boxes of ribbons and certificates and medallions wait to go to winners of various contests. Casually stowed in the corner is a large trophy for the LifeSmarts team she recently coached to a fourth state championship.

Seminole is the state's third smallest county in land size, but it has a large suburban population. In this environment, Wilkens has succeeded by balancing 4-H's traditional-agriculture focus with a wide array of other programs, from the 4-H/Tropicana Public Speaking Program that reaches many of the county's sixth-graders, to short-term workshops that involve hands-on projects such as sewing or hydroponics.

There are some 4,000 students in Seminole 4-H programs. About half of them seem to have given Wilkens a photograph to post on one of two bulletin boards behind her desk, chock-full with tributes and mementos.

"That's one of the great things about this job," she said. "You get to work with nice families and you become a part of their family. You get invited to weddings, baby showers."

Fielding a successful 4-H program is tough, especially when you must compete with so many other extracurricular activities — after-school programs, sports, summer camps, scouts and the like. But the county 4-H program has a strong tradition of keeping tweens and teenagers in 4-H.

And the same kids who stay with 4-H for years come back as adults, Hughes says.

"When we have events at the Central Florida Fair, 4-H'ers come back to help who've been out of the program for 10 years. They come to the fair or help judge events. And then they make sure their kids are in 4-H, and that they're in one of Shelda's programs," Hughes said. "She's a dynasty."

But Wilkens would just as soon have the focus anywhere but on her.

"She's a total behind-the-scenes person. She doesn't want or need any applause, doesn't need accolades," Hughes said. "What does it for her are the kids."

— Mickie Anderson

FLORIDA 4-H *Celebrates* a Century of Youth Success

By Tom Nordlie

PHOTOGRAPHY BY THOMAS WRIGHT AND TYLER JONES

ABOVE LEFT The 4-H Agriscience Center in Marion County is the nation's only dedicated 4-H farm.

ABOVE RIGHT Miniature golf at the 4-H exhibit at the Florida State Fair in February.

BELOW 4-H'ers attend horsemanship school at Welaka State Forest.

In 100 years, the Florida 4-H Youth Development Program has come a long way. Originally, it helped families adopt new farming methods. Today, the organization boasts almost a quarter million members and 10,000 volunteers involved in activities ranging from robotics and engineering to alternative energy and conservation.

But one thing hasn't changed: 4-H's commitment to helping youth learn by doing. As state 4-H program leader Marilyn Norman explains, every project is designed to teach 4-H'ers life skills such as leadership, responsibility and good judgment.

The centennial celebration, known as Florida 4-H: A Century of Youth Success, is taking place around the state throughout 2009. Come with us now, as we take a quick look at Florida 4-H history, noteworthy current programs and celebration highlights.

History

1902 The nation's first 4-H club is founded in Clark County, Ohio.

1909 "Corn clubs" for boys, the forerunners of Florida 4-H clubs, are founded in Alachua, Bradford and Marion counties by UF Dean of Agriculture J.J. Vernon.

1912 "Tomato clubs" for girls are founded by Agnes Ellen Harris in 11 Florida counties. As with corn clubs, the goal is to provide farming innovations to families.

1914 The Smith-Lever Act is passed, creating cooperative extension systems in Florida and other states.

1915 Florida's extension system reaches out to African-American communities via programs headquartered at Florida A&M University.

1916 Florida 4-H adds its first new project, raising swine.

1926 Florida's first permanent 4-H camp, Camp Timpoochee, opens in Niceville.

1939 Florida 4-H projects cover practically every aspect of the state's agricultural activities.

1957 Camp Cloverleaf is officially established in Lake Placid, Fla.

1963 The Florida 4-H Foundation is formed to secure private support for 4-H.

1964 4-H programs from UF, Florida A&M and Florida State University are combined.
Florida's first State 4-H Congress is held on the UF campus.
Florida ends its tradition of school-based

4-H clubs, replacing them with a system of volunteer-led community and project clubs.

1967 Camp Cherry Lake, a facility built in 1937, is deeded to Florida 4-H.

1972 4-H begins moving back into Florida public schools.

1975 The forerunner of the Florida 4-H Legislature begins, giving youth a "learning by doing" experience in state government each summer.

1983 Camp Ocala, Florida's largest 4-H camp, opens in the Ocala National Forest.

1998 Camp Timpoochee opens a marine laboratory with numerous aquariums housing freshwater, bay and gulf organisms.

2002 National 4-H celebrates its 100th anniversary; Florida hosts a parade and celebration in St. Augustine.

2009 Celebrating its 100th anniversary, Florida 4-H has 234,000 members and 10,000 volunteers.

4-H Today

The programs offered by 4-H clubs are determined by members' interests and adult volunteers' abilities. In Florida, that covers a lot of ground.

Some clubs, particularly in rural areas, emphasize farming and animal husbandry — the topics traditionally associated with 4-H. But some of the most popular 4-H programs today focus on government, business and cutting-edge science.

Here are some examples:

Project Butterfly WINGS

Here, 4-H'ers ages 9 to 13 become citizen scientists by observing and identifying butterflies. WINGS is an acronym for Winning Investigative Network for Great Science — and it's more than just a slogan. Participants report their data on a Web site, http://www.flmnh.ufl.edu/wings/, for use by scientists, other 4-H'ers and the public. In this way, Project Butterfly WINGS is part of a larger effort to understand and conserve butterfly populations.

Founded at UF, the program will become available nationwide this summer as part of national 4-H's new Science, Engineering and Technology Program.

"Our goal is for the kids to become excited about science through butterflies," said Marilyn Martin, director of the program with the Florida Museum of Natural History in Gainesville.

ABOVE RIGHT A 4-H volunteer demonstrates use of a lariat at the Florida State Fair.
BELOW LEFT Youngsters plant a tree at an Arbor Day event.
BELOW RIGHT This rider rewards her horse with a snack.

ABOVE LEFT ATV safety classes are a popular 4-H offering.
ABOVE RIGHT All 4-H activities teach skills such as leadership.

Florida 4-H Legislature

Since 1975, the Florida 4-H Legislature program, known as "Leg" and pronounced "ledge," has been providing 4-H'ers with hands-on experience in state government. Participants, ages 14 to 18, spend five days in Tallahassee each summer conducting a model legislative session where bills are proposed, considered and then passed or vetoed.

Some 4-H'ers act as representatives, senators, Florida Supreme Court justices and the governor. Others are lawyers, lobbyists, journalists, jurors and pages. Regardless of their roles, everyone learns how state government works.

Leg was named a National 4-H Program of Distinction 2006-2009. It's also the most developed program of its kind anywhere in the U.S., said Debbie Nistler, a Bradford County 4-H youth development agent who helped organize this year's program. Nistler should know. She's working on a Ph.D. at UF and her dissertation concerns civic engagement programs like Leg.

"Leg is the most impressive 4-H program I've ever been involved with," said Nistler. "It's pretty amazing — the kids get so immersed in it."

Public Speaking

The most popular Florida 4-H program prepares youngsters for an activity that mortifies many adults — public speaking. The 4-H/Tropicana Public Speaking Program involves more than 119,000 youth in grades 4 through 6 in more than 50 counties every year. Each participant writes a speech and delivers it in class; the top speakers go on to compete at the school and county levels.

Benefits of the program include enhanced self-esteem and communication skills, not to mention experience that can help youth excel in their careers. Unlike many 4-H programs, this one is available to youngsters who are not involved in 4-H clubs. Founded in 1952 by an elementary school teacher, Inez Pettigrew, the program has been administered by 4-H and sponsored by Tropicana Products Inc. since 1969.

A big part of the program's appeal is that youngsters get to choose the subject matter of their speeches, said Trisha Aldridge, a 4-H outreach coordinator in Collier County.

Florida 4-H Farm Is Unique

Located in Marion County, the 4-H Agriscience Center is the nation's only dedicated 4-H farm. It's on state land that was leased to 4-H by the county about 10 years ago, said Nola Wilson, a Marion County 4-H/small farms extension agent who directs the center. The 46-acre facility includes newly built hog and steer barns, a classroom, a pavilion, a shade house, an educational walking trail and a garden area for vegetable crops. Also planned are an orchard and a covered demonstration ring.

Events there include 4-H club meetings, a 4-H open house and picnic, a Flag Day ceremony, two livestock seminars each year, a gardening competition, youth safety days for local schools and a Civil War re-enactment each November.

The center benefits not only 4-H'ers but also Marion County high schools, the Florida Farm Bureau and the Florida Department of Agriculture and Consumer Services, which hold events there. And plans are under way for the IFAS extension small farms program to conduct demonstrations and field trials.

"We've had a lot of buy-in from the community — that's one reason this has been successful," Wilson said. "We hope to serve as a model for state and national efforts."

Celebration

It might be impossible to detail all the celebrations marking the Florida 4-H centennial, but rest assured, they're happening statewide throughout 2009, says Marilyn Norman.

"The strength of the 4-H program has always been at the club and county level," she said. "That's where the celebration is most important, because that's where the memories were established that helped people grow."

Some of the more noteworthy events:

Florida State Fair – The celebration's official kickoff took place at the Florida State Fair in Tampa, Feb. 5-16. It featured a centennial exhibit with miniature golf and a Florida 4-H timeline, along with numerous entries in the pet and livestock shows.

ABOVE RIGHT Florida 4-H clubs are taking part in the national Million Trees Project.

BELOW LEFT A 4-H'er and her dog seem to ask each other "Are you ready?" at the Florida State Fair dog show.

BELOW RIGHT All Florida 4-H'ers are encouraged to perform 100 hours of community service in 2008-09.

ABOVE LEFT Displays on 4-H history at the Florida State Fair.
ABOVE RIGHT A Clay County 4-H'er has his hands full at the Florida State Fair livestock show.

History Book – The 208-page hardcover "Florida 4-H: A Century of Youth Success" tracks the program's development and features many historical photos. It's available for $57.50, with a portion of the proceeds funding a Florida 4-H scholarship endowment. For more information, visit http://florida4h.org/historybook.shtml.

100 Hours of Service – In early 2008, the Florida 4-H State Council Executive Board — made up entirely of youth — voted to commemorate the centennial by encouraging Florida 4-H'ers to perform 100 hours of community service in 2008-09. One of the most popular options is the national 4-H Million Trees Project, which seeks to plant 1 million saplings across the U.S. and Canada.

Capitol Event – On April 14, almost 600 Florida 4-H'ers converged on the state Capitol to commemorate the centennial, attending a press conference with Gov. Charlie Crist and other officials and planting a crape myrtle with state Attorney General Bill McCollum.

Banners – Colorful banners marking the centennial are posted on streetlights around the UF campus.

Historical Marker – On Aug. 4, a historical marker recognizing Florida 4-H was dedicated on the UF campus. U.S. Rep. Allen Boyd, D-Fla., attended the ceremony.

York Lecture – U.S. Rep. Adam Putnam, R-Fla., will deliver a lecture Nov. 9 on the UF campus about 4-H and its impact on his life.

Centennial Gala – A formal gala will be held Nov. 14 at the Embassy Suites – Baymeadows in Jacksonville. Tickets are $100 per person. For more information, contact Julie Wilson at (352) 846-0996, ext. 244.

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Some of the 4-H Agriscience Center's 46 acres are devoted to vegetable gardens.

we are cals

PHOTOGRAPHY BY ERIC ZAMORA

SFRC doctoral candidate John Perry flies high in geomatics

John Perry is a third-generation surveyor.

But he ain't your granddad's surveyor.

For the past 10 months, he's been part of an interdisciplinary UF team developing a hand-launchable airplane that captures aerial landscape views for civilian use. Called UAVs, for "unmanned aerial vehicles," they need no human pilot and could someday be used by everyone from citrus growers to wildlife researchers.

Perry's role has been to ensure that the plane's payload is as small and lightweight as possible, and to make the Global Positioning System, navigation and imaging equipment work together to produce high-resolution photographic maps.

The 24-year-old led development of something the team calls the "Burredo" — a 2.5 inch-by-5 inch computer wrapped in a protective layer that synchronizes the plane's sensors — and just happened to look to hungry researchers like the tasty Mexican food staple.

They've since whittled it to 1.25 inches-by-1.75 inches, edging the project closer to success.

Perry credits School of Forest Resources and Conservation faculty member Bon Dewitt with steering him into geomatics. Geomatics refers to the integrated approach of measurement, analysis and management of geospatial data, and includes land surveying and mapping, remote sensing, photogrammetry and navigation.

"Society now demands a lot more of surveyors," he said. "There's a lot of interest today in things like measuring ecological change."

— Mickie Anderson

HOW IT WORKS

Written By Stu Hutson
ILLUSTRATION BY JULISSA MORA

PCR for disease diagnosis

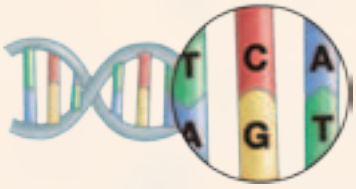
Introduction

It's hard to find a needle in a haystack, but what if you could somehow increase the number of needles?

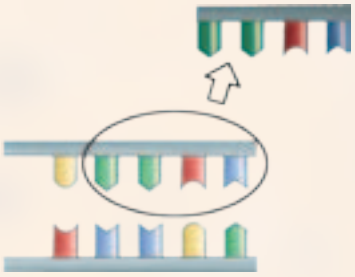
Researchers face a needle-in-a-haystack problem when they use genetic tests to check plant samples for a disease. They look for a DNA sequence that's unique to the disease. However, doing so means searching through a sample containing a jumble of DNA from many sources like plants, fungi and bacteria.

The solution lies in a technique called polymerase chain reaction (PCR), which can multiply a specific DNA sequence — making it easier to detect DNA from the target organism.

1. To develop the test, researchers start by finding a DNA sequence unique to the disease.



2. Then they determine the amino acid pairs that begin and end the sequence.



3. These pairs are duplicated. The duplicates are called "primers."

4. To use the test, lab personnel mix a plant sample with primers for the disease they want to identify. The mixture is heated, causing DNA strands in the sample to separate.

5. Then the mixture is cooled briefly. If the target DNA fragment is present, primers attach to it.

6. A heat-tolerant enzyme (typically from bacteria that live in hot springs and geysers) is added to the mixture and it is reheated. If the target DNA fragment is present, the enzyme will start building replicas of it, using the primers as starting points.

7. Using an automated PCR machine, steps 4 through 6 are repeated dozens of times — each time doubling the number of genetic needles in the sample haystack until researchers have enough to diagnose the disease.

NEWS BRIEFS

New Bahiagrass Cultivar

Southeastern cattle production may have entered a new era, thanks to IFAS researchers who've developed a bahiagrass that withstands cold temperatures better than other varieties and produces forage longer, saving money for ranchers and dairy farmers.

Named UF-Riata, the forage officially debuted in December at a ceremony in Greenville, Fla., attended by industry leaders and IFAS officials. It took place on the sod farm of U.S. Rep. Allen Boyd, D-Fla., a fifth-generation farmer and longtime supporter of agricultural research and extension programs.

At the event, IFAS honored Boyd and his great-uncle, the late Edwin Hall Finlayson, a former Escambia County extension agent who popularized bahiagrass in the 1940s. Finlayson had discovered a unique variety in the Pensacola area that had apparently arrived via ships from South America. He began recommending it to local farmers, who appreciated its resistance to disease, drought and insect attacks.

That forage became known as Pensacola bahiagrass. Today, it's the predominant pasture grass in the southeastern U.S., covering 5 million acres.

Researchers developed UF-Riata in response to the need for a bahiagrass variety that grew well despite winter temperatures and short daylight periods, said UF agronomist Ann Blount, one of the IFAS and U.S. Department of Agriculture faculty responsible for the new cultivar.

The variety has been exclusively licensed to seed producer Ragan & Massey Inc., based in Ponchatoula, La. Seed should be available starting in fall 2009.

— Tom Nordlie

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Extension Essential to $26 Million Healthcare Grant

The National Institutes of Health is awarding UF a five-year grant for almost $26 million to speed transformation of scientific discoveries into medical advances for patients — and IFAS extension is part of the reason.

As announced July 14 by UF Vice President for Research Win Phillips, UF is one of seven universities to receive an NIH Clinical and Translational Award this year; it's the first Florida institution to do so.

The grant will support UF's Clinical and Translational Science Institute, a new interdisciplinary program that includes the College of Agricultural and Life Sciences and the Florida Cooperative Extension Service, as well as 11 other UF colleges.

The institute, launched in 2008, focuses on accelerating scientific discovery, enhancing medical care, producing highly skilled scientists and physicians and fostering partnerships with industry, university officials said.

Reviewers who ultimately awarded UF the grant said one reason for their choice was that UF proposed to use IFAS' vast extension network to engage citizens in educational activities and participatory research. There's an extension office in each of Florida's 67 counties.

Peter Stacpoole (pictured at left), director of the UF institute, said extension faculty will help citizens statewide gain a better understanding of clinical research and encourage them to participate as partners with UF investigators conducting studies.

Scientific advances funded by the award will extend beyond academia to industry, government and the public. Also, discoveries developed commercially are expected to generate royalty income for the university.

— Staff Report

Larry Connor, 1934-2009

Larry J. Connor, dean of UF's College of Agricultural and Life Sciences from 1991 to 1999, died March 30 in Gainesville. He was 74.

"The whole IFAS family is saddened by this loss," said Larry Arrington, UF interim senior vice president for agriculture and natural resources. "Larry has been an active member of the IFAS family for many years, and did an outstanding job as dean of the College of Agricultural and Life Sciences."

During Connor's tenure, the college's enrollment nearly doubled, jumping from 2,002 in fall 1991 to 3,886 in spring 1998. At his retirement, it was the sixth largest agriculture college in the country in undergraduate and graduate programs.

He also created faculty positions, enhanced distance learning, started the college honors program and added multimedia labs.

Upon retiring in 1999, Connor remained active in IFAS, serving on college task forces, writing papers and making presentations for national agriculture and education associations.

He was a member of Michigan State University's agricultural economics department faculty from 1966 to 1991. Previously, he spent two years as an agricultural economist with the U.S. Department of Agriculture.

He earned three degrees in agricultural economics — a bachelor's from the University of Nebraska and a master's and doctorate from Oklahoma State University.

Connor lived in Gainesville. He is survived by his wife, Dee Ann, and two children.

— Tom Nordlie

Master Gardener Milestone

While marking its 30th anniversary this year, Florida's Master Gardener program has reached another milestone — its volunteers have logged more than 5 million hours of service.

Today, there are 4,000 master gardeners in Florida, in 58 of the state's 67 counties. Since the program's inception in 1979, volunteers have donated 5.4 million hours, worth $83 million to taxpayers, said Tom Wichman, state coordinator for the IFAS-run program.

Here's how it works: Volunteers undergo at least 50 hours of training that includes everything from gardening to nematology to soil testing. Then they must serve at least 75 volunteer hours within the first year of certification and 35 hours per year afterward. They also complete at least 10 hours of additional training annually.

Duties include everything from manning the desk in the county extension office to fielding questions from callers and walk-in clients. Other tasks might include tending a demonstration garden, teaching residents how to prune trees or grapevines or how to start a garden.

"I think master gardeners have one of the toughest jobs in extension," Wichman said. "The questions that come in are very diverse."

In spite of the challenges, Wichman says you don't need a green thumb to be a great master gardener. Much of the training focuses on teaching volunteers how to find the information they need.

Interested? Contact your local coordinator at http://www.gardeningsolutions.ifas.ufl.edu/mastergardener/contact_us.shtml.

— Mickie Anderson

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FDA Appoints Three to Food Panel

Three UF experts — two of them high-ranking IFAS personnel — have been appointed to a U.S. Food and Drug Administration task force charged with improving America's food safety.

The 13-member panel includes Doug Archer (pictured above), an IFAS associate dean for research; Martha Roberts, IFAS special assistant to the director of the Florida Agricultural Experiment Station; and Glenn Morris, director of the UF Emerging Pathogens Institute.

The panel was convened at the behest of Congress by the Institute of Medicine of the National Academies. It first met in January and will work for one year to create recommendations for improving the FDA's approach to food safety.

"I think that this shows that the University of Florida, and IFAS in particular, have an enormous amount of the food safety expertise in the form of experienced staffers and resources," Archer said. "The three of us get to draw on that — to use that potential to begin to help solve some bigger problems."

All three experts have lengthy resumes in food science and food safety.

For example, Archer served as deputy director of the Center for Food Safety and Applied Nutrition at the FDA. Roberts was the first woman in the nation to become a state assistant commissioner of agriculture. Morris is a member of the Food and Nutrition Board of the National Academies' Institute of Medicine.

— Stu Hutson

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Field Days Online

The field day, one of the most enduring aspects of agricultural extension, is going high-tech.

At a typical event, farmers and other interested people visit a farm and learn hands-on from extension faculty what the latest scientific research says on a particular topic, such as how to grow new sweet corn varieties.

"It capitalizes on the notion that what they see and touch and do in real life is a lot more likely to stick with them than reading about it or hearing somebody lecture about it," said Bob Hochmuth, an IFAS multicounty extension agent based at the North Florida Research and Education Center in Live Oak.

But with benefits often come drawbacks. A field day might not be convenient to farmers, geographically or because it takes time away from work.

So UF extension officials have revamped their virtual field days Web site, http://vfd.ifas.ufl.edu. The new version, unveiled in January, is organized by topic and contains 5- to 8-minute video clips condensed from longer live presentations.

The Web site should be a boon to farmers, residents and the extension agents themselves, who can refer many routine inquiries to the site.

"Now, if someone calls from Miami or Tampa, I can send them to the virtual field day site and they can take a look at it and get the basics," Hochmuth said. "So the time efficiency for me has been phenomenal."

— Mickie Anderson

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Statewide Soil Study

Three women hop out of their truck to begin their workday, and almost immediately begin dishing the dirt.

No, really — actual dirt. Spodosols, Histosols, Ultisols, you name it, they dig them up, label them and ferry them back to the lab, where they're being analyzed for Sabine Grunwald, an associate professor with the soil and water science department, as part of the state's largest-ever soil-carbon study.

When completed in 2010, the study could help Florida venture into the carbon-credit market, a way for governments, farmers and landowners to earn money while helping reduce greenhouse gases by storing carbon in soils.

Funded by the U.S. Department of Agriculture, the three-year project is nothing if not ambitious: The team is collecting 1,000 soil samples from just about every type of land in Florida.

Their goal is to create a comprehensive soil carbon inventory for the state, and be able to predict — based on factors such as land use, hydrology and topography — how much carbon can be stored in the ground.

While it's already established that Florida has more soil carbon than any other state, officials here haven't yet taken advantage of that by jumping into carbon-credit markets.

Carbon-credit markets seek to mitigate global warming by allowing the market to assign a dollar value to measurable reductions of greenhouse gases and allowing "credits" for reductions to be bought and sold. In some cases, farmland would need to be left untilled for several seasons to allow carbon to be stored.

— Mickie Anderson

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Su Supports Entomology Research

Termite expert Nan-Yao Su, best known as developer of the Sentricon baiting system, recently made three major gifts to support entomology research.

Su, an entomology professor with the Fort Lauderdale Research and Education Center, donated $250,000 to establish the Nan-Yao and Jill H. Su Endowed Scholarship/Fellowship Fund for UF's entomology and nematology department. The endowment will support student scholarships and fellowships.

Thanks to Su's gift, the IFAS Development office has applied for $125,000 in state matching funds through the University of Florida Foundation Inc.

Su made a similar donation to the entomology program at his doctorate alma mater, the University of Hawaii.

He also gave $250,000 to the Entomological Society of America, to establish the Nan-Yao Su Award for Innovation and Creativity in Entomology. The endowment creates an annual award to honor an innovative ESA member who finds breakthrough solutions to significant entomological issues.

Su said he was inspired to give after meeting with the family of the late Robert Cade, a longtime faculty member with the UF College of Medicine and the primary inventor of Gatorade. Su had planned to meet Cade at a March 2008 conference, but Cade died in November 2007.

On reflection, Su said he realized the importance of creativity in the development of Gatorade and Sentricon. Their creators weren't afraid to innovate and test forward-thinking, out-of-the-box solutions.

"If you don't do that, you'll never invent anything," Su said. "UF is a fertile ground in encouraging faculty to do something different, and I want to encourage that."

— Tom Nordlie

on the job

PHOTOGRAPHY BY ERIC ZAMORA

Professor Emeritus Gordon Prine has deep roots in IFAS

Back in 1960, UF plant breeder Gordon Prine was sowing something called perennial peanut, sort of on the sly, around some of the most remote parts of campus.

Nearly 50 years later, it's not hard to find evidence of his handiwork. Just look for the cheerful patches of bright, tiny yellow flowers covering the ground on the campus' southwest end.

Standing in front of the food/environmental toxicology lab on Hull Road, Prine, now 81, chuckles as he remembers the day he spotted a grounds crew about to dig a ditch through his experiment. He hastily wheeled right up on the grass and parked his car to block them, negotiated a stay for his beloved crop and quickly gathered a team to help him preserve most of it for later harvest.

Not much in plant breeding happens quickly. Persistence and patience are its hallmarks.

Prine, now a professor emeritus, embodies those traits like few others.

Five years retired, he still goes to his office frequently, in between his three-times-a-week dialysis and despite an ailing hip. From his desk, he advises people around the world growing the many ryegrass cultivars he's developed. One of the first in IFAS to work closely with the ag industry to create specific cultivars, he keeps those connections tight.

He's even seeing perennial peanut catch on, as a forage and also as an ornamental ground cover.

"I hope I'll be able to keep working. I still like to help out with some things, and I still have a little influence," he said, pausing to add: "I appreciate that they put up with me."

— Mickie Anderson

ALUMNI NEWS

W. Ben Hart honored for mining safety efforts

Mining safety expert W. Ben Hart (B.S., Agriculture, 1970) of Tallahassee has been honored by the National Safety Council with its 2008 Distinguished Service to Safety Award. He was one of five to receive the award, the highest honor bestowed by the council to individual professionals for their work.

Since 1988, Hart has been program manager of the Florida Mine Safety & Health Training Program, an arm of the state Department of Environmental Protection. The program provides free safety training and consultation to Florida's mining industry.

He was the first person in Florida to earn the Certified Mine Safety Professional designation and has held leadership positions with several mining safety organizations. He has produced more than two dozen training videos used worldwide.

Jorge Abreu recognized as outstanding alumnus

The UF Association of Hispanic Alumni has selected Jorge Abreu (B.S., Animal Science, 1997; B.S., Environmental Horticulture, 2002) to receive the 2009 Gran Caimán del Año award, its most prestigious honor.

Abreu, president and owner of West Kendall Nursery Inc. in Miami, was chosen for his career accomplishments and ongoing support of UF. The award was announced March 21 at the AHA's Gator Guayabera Guateque Kick-Off event in Miami.

"We are thrilled to announce Jorge as this year's Gran Caimán," said Ignacio Abella, AHA president. "He has not only been a fervent supporter of the university and its programs, he has become an advocate for his industry at both the state and national level."

Abreu is president of the Miami-Dade Chapter of Florida Nursery, Growers and Landscape Association, and an advisory board member for IFAS and the Tropical Research and Education Center.

Quick Takes

In July, Randy Bringger (B.S., Food Science, 1976) is retiring from the U.S. Food and Drug Administration, where he has spent the past 30 years conducting inspection and investigation work. After retirement, he plans to stay in the St. Augustine area.

Jennifer Seitz (B.S., Wildlife Ecology and Conservation, 1999) has been selected for the TogetherGreen Conservation Leadership Program, which provides funding and training for individuals to carry out projects that benefit the environment. Seitz (pictured at left), will work to inform lower-income minority residents of Gainesville about ways to embrace zero waste.

Send your alumni news to Tom Nordlie at tnordlie@ufl.edu or P.O. Box 110810, University of Florida, Gainesville, FL 32611-0810. Submissions may be edited for clarity and length.

SPOTLIGHT

With Larry Arrington serving as interim UF senior vice president for agriculture and natural resources, Millie Ferrer-Chancy has been named interim dean for extension. The appointment became effective in January. Ferrer-Chancy previously was associate dean for extension, a position she'd held since 2005. As associate dean, she worked with directors and educators across the state to establish and support extension programs and policy — often with an eye toward better reaching Florida's growing multicultural population.

Florida's Northeast Extension District has a new director — it's Eric Simonne, an associate professor with the horticultural sciences department. Simonne took the position in January, succeeding John Baldwin, who'd held the post since 2005. The district, one of five statewide, includes Alachua, Baker, Bradford, Clay, Columbia, Dixie, Duval, Gilchrist, Hamilton, Lafayette, Levy, Madison, Nassau, Suwannee, Taylor and Union counties.

Carl Beeman, former chairman of the agricultural education and communications department, received the E.T. York Distinguished Service Award in November 2008. Beeman was the chairman from 1975 until his retirement in 1996, and presided over a period of tremendous development, which saw the program move from UF's College of Education to the College of Agricultural and Life Sciences.

Also receiving the York award in November 2008 was Larry Connor, former dean of the College of Agricultural and Life Sciences. He was head of the college from 1991 until 1999, when he retired. Sadly, Connor passed away March 30, 2009. Please see the News Briefs section of this issue for more information.

Mary Ann Gosa has been named the new IFAS director of governmental relations. She assumed the post in November 2008. Previously, Gosa was director of government and community affairs for the Florida Farm Bureau Federation. Her areas of expertise include water, land use, growth management, environmental relations and endangered species. Gosa succeeds Cindy Littlejohn, who'd held the position since 2001.

Mitch Knutson, an assistant professor with the food science and human nutrition department, is one of two scientists nationwide to be named a 2009 International Life Sciences Institute Future Leader in Nutritional Sciences. The annual award recognizes scientists early in their careers who show promise of becoming leaders in nutrition and related disciplines.

Two IFAS researchers have been honored by the International Programs office for their efforts around the globe. Joseph Funderburk, an entomologist at the North Florida Research and Education Center in Quincy, is the IFAS International Fellow recipient for 2008. An expert on thrips, Funderburk focuses on ecology, management and taxonomy of these pest insects. Rafael Muñoz-Carpena of the agricultural and biological engineering department is the 2008 International Achievement Award recipient. He works on water quality issues and helped start programs to recruit Latin American graduate students to UF.

Daryl Pring, a longtime courtesy professor with the plant pathology department, was one of two UF faculty members named 2008 Fellows by the American Association for the Advancement of Science. The other honoree is H. Jane Brockmann, a professor with the zoology department who holds an affiliate appointment with IFAS. Both were formally inducted in February at the AAAS annual meeting in Chicago.

Martha Monroe, a professor with the School of Forest Resources and Conservation, has received the highest honor bestowed by the North American Association for Environmental Education. She was presented the Walter E. Jeske Award at the NAAEE annual meeting in October 2008 in Wichita, Kan. The award, given annually since 1982, recognizes outstanding service to NAAEE and leadership within the profession.

The horticultural sciences department now boasts its own library, thanks to funds and publications donated by Indra Vasil, a graduate research professor emeritus with the department, and other faculty members. The Indra and Vimla Vasil Library and Reading Room was dedicated in January. Located in 2546 Fifield Hall, it includes thousands of volumes on horticulture, botany, genetics and other topics.

IFAS DEVELOPMENT *News*

Mike Waldron, president of the Florida 4-H Foundation Inc. board of directors, left, with Ray and Karola Passage. **PHOTO BY TYLER JONES**

Wayne Davis stands before a painting of UF, where he earned his bachelor's degree from the College of Agricultural and Life Sciences in 1963. **PHOTO BY TYLER JONES**

Gifts from Ray and Karola Passage benefit 4-H

Ray and Karola Passage of Spring Hill, Fla., are longtime supporters of the Florida 4-H Youth Development Program through planned gift arrangements with the University of Florida Foundation Inc. Their commitment to 4-H goes back to Ray Passage's career with Gerber Products Co. in Michigan, where he served as a Michigan 4-H Foundation trustee.

"It is our desire to provide young people exposure to new and different opportunities outside of their immediate community and environment," Ray Passage said.

Using qualified charitable distributions from an individual retirement account, the Passages have established The Raymond E. and Karola M. Passage IFAS/4-H Endowment. The annual income available from this permanent endowment will provide support for 4-H teaching and academic programs throughout Florida.

The Passages also donated appreciated securities to the UF Foundation. Proceeds from the sale of the securities funded two gift annuities. These annuities will provide the Passages with joint life incomes, immediate income tax deductions and estate tax benefits.

Future proceeds from the principals of these annuities will establish The Raymond E. and Karola M. Passage 4-H Scholarship Endowment. This endowment will provide unrestricted support to Florida 4-H, as well as scholarships for youth in Hernando County to attend 4-H camps.

"We hope our support will make a positive impact on young people from our area of Florida through participation in Florida 4-H programs," Ray Passage said. "We need to enable and encourage our young people to become positive, productive citizens for the future."

Wayne T. Davis establishes new entrepreneur program

SHARE Council volunteer member and IFAS alumnus Wayne T. Davis (B.S., Agriculture, 1963) of Brandon, Fla., has pledged $50,000 to establish the Entrepreneur in Residence Program in the food and resource economics department.

"Mr. Davis' gift will help IFAS capture the next generation of Florida's agricultural entrepreneurs," said Ray Huffaker, department chairman. "It's his way of giving back to IFAS."

The program will help identify, study and solve the most pressing issues facing agricultural entrepreneurs. It will also prepare students to become successful entrepreneurs, resulting in more competitive and profitable businesses, innovative products, new jobs and expanded incomes in Florida's agricultural and natural resource sectors.

Davis raises cattle and grows turfgrass on about 400 acres in the Brandon area. He credits the education he received from IFAS for his success.

Giving: Philanthropy for Everyone

By Matthew A. Tavrides, J.D.

Do you know that by making gifts to The University of Florida Foundation Inc. in support of IFAS, you can:

- Increase the value of your estate to pass on to your heirs?
- Convert non-income-producing assets into an income stream for you?
- Delay the capital-gains taxes on the sale of your highly appreciated property?
- Increase your own income while supporting the causes that matter to you?
- See and enjoy the benefits of your gifts?
- Initiate new and exciting family dynamics?

Whether you regularly engage in philanthropy or are just beginning to develop a planned giving program, there are a number of ways that you may create a meaningful, charitable giving plan that also incorporates family values and financial, retirement, estate and business planning issues. To learn more about gifting and planned giving to support IFAS, contact the IFAS Development Office.

UF | FLORIDA TOMORROW
THE CAMPAIGN FOR THE UNIVERSITY OF FLORIDA

IFAS *Development*

"Private Gifts Providing the Margin of Excellence"

What Is IFAS Development?

The IFAS Development program serves as the central fundraising effort to secure private support for the University of Florida's Institute of Food and Agricultural Sciences in partnership with the SHARE Council direct support organization and the University of Florida Foundation Inc. Charitable gifts provide the "margin of excellence" for IFAS academic programs, research, extension and facilities.

Ways to Give

There are several ways to support IFAS:

- **Cash**
- **Charitable Bequests** *(wills and trusts)*
- **Real Estate** *(residential or farmland)*
- **Life Income Gifts** *(charitable remainder trusts, annuities, retained life estates and retirement planning)*
- **Stocks** *(especially appreciated stocks)*
- **Life Insurance** *(new or existing policy)*

IFAS Endowments

Endowments are named permanent funds that provide annual renewable support for donor designated IFAS programs. Endowments are managed and invested by the University of Florida Foundation. As of June 30, 2009, there are more than 250 IFAS endowments valued at more than $78 million that were established by individual alumni, businesses, organizations, associations and friends.

Matching Gift Programs

The state of Florida currently provides generous matching funds for endowed gifts of $100,000 or more through its Major Gifts Trust Fund according to the following state matching gift levels:

GIFT	MATCH
$100,000 to $599,999	50%
$600,000 to $1,000,000	70%
$1,000,001 to $1,500,000	75%
$1,500,001 to $2,000,000	80%
$2,000,001 or more	100%

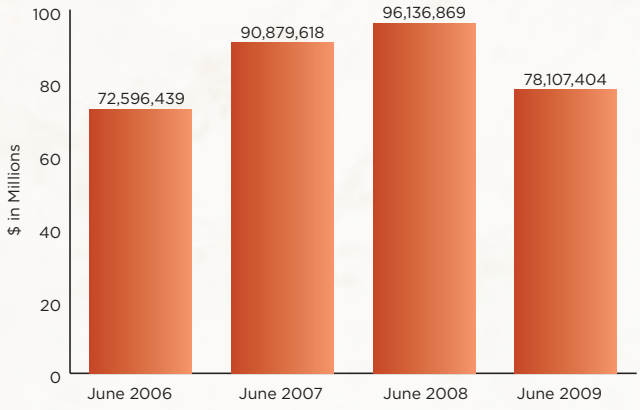
Florida Tomorrow Campaign

In July 2005, the University of Florida launched its third and largest ever comprehensive campaign with a goal to raise $1.5 billion in private gifts. To enhance funding for its teaching, research and extension programs and facilities, IFAS has set its campaign goal at $100 million.

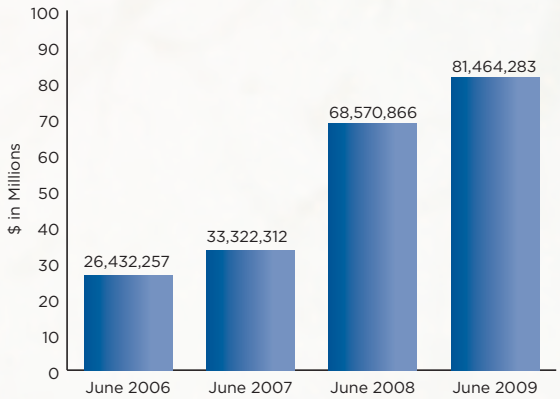
UF/IFAS Campaign Goals

Faculty Support	$42,500,000
Graduate Support	$9,000,000
Undergraduate Student Support	$8,000,000
Program Support and Research	$29,500,000
Campus Enhancement	$11,000,000
Total	$100,000,000

IFAS Endowment Values



IFAS Florida Tomorrow Campaign Totals



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The Language of Light

By Tom Nordlie

PHOTOGRAPHY BY TYLER JONES

To the human eye, colored lights can be a treat. But to plants, they're more like a set of instructions: one might say, "grow faster," another says, "produce flowers now."

The reason is that plants are highly sensitive to discrete wavelengths of light — what we humans perceive as color — and respond to wavelengths well beyond the narrow bounds of human vision. Kevin Folta, an associate professor with the horticultural sciences department, is studying ways of directing plant growth with light-emitting diodes, or LEDs, which use up to 90 percent less energy than incandescent bulbs.

"Light is the language plants listen to when deciding how to grow and how to behave," he says. "We're learning how to master the commands in the light-plant vocabulary to make the plant do what we want it to do, when we want them to do it."

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