

WE MAKE GOOD

GREATER

FOR EVERYONE.



### Letter from the Office of the Senior Vice President

You'll see in the pages that follow that UF/IFAS takes the spirit of Gandhi's words to heart: We are the change we wish to see in the world, from Gainesville to Tanzania.

The stories and images are another way to inform you of the impact UF/IFAS makes, of how we put public funding to use for the public benefit.

Whether we're doing it through teaching, research or Extension — or a combination of the three — we at UF/IFAS are dedicated to coming up with practical solutions to real-world challenges. Sometimes those challenges are local, such as how to help Florida residents live a healthier lifestyle. Sometimes those challenges are the grandest the world has ever known, such as how to feed a projected 9.6 billion people by 2050.

We don't have all the solutions to these challenges. But we do know we can't do it alone. We need your help. Your time, talent and financial support all help UF/IFAS increase its capacity to improve people's lives and to contribute even more to the Gator good.

Working together, we can all expect great things from UF/IFAS!

Jack M. Payne

Senior Vice President
Agriculture and Natural Resources



### DeSoto County is one of the top 12 agricultural counties in the state; a leading producer of citrus, blueberries and beef cattle.

But when it comes to the economic and physical health of its residents, it ranks near the bottom. Census data reveals that it's the poorest county in the state, and children are especially impacted, with four out of ten children living in poverty. In terms of health factors, DeSoto ranks 60th out of 67 Florida counties. Without education and access to healthy food and exercise choices, the county's youth are in danger of joining the estimated 69% of adults who are overweight or obese. That's why Kristie Popa, a UF/IFAS Extension agent in DeSoto County, has been working with private organizations and local government to help the county's 5,384 youth to better understand the food they eat, and how to make informed choices that will improve their health over a lifetime.

In 2014, Popa secured an \$18,500 grant from the Mosaic Company to convert a storage room at the Extension office in Arcadia into a teaching kitchen. With support from Mosaic and the DeSoto Board of County Commissioners, the kitchen is equipped with two stoves, a removable center island where students and clubs can work together to design recipes and prepare food, and a window on the kitchen to accommodate larger classes. Since the kitchen opened in March, it has been used for a culinary summer camp, 4-H cooking clubs, food preservation demonstrations and health and nutrition classes.

"Before the kitchen, we mainly taught nutrition through the use of games and activities," explains Popa. "Now we're able to teach youth through real-life hands-on opportunities."

The kitchen is the latest in a number of Extension efforts aimed at teaching food safety and nutrition to DeSoto's youth. One of the ironies of life in Florida's rural communities is that while most families work in agriculture, youth often aren't aware of where their food comes from. That's why Popa helped to start AgVenture, a one-day program where 4th graders from county schools go on field trips to local farms to sample farm-fresh food and interact with producers to learn about food production. When the day's events are over, students get a bin filled with information and kits for starting their own projects at home, so that what they learn at AgVenture can stay with them and form the topic of classroom discussions. Last year, AgVenture reached over 400 students in DeSoto's schools.

Another way Extension promotes nutrition is by bringing the experience of growing your own food directly to schools and communities. Last year, Popa received a grant to provide each 3rd grade classroom with portable gardens for growing strawberries and lettuce.

Extension also helped to establish vegetable gardens in Casa San Juan Bosco, a low-income housing community for the county's farmworkers.

"We are the poorest county in the state of Florida," Popa said, "so it's extremely important for us to give not only the kids but the adults the knowledge they need to grow their own food and understand what eating healthy is all about. The county just had to raise a ½ cent tax to keep our hospital going, so it's important that we reduce the need for them to have to go to the hospital. We need to create a healthier community."

Whether in DeSoto county or any of Florida's 67 counties, UF/IFAS Extension faculty provide research-based information to residents so that they may improve their quality of life, sometimes one meal at a time.



# FEEDING

MORE MINDS AROUND THE WORLD.

By the year 2050, the global population is projected to surpass 9 billion people, and the University of Florida's Institute of Food and Agricultural Sciences is committed to finding ways to feed the largest population the world has ever known.







UF/IFAS leaders began the "Challenge 2050" program in 2013, making UF a launching point for a global initiative to change the way the world thinks about hunger.

Challenge 2050 is designed to inspire students to create solutions through teams that tackle big problems from different angles, including food, economics, natural resources, health and social systems. Students come to understand that feeding people is not simply about growing food and handing it out or selling it — it's about learning how all of these systems interact in order to find the best solutions.

"We're giving these students a problem to solve and, hopefully, when they do this, they'll find out that it's not just an agricultural problem," said Jack Payne, UF senior vice president for agriculture and natural resources. "It's a human health problem, it's a socio-economic problem and it's a natural resources problem."

Challenge 2050 is the first program of its kind in the nation and is unlike any other at UF. It involves four classroom courses, but there are also hands-on components, including an immersion experience in another country,



community development projects, think tanks, executive-in-residence connections and internships. All of that allows students to earn a certificate — and experience they can apply in the real world.

"These courses approach education differently in that we aren't telling students exactly what they need to learn; instead we are empowering them to discover the knowledge and skills needed to address the 2050 challenge," said Elaine Turner, dean of the UF College of Agricultural and Life Sciences.

Through the program, UF students have opportunities to address questions about food, agriculture, and natural resources with help from industry and community leaders. Corporate partners are Limagrain, the world's fourth-largest seed company specializing in field and vegetable seeds and cereal products, and HM.CLAUSE, a Limagrain subsidiary that breeds, produces and commercializes vegetable seed varieties for professional growers.

"We share the same values, the same long-term view of the project and partnership," said Frederic Thys, Limagrain vice president of communication and public affairs. "We are already impressed by the energy and enthusiasm of the students."

Each semester, students present and defend their proposed solutions to world-hunger issues to members of the Wedgworth Institute, a collection of agricultural and natural resource industry leaders who set the foundation for positive change in our state and beyond. Those leaders use their practical experience to offer students feedback.

Kayla Waldorff, a Challenge 2050 junior, said class discussions are wide-ranging and often hotly-debated—one session alone might cover everything from health concerns to political corruption to genetically modified foods. Students direct their own learning, with instructors serving as guides throughout the process.

"It helped me to realize that even someone like me could help change the world," Waldorff said. "It deepened my understanding of the different issues in the world and made me know that this problem is bigger and much more complex than I ever realized."



## Florida is a land rich in water resources, with more than 1,300 miles of coastal shoreline, 55,000 miles of rivers and streams, and 1,000 freshwater springs.

For years, Florida's water supplies have been tapped to support agriculture, tourism, saltwater intrusion protection, industries, homeowner use and for drinking water. And as the state's population rises, so does demand for water resources.

By 2020, the state's population is expected to increase to nearly 22 million people. To handle their needs, Florida will have to supply more than 9 billion gallons of fresh water per day — a 26 percent increase.

That leaves researchers focusing much of their attention on water conservation.

UF/IFAS researchers Kati Migliaccio, Clyde Fraisse and Kelly Morgan have responded by developing smartphone apps to help farmers and homeowners better manage their water use.

Citrus and strawberry apps give users an irrigation schedule based on water balance data, real-time weather and weather forecasts, which helps growers conserve water while minimizing nutrient leaching from roots. A cotton app notifies users when irrigation is needed. And a homeowner app gives those with automated irrigation systems estimated run times to meet lawn turf water demand.

"Previously, farmers or homeowners would need specialized irrigation equipment on their property or would need to complete a series of calculations by hand," Migliaccio said. "Now, the apps calculate an irrigation schedule and the user adjusts the time the system operates based on the app recommendation. By adjusting the system based on real-time information, water is conserved."

In a June 2014 study, Consuelo Romero and Michael Dukes found that one-third of Floridians' residential water use goes to lawn irrigation — and about half of all homeowners are overwatering their lawns.

"It's difficult for most homeowners to determine when and how much to irrigate," Dukes said. "While day-ofthe-week restrictions help reduce over-consumption, other techniques like smart controllers, such as a soil moisture sensor, can control irrigation for just the right amount at just the right time."



AVERAGE
AMERICANS USE

176 GALLONS
OF WATER
PER DAY.



### Lilian Mpinga, Tanzanian agricultural officer

**CALS cred:** Earned her master's degree in 2013 at UF in horticultural sciences.

**Why she's brave:** Despite being a single mother, Mpinga spent more than a year studying at UF to sharpen her skills to help agricultural producers in Tanzania.

Her UF/IFAS faculty partner: UF/IFAS horticultural sciences associate professor Carlene Chase. "She was able to make me feel like I would achieve my goals," Mpinga says about Chase. "She was there when I was having difficulty in other subjects. I was able to graduate from Florida as an excellent student and researcher, and that was due to her academic advisement."

**The challenge:** Most Tanzanian farmers are small-scale growers, and the weather makes it tough to combat plant disease. Mpinga hopes to help them consistently produce greater yielding, disease- and pest-resistant tomato crops by teaching them about grafting and conducting research so she can share science-based grafting techniques.

**On Grafting:** "Grafting is a new technology. It is something that is not done much here in Tanzania, so I thought something new would be good. There are many potential benefits to the practice. Most farmers in Tanzania are small-scale farmers, and they need a lot of inputs, especially pesticides, because we have a lot of instances of disease. Grafting with resistant varieties can allow you to overcome some of those diseases."

Sponsor: iAGRI is funded by USAID within its Feed the Future initiative and implemented by the Ohio State University Consortium (Ohio State University – lead institution, Iowa State University, Michigan State University, Tuskegee University, University of Florida and Virginia Tech). Primary institutional stakeholders in Tanzania are Sokoine University of Agriculture and the Tanzanian Ministry of Agriculture, Food Security, and Cooperatives. Photo credit: David Kraybill

For more on iAGRI, visit www.iAGRI.org.



### **UF/IFAS FACTS**

**UF/IFAS SUPPORTS** 

### .20 BILLION

IN STATE GDP IMPACTS BY FLORIDA AGRICULTURE. NATURAL RESOURCES AND RELATED FOOD INDUSTRIES

MILLION OVERALL BUDGET

MILLION IN GENERAL REVENUE

### \$23 MILLION

IN GIFTS AND PLEDGES RECEIVED



**15 NEW ENDOWMENTS** FOR RESEARCH, SCHOLARSHIPS AND EXTENSION

\$3.4 MILLION

IN PRIVATE GIFTS RECEIVED FOR SCHOLARSHIPS AND FELLOWSHIPS

### **UF/IFAS RESEARCH FACTS**

RESEARCH AND EDUCATION

MILLION EXTERNAL SUPPORT FOR RESEARCH PROJECTS

NEW INVENTIONS : FIELD STATION

**NEW PLANT VARIETIES, INCLUDING 16 NEW** CITRUS ROOTSTOCKS

OF THE UF GENETICS INSTITUTE

#### **UF/IFAS CALS FACTS**

CALS IS THE

LARGEST COLLEGE OF AGRICULTURE AND RELATED SCIENCES IN THE COUNTRY

**CALS HAS** GRADUATE **MAJORS** 

THE FOOD SCIENCE AND HUMAN NUTRITION **DEPARTMENT HAS THE** MOST CALS STUDENTS AT

THE UNDERGRADUATE MAJOR WITH THE HIGHEST PERCENTAGE OF FEMALE STUDENTS IS ANIMAL **SCIENCES AT** 

**UNDERGRADUATE MAJOR WITH THE** HIGHEST PERCENTAGE OF MALE STUDENTS IS GEOMATICS AT

**CALS OFFERS** 

**UNDERGRADUATE MINORS** 

# WENTY

CERTIFICATES, 7 MASTER'S PROGRAMS AND 2 BACHELOR'S PROGRAMS ONLINE

CALS STUDENTS HAIL FROM

STATES AND 93 COUNTRIES

CALS IS ONE OF THE TOP **COLLEGES FOR NATIONAL USDA TEACHING AWARD RECIPIENTS** 

CALS HAS MORE THAN **ORGANIZATIONS** 

FLORIDA COUNTIES

**UF/IFAS EXTENSION FACTS** 

UF/IFAS EXTENSION HAS **EXTENSION OFFICES IN ALL** 

FOUR

FLORIDA REGIONAL 4-H CAMPS

(GRAD & UNDERGRAD)

CALS OFFERS STUDY ABROAD PROGRAMS TO

**COUNTRIES THROUGH GLOBAL GATORS** 

**STUDENTS** 

UNDERGRADUATE

OF CALS STUDENTS ARE UNDER-REPRESENTED **MINORITIES** 

THERE ARE MORE THAN

LIVING CALS ALUMNI IN ALL 50 STATES AND 112 **COUNTRIES** 

OF CALS STUDENTS ARE FEMALE (FALL 2014, **GRAD & UNDERGRAD)** 

CALS HAS THE **LARGEST DOCTORAL PROGRAM** IN AGRICULTURE AND RELATED SCIENCES IN THE US

## 15 MILLION

CONTACTS TO DELIVER RESEARCH-BASED INFORMATION TO THE COMMUNITY:

**10.6 MILLION WEB VISITS** 

1.2 MILLION **EMAIL CONSULTATIONS** 

2.9 MILLION **GROUP LEARNING EVENTS** 

157.000 OFFICE CONSULTATIONS 341.000

PHONE CONSULTATIONS

FIELD OR SITE VISITS

31.000

82.000

**EDUCATIONAL MATERIALS** PRODUCED

UF/IFAS 20 COMMUNITY REPORT 14

