2006 University of Florida Research and Extension and Florida A&M University Extension Combined Report of Accomplishments

April 1, 2007

This is to certify that I have seen and approved the Florida FY 2006 Report of Accomplishment for AREERA. This report contains the following:

UF/IFAS (1862) Research and Extension Report of Accomplishment
FAMU/IFAS (1890) Extension Report of Accomplishment

This is also to certify that Cheri Winton Brodeur will be submitting this report with our knowledge and approval.

Signatures:

Dr. Larry Arrington _____ 3/29/07
Dean and Director of Extension Date

Dr. Samuel Donald _____ 3/29/07
Interim Dean and Director Land Grant Programs Date

Dr. Mark McLellan _____ 3/29/07
Dean and Director of Research Date

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I. Plan Overview

1. Brief Summary: 2006 Florida ARRERA Report

In the year 2006, Florida (1862) Research and (1862 and 1890) Extension have met all the requirements of AREERA of 1998. Florida has a strategic plan in place that has resulted in the identification of critical issues state wide and at the grassroots level. They continue to monitor these issues through a wide range of stakeholder interaction and advisory committees. Programmatic areas have been developed that reflect these issues and provide a framework for problem solving that includes integrated as well as multi-state components. A Merit review and peer review system is in place and being used successfully by both research and Extension to evaluate both research projects and the Extension goal/focus areas that represent specific programmatic areas.

Florida has met and exceeded the 25% requirements of multi-state and integrated activities for both the 1862 Research and 1862 Extension faculty in 2006. Part of the ability to successfully record this information is due to the development of a faculty accountability system (UNIFAS) that is used to record all teaching, research and Extension activities and time expended for both the state and county land-grant faculty as well as grants, awards, contacts, and multiple other fields that give a clear picture of faculty accomplishments. FAMU (1890) Extension activities are also captured in this database. UNIFAS includes all publications for faculty making it possible for Florida to provide documentation of peer-reviewed publications now required by AREERA. In this area there were a total of 1,216 peer-reviewed publications published or accepted for publication in 2006 and a total of 458 Extension, EDIS peer-reviewed publications added to the EDIS database. Florida had no patents this year related to either Hatch or Smith-Lever funds.

2. Florida Land-grant Colleges: Major Issues and Challenges

Florida is a unique tropical state whose climate draws thousands of people to relocate here each year. The population has now reached almost 20 million. Because of the climate and year-round activities Florida also attracts nearly 53 million tourists annually. Both populations are extremely diverse in age, ethnic background and economic level which can lead to complex issues and barriers that must be addressed.

Florida is a major gateway between the world and the rest of the United States. The mild climate and huge volume of imports make Florida susceptible to many uninvited diseases, pests, plants and other elements that can be detrimental to Florida's environment and quality of life. The Florida land grant college, the Institute of Food and Agricultural Sciences (IFAS) works hard to monitor possible hazards that could become potential problems far into the future. Teaching, Research and Extension work together to monitor problems identified in other parts of the world that could eventually become issues here. They search for solutions and methods of communication that keep us on the cutting edge from the initial identification of a potential problem to the ultimate outcome of finding the best management practices that will protect Florida's people and environment.

IFAS has also developed multiple methods of identifying critical need areas that already exist within the state. Grassroots, strategic planning, the use of advisory committees, and formal meetings with industry are just a few of the ways that IFAS identifies the needs and issues that must be solved. As the state becomes more populated and complex, the structure of the land grant college has been modified to meet these needs. It is through the close interaction between UF/IFAS, the 67 counties, and the networking through multi-state and integrated collaborations worldwide that best management practices are identified, tested and then provided as solutions to problems Florida citizens deal with on a daily basis.

Florida is a unique and diverse agricultural state. The Sunshine State, with over 280 different crops being produced, is second only to California in agricultural diversity. This diversity assures that agriculture provides stability to Florida's economy. We consistently rank in the top 10 states nationally with farm cash receipts. Our farmers by and large do not benefit from Federal Farm Programs that raise other states' farm cash receipts. Florida's 44,000 farms are primarily family farms that manage more than 10 million acres of land. This, combined with commercial forestland, accounts for about 75 percent of the state's 35 million acres that are managed as some form of agricultural and natural resource enterprise.

Farmers operate in a classic supply and demand market and are more price-takers than price-makers. Even though agriculture has a $54 billion impact on Florida's economy, there are sectors that have not prospered. In general, Florida's farmers were not participants in the economic boom of the 1990's. The economic pressure on our farmers has caused them to turn to IFAS for help in building profitability back into the agricultural operations. IFAS (1862) and FAMU (1890) land grant colleges serves as the research and development arm for this diverse and broad-based industry. Small, limited resources and new farmers just establishing a farm learn about and can utilize the same technology that larger farmers utilize. This access to research and technology transfer through the extension function is because of IFAS, FAMU and their land grant mission (Cockrell, 2003, Florida Farm Bureau, FAIR Report).

Institute of Food and Agricultural Science

Florida's governing body for higher education created the Institute of Food and Agricultural Sciences in April 1964, by reorganizing UFs College of Agriculture, School of Forestry, Agricultural Experiment Station, and the Cooperative Extension Service into a single unit. Today, UF/IFAS includes Extension in each of the state's 67 counties, the Agriculture Experiment Station with 13 research and education centers located throughout Florida, the College of Agricultural and Life Sciences, the School of Forest Resources and Conservation, the Center for Tropical Agriculture, portions of the College of Veterinary Medicine, the Florida Sea Grant Program and the International Program for Food, Agriculture and Natural Resources.

UF/IFAS Research and the Florida Cooperative Extension (comprised of UF/IFAS Extension and FAMU/CESTA Extension) provide Floridians with science-based research and life-long learning programs in cooperation with county and state governments, and the United States Department of Agriculture.

Extension

From its inception, as intended, the Florida Cooperative Extension has extended research-based knowledge to communities across the state to solve problems. Extension continues to analyze and synthesize the results of university research and put that information in the hands of the public to improve the quality of life in Florida and does this through a variety of mechanisms and relationships. The most obvious of these is the continued partnership with county governments and the shared responsibility with counties to keep in place viable educational programs at the local level. Local needs often drive Extension's program and these needs frequently require resources from disciplines beyond those encompassed in Extension's university home in the Institute of Food and Agricultural Sciences.

Extension in Florida is defined by the cooperative efforts of Florida A&M University (FAMU) and the University of Florida (UF). The universities operate under a memorandum of agreement which creates the "Center for Coordinated Agricultural Programs (CCAP). This agreement encompasses research, teaching and extension. The CCAP council meets annually to discuss project funding and other matters related to academic programs. Outside of this agreement FAMU extension and UF extension conduct programs in counties under the same parameters as outlined in the state statute 1004.37. There is no funding mechanism in the state university system to allocate funding to faculty with contact hours with non-enrolled or informal students.

The organizational structure of Extension is complex but very effective in engendering support from its most important partners. The core of extension program remains as its original conception. It is based on the delivery of university based research to the citizens of the state of Florida. The responsibility of the Dean for Extension is to coordinate the activities of the Extension faculty to engage in the production and delivery of educational programs. In the past, Florida has done this through 83 design teams that supported "state major programs (SMPs)', in-service training, publications, collaborative programming and county operations. Following a long-range strategic planning effort in 2003-2004 and an external review of the Extension organizational structure, Florida Extension has moved towards a more focused structure composed of 7 major goals that more clearly identifies the formal ties between research and Extension and is based on prioritizing the needs of the stakeholders at all levels including grassroots. These seven teams have been developed around the goals of CSREES, the University of Florida, and IFAS and FAMU/Extension. Membership on the teams

include both UF/IFAS and FAMU faculty and staff, as well as stakeholders and others who can provide knowledge needed to problem solve in the areas of focus.

The administrative team that manages this effort consists of the State Extension Dean and Director, the 1890 Administrator, 5 state program leaders, 5 district directors, County Extension Directors, the Program Development and Evaluation Center and other support personnel. The seven major goal areas include:

- To enhance and maintain agricultural and food systems
- To maintain and enhance Florida's environment
- To develop responsible and productive youth through 4-H and other youth programs
- To create and maintain Florida friendly landscapes: the smart way to grow
- To assist individuals and families to achieve economic well-being and life quality
- To provide support leading to healthy communities
- To promote professional development activities designed to enhance organizational efficiency and effectiveness

Each of these goal areas include three to five focus teams and multiple action teams whose responsibility is to identify (or use problems previously identified) and solve problems in these specific areas of need related to their focus. To this purpose these focus teams are closely integrated with research faculty, and other entities in the problem solving process and the management of change. Goal/Focus teams have been empowered by administration to not only find solutions but to develop state-wide initiatives that lead to better communication and accountability of best management practices and outcomes and to interact with faculty across the state dealing with problems related to individual focus teams.

Extension has actively tried to serve the state by utilizing the resources of other colleges and schools on the campus as well as nationally and internationally to provide educational programs to the public. Faculty are encouraged to become involved in both multi-state and integrated activities with research to improve programs while reducing the need for fiscal and human resources.

Extension has developed a website, http://solutionsforyourlife.com, to provide these solutions 24/7 for Florida's clientele. For additional information, see http://extadmin.ifas.ufl.edu/

Research

The UF/IFAS research mission is to invent, discover and develop knowledge to enhance the people and economy of Florida. Faculty members pursue fundamental and applied research that furthers understanding of natural and human systems. Research is supported by state and federal appropriated funds and supplemented by grants and contracts. IFAS research expenditures in the 2002-2003 year exceeded $129 million.

The Florida Agricultural Experiment Station administers and supports research programs in UF/IFAS. The research program was created by federal legislation known as the Hatch Act, a follow-up to the Morrill Act that established US land-grant universities. The ultimate achievement of research is its contribution of new knowledge to the welfare of people. Within the UF/IFAS research organization the scope of research can be interpreted to include a broad range of activities that are related to agriculture and natural resources; the interrelationships among all people as suppliers of inputs and users of these products; the effects of agricultural and natural resource industries on people through environmental interfaces; and the social welfare of people as consumers.

The research programs support approximately 350 full-time equivalent faculty members in 20 academic departments on UFs Gainesville campus and at 13 research and education centers around the state many of them holding joint appointments in Extension and Teaching. There are more than 700 active IFAS research projects across the state. There is no formula funding within the state university system for this research component.

For additional information, see http://research.ifas.ufl.edu/

Research and Education Centers

There are 13 Research and Education Centers in the state. These are the facilities that house state faculty (research, teaching and extension) and some multi-county agents.

- Citrus Research and Education Center
- Everglades Research and Education Center
- Florida Medical Entomology Lab
- Ft. Lauderdale Research and Education Center
- Gulf Coast Research and Education Center
- Indian River Research and Education Center
- Mid-Florida Research and Education Center
- North Florida Research and Education Center
- Range Cattle Research and Education Center
- Southwest Florida Research and Education Center
- Subtropical Agricultural Research Station
- Tropical Research and Education Center
- West Florida Research and Education Center

Gainesville Campus Departments.

- Agricultural and Biological Engineering
- Agricultural Education and Communication
- Agronomy
- Animal Sciences
- Entomology and Nematology
- Environmental Horticulture
- Family, Youth, and Community Sciences
- Fisheries and Aquatic Sciences
- Food and Resource Economics
- Food Science and Human Nutrition
- School of Forest Resources and Conservation
- University of Florida Herbarium
- Horticultural Sciences
- Microbiology and Cell Science
- Plant Pathology
- Plant Molecular and Cellular Biology
- Soil and Water Science
- Statistics
- Veterinary Medicine
- Wildlife Ecology and Conservation

Recognized Centers of Excellence

- Agricultural Law Center
- Center for Aquatic and Invasive Plants
- Interdisciplinary Center for Biotechnical Research
- Center for Cooperative Agricultural Programs
- Energy Extension Service
- Florida Organics Recycling Center for Excellence
- Florida Sea Grant

- Center for Distribution and Retailing
- International Agricultural Trade and Policy Center
- Center for Nutritional Sciences
- Center for Organic Agriculture
- Center for Remote Sensing
- Center for Renewable Chemicals and Fuels
- The Center for Subtropical Agroforestry
- Center for Tropical Agriculture
- Tropical and Subtropical Agriculture Research (T-STAR)
- UF Juice and Beverage Center

County Operations

Florida Extension has divided the state's 67 counties into five geographic Extension Districts. A "District Extension Director, (DED)" is responsible for an average of 70+ county extension faculty, their duties include hiring, assisting in programming and evaluation for all County Extension Faculty in each respective district. DEDs work with County Extension Directors (CEDs) and county agencies, commodity groups and local government relations. In addition DEDs take on leadership roles in statewide programming including topics of Internationalizing Extension, Information Technology, Natural Resource programming, Community Development programming, Leadership Development and Local Government Relations. Two of the DEDs are located on campus; three are housed at UF IFAS Research and Education Centers (RECs) in the Northwest, South Central and South. The DED's work closely with the Extension Program Leaders, UF IFAS Department Chairs and REC Directors, their immediate supervisor is the Associate Dean for Extension.

The Board of County Commissioners (BOCCs), administrators, managers, coordinators and clerks are all critical partners with Florida Cooperative Extension as they make recommendations and decisions related to the local extension financial contribution. In fiscal year (FY) 2006, local finances to fund extension in Florida amounted to $33.5 million (excluding the value of office space and facilities) and show the importance Florida counties place on the existence of the Florida land-grant college at the grassroots level. FY 2002 represented the first time that county government provided the greatest share of operating revenue of the three (federal, state, local) financial partners. There are 379 county faculty positions in the state. Of these 302 are joint paid (state or grant) (60% state / 40% county on average). County Extension Faculty receive paychecks from UF and from County Government, this process gives the Counties an increased ownership of these positions. In 2006, seventy-two county positions were 100% county paid. In many instances, county government has agreed to fully fund positions until such time that the University can provide the resources to pay a percentage. Approximately 26 joint positions are vacant as of this writing, due to normal retirements and resignations, each year it is becoming increasingly difficult to recruit qualified candidates to fill open positions. Starting salaries for new faculty are among the highest in the nation, county extension faculty are eligible for promotion that parallels the UF tenure and promotion system. In Florida there is no state mandated relationship between county government and the University to operate an Extension program in the respective counties. The Florida Statute sets forth that each county must annually determine the extent of participation in Extension programs. There is also no mandated formula between the University and counties with regard to staffing levels in county offices, although 42 of the counties operate under a formal memorandum of understanding (MOU). The legislation does state that county agents who are jointly paid for by the state are officially employees of the university. Every other aspect of the relationship between the University and the Counties is a matter of discussion and mutual agreement

3. Program Areas

a. Agriculture and Horticulture

Commercial Agricultural and Horticultural Programs*:* Florida has 42,500 commercial farms, utilizing 10 million acres. Florida producers continue to provide a wide array of agricultural products that are safe and

dependable. Due to Florida's diversity in climatic conditions, ranging from tropical in the South to temperate in the North, and soil types (7 soil types), more than 250 commodities are produced. In 2005, Florida ranked 10th in the nation with total cash receipts of over $6.9 billion. Florida ranks 1st in citrus (oranges, grapefruit, and tangerines), snap beans, fresh market tomatoes, cucumbers, squash, peppers, and watermelons; 2nd in greenhouse and nursery products, sweet corn, and strawberries and 4th in honey production.

Florida producers utilize a little more than 10 million or about 30% of the state's 35 million acres for agriculture production. Commercial forests account for about 37% of the states acreage, national and state forests account for about 10%, and urban/suburban/industrial account for the remaining 22.4%. Of the 42,500 commercial farms, 6300 had sales exceeding $100,000. The average farm size was a little less than 235 acres. Florida is the 11th leading state in net farm income.

Obviously as the population continues to increase there will be continued stress on natural resources. Demands for water in some counties may well exceed local water resource availabilities. Continued urban growth will force traditional agricultural and forestry lands to be rezoned for urban uses. Land-extensive agriculture will be replaced in part by high-value specialty fruits, vegetables and nursery products. Agricultural sectors will continue to feel impacts of emerging product forms; shifting consumer preferences; heightened environmental, health and safety concerns; and changing lifestyles. Alternative crops, value-added products, global competition, new processing technologies, and biotechnology will stimulate change and increase opportunities for growth.

Most farms in Florida are family owned and operated with the exception of sugarcane. The present value of field crops is in excess of $189 million (corn, cotton, peanut, soybean, tobacco, wheat, and hay). Sugarcane has a receipt value greater than $432 million.

As of January 1, 2006 there were 1.71 million head of cattle on farms and ranches in Florida, including 926,000 head of beef cows and 137,000 head of milk cows. Florida ranked 9th nationwide in the number of chickens on farms in the year 2004. Florida's poultry farmers maintained an average of 11.3 million layers and produced almost 78.5 million broilers. Florida ranked 1st in total foliage sold with sales of 476 million. The total value of our nursery and greenhouse ornamental industry was $3 billion. Total value including landscape industries and retail industries was $15 billion.

In addition, there are numerous small acreages of specialty and minor crops.

Urban Horticultural Programs: The current population of Florida is just under 17 million according to the 2002 census. Continued growth will alter and stress our agricultural and natural resource industries. Demands for water in some counties may well exceed local water resource availability. As a result, UF/IFAS/Extension has a commitment to urban horticultural programs. The programs have a tremendous amount of diversity.

Master Gardener Programs: Since 1979, Cooperative Extension agents in Florida counties have maximized resources using a "learn and return" program developed in Washington: the Florida Master Gardener Program. By providing education-based instruction methods incorporated with the latest scientific research, the program capitalizes on the desire of Florida citizens to learn more about horticulture in exchange for a predetermined number of volunteer hours returned to the individual county.

Florida Master Gardeners are University of Florida-trained volunteer teachers. Master Gardeners provide research-based information to Floridians about gardening-America's most popular pastime. Their information about planning and maintaining urban, suburban, and rural landscapes emphasizes environmental stewardship.

The state does not require Florida counties to have the program. Rather, each individual county extension office determines the focus and structure of the program. The volunteers execute a variety of outreach tasks as determined by the program leader (usually the consumer horticultural agent). Duties include: answering horticultural questions over the phone, in person or through the media; participating in public service projects; giving educational programs; supporting youth activities, performing soil sample evaluations and assisting in field research. The ultimate end to all these activities is to extend the vision of the UF/IFAS - protecting and sustaining natural resources and environmental systems, enhancing the development of human resources, and

improving the quality of human life through the development of knowledge in agriculture, human and natural resources and making that knowledge accessible.

During 2006, Florida Master Gardener Volunteers assisted horticulture agents in developing and promoting noncommercial horticulture ultimately increasing environmental action and awareness in 52 counties. Statewide more than 3,765 volunteers contributed 3,396,694 hours to local county horticulture extension educational programs providing $7,155,566 worth of services to citizens of Florida.

Florida Yard and Neighborhoods Program (FYN)*:* The FYN Program was developed to address serious problems of pollution and disappearing habitats by enlisting homeowners in the battle to save our natural environment. This program provides special educational and outreach activities directed at the community to help residents reduce pollution and enhance their environment by improving home and landscape management and is funded by the UF/IFAS/ Extension, United State Department of Agriculture, the Water Management Districts, the National Estuary Program, Environmental Protection Agency, The Florida Department of Environmental Protection, Homeowner Associations, and city and county governments. The objectives of the program are to reduce storm water runoff, decrease non-point source pollution, conserve, water, enhance wildlife habitat, and create beautiful landscapes. Currently, 43 counties have active programs. These programs involve individual homeowners, homeowner associations, builders, landscapers, and condominium associations.

In addition to the above programs, urban horticultural agents are also involved with programs such as 'Build Green and Profit', Hurricane Preparedness and Disaster Management, and Botanical Gardens.

Agriculture & Horticulture Major Issues:

- The tremendous diversity of clientele, commodities, size of operation, and sophistication of operations and producers within the state.
- Perception of 'us versus them' (ag. vs. urban) yet some if not all of the issues pertaining to the program area overlap: water quality, quantity, allocation; pest management (plant, animal, and human); urban rural interface and land-use issues; global competitiveness; food safety, quality and technologies; and public policy.
- Rural/urban land-use issues and Florida's sustainability with respect to agriculture and its natural resources and associated industries.
- With the high volume of fresh market fruits and vegetables, food safety issues are a major concern.
- Economic viability is a major concern for producers locally and within the global community.
- Water quality and quantity is one of the main issues facing Florida producers. The incorporation and adoption of best management practices by all agricultural producers insures water quality and quantity.
- The adoptions of best management practices for the green industries including ornamentals, landscape design and maintenance industries, and municipalities. The use of science based research by local and state agencies in establishing rules will be critical.
- Support for programs comes from external sources that may or may not provide support for the programs of highest priority.
- Local, regional or state-wide programming. How do we effectively interface the expertise available at a specific locale or region to meet statewide needs and vice versa?

b. Family and Consumer Sciences

Family and Consumer Sciences Extension programs are designed to empower individuals, families and communities to solve problems and address issues related to quality of life in Florida and focus on a broad spectrum of issues affecting Floridians that can be addressed through educational programs.

The Family and Consumer County faculty represent 26% of all Florida county faculty. Currently there are 77 FTEs at the county level devoted to programming in FCS. At the state level the situation is quite different since state specialists with FCS background only represent seven percent of the state specialists. Currently there are 3.85 FTEs at the state level who provide leadership and support to the major programs in FCS.

FCS: Challenges for the Future

- Inadequate FTE allocation at the state and county level to lead and support program needs in each program area within FCS. Limited visibility for Family and Consumer Science Extension Programs.
- To meet the needs of Florida's diverse and rapidly growing population, FCS faculty target many of their programs to ethnically and culturally diverse persons, those with limited resources, and other vulnerable populations such as the elderly and very young children. These groups are under-represented when it comes to communicating with decision makers
- In difficult economic times there is a very limited budget to support programming. Program growth occurs by faculty being successful in obtaining grant funding to enhance development and implementation of FCS programs.
- Lack of understanding and support for FCS programs by both internal and external groups.

c. Florida Sea Grant Extension (MARINE & COASTAL PROGRAMS)

Florida is a coastal state full of opportunities and challenges. Florida has a longer linear coastline (1,350 miles) than all the other Atlantic states combined from Georgia to Maine. Within its over 8,000 miles of tidal shoreline, there is a wide diversity of living and non-living marine resources unmatched by any in the United States. It has both temperate and tropical ecosystems, and is the only state in North America with a shallow water marine ecosystem containing mangroves, sea grasses and coral reefs.

Florida's marine and coastal educational programs are delivered through Florida Sea Grant Extension (FSGE). Major funding is from the National Oceanic and Atmospheric Administration's National Sea Grant College Program. This funding is augmented by state and county support. Programmatic overview is through the Assistant Director of Extension with the Florida Sea Grant Program. Administratively, county-based agents report through their respective county extension directors and district extension directors. On-campus specialists report through their respective department chairs.

FSGE: Challenges for the Future

- Key marine/coastal issues in Florida not being addressed due to fact we do not have state specialist coverage critical-content areas or due to fact we do not have coverage by county faculty in key geographic areas
- Pressure to compete for more & more grant dollars to supplement base programs. (This competition is intensifying, even for Sea Grant funds that are supposed to be allocated to the individual states). Faculty are also facing this issue; result is more time is being spent on grant development and management vs. program delivery.
- Population increases will continue to place stress on marine and coastal resources, critical habitat, and land/water interface.

d. Natural Resource Extension Programs

Florida has 38.2 million acres of land area with 11 million in land and water conservation, 2 million acres in open water not in conservation areas, 6 million acres in urban development, and 19.5 million acres in agriculture, open space and undeveloped lands. If Florida's population doubles by 2060, as projected, this will cause a dramatic shift in land use patterns statewide, impacting our natural resources.

Florida's natural resource issues are addressed through campus-based specialists and county faculty, most of whom have partial assignments in the natural resource area. Programmatic overview is through the Associate Extension Dean for Environmental and Natural Resources Programs. Administratively, county-based agents report through their respective county extension directors and district extension directors. On-campus specialists report through their respective department chairs.

NRE: Challenges for the Future

- Population increases will continue to place stress on natural resources including the land, native plants and wildlife.

- Demands for water in some counties may well exceed water resource availabilities.
- Continued growth will force traditional agricultural and forestry lands to be converted for residential use.

e. Florida 4-H Youth Development Program

The Florida 4-H program involved 223,057 young people ages 5-18 last year. 4-H community clubs involved 23,788 youth. Camping programs involved 3,244 youth. Special interest groups involved 30,724 youth, while school enrichment programs touched the lives of 198,548 youth. Individual 4-H project study enrolled 1,203 youth and 10,294 youth participated in school age child care and instructional television programs.

Thirty-six percent of youth impacted by Florida 4-H programs last year were from minority racial or ethnic groups (20.08 % African-American, 0.6% American Indian, 14.3 % Hispanic, and 1.32 % Asian). Slight decreases in 4-H membership occurred in farm and towns this past year. Youth in 4-H lived on farms (2.6 %), in towns under 10,000 and in open country (20.9 %), in towns and cities of 10,000-50,000 residents (33.3 %), in suburbs (8%) and in central cities (24.7 %). Nearly 72 percent of young people impacted by 4-H in Florida last year were in grades K-6.

4-H programs remain strong at the county level in extension offices, particularly in those with retention of 4-H agents for three or more years. Nineteen 4-H agents are 100% county paid. Over one -half of 4-H agents in the field have less than 5 years of experience. Limited youth development staffing at the state level has minimized ability to provide in-service training and created gaps in program support for club, program and volunteer management systems. Faculty program support is available at the state level for environmental education, animal science, teen leadership and service learning, and individual and family resource programs.

Traditional 4-H program areas remain strong, although project areas have diversified substantially. UF specialists are instrumental in assisting the Florida State Fair with the popular Champion of Champions program, which has revitalized state fair activities and restructured recognition systems to reward youth for knowledge in animal science. Both 4-H and FFA members benefit from enhanced educational opportunities at quality structured learning activities at the club, county, and state levels, including state and regional fairs. The annual state 4-H horse show in July involves more than 500 riders annually, and 4-H horse clubs are active throughout the year. Many counties conduct Ag in the Classroom programs as part of their special interest programming, working closely with the Ag In the Classroom organization. Judging teams are active in horticulture, wildlife ecology, forest ecology, meat science, dairy, land, livestock judging, poultry and other areas.

Citizenship and leadership programs for teens have seen increased popularity in recent years. Planned and organized by a committee of youth and adults, the Florida 4-H Legislature program remains a nationally recognized (USDA Programs of Distinction) leadership and citizenship educational program. It drew record numbers of youth to the state capitol last summer to enact a mock legislature with youth carrying out the roles of legislators, lobbyists, justices, governor, and news reporters. Several counties provide preparatory programs for Florida 4-H Legislature, resulting in grassroots education of youth in how government functions. For example, in Clay County, Legislature attendees must observe school board and board of county commissioners meetings, and the 4-H members have also assisted with local elections. The Florida 4-H Congress continues annually, with more than 500 youth attending a week of educational and competitive programs on campus at UF last summer.

Adult and youth volunteers this year numbered 14,509.

4-H: Challenges for the Future

Challenges for 4-H have been identified through a 4-H Summit, focus groups, a program development committee, and through discussions with volunteers and staff. The priorities identified for Florida 4-H include the following areas of emphasis:

Providing state and district leadership and for key program leadership positions including organizational development, staff training and mentoring, leadership and citizenship education, etc.

Within the Land-Grant system, reconnect the 4-H youth development program with department chairs and discipline based specialists with emphasis on curriculum development and training for volunteer adults and youth.

Engaging all stakeholders in the 4-H movement at the state level as a unified body to guide the 4-H movement in Florida. As part of this effort, the creation of a structure to carry the tasks is an important component.

Expanding the use of quality indicators for evaluation and accountability and creating a better understanding of agent responsibilities.

Marketing the 4-H Program within our land grant system and within IFAS, UF, and Florida.

Training county agents and volunteers in both program leadership & curriculum leadership utilizing current research in positive community-based youth programs such as essential elements and best practices.

Focusing on curriculum development and/or enhancement in four priority areas: healthy choices (in food, health decisions, etc.), financial literacy, agriculture awareness, and youth / adult partnerships (including civic engagement).

f. Energy

The Program for Resource Efficient Communities has strong sponsorship and contract ties to water and electric utilities, the St. Johns River Water Management District, the Florida Department of Environmental Protection, the Florida Office of Insurance Regulation, the Florida and many others. In addition PREC has conducted applied research studies for Certainteed Corporation, EPA, FEMA, Mercedes Homes and HUD.

It is much more difficult to retrofit an existing home for energy efficiency than it is build efficiency into a home during construction. Over the last 10 years approximately 100,000 new homes have been built annually in Florida. Only a small fraction of these homes have been built to readily applicable resource efficiency standards like the EPA/DOE Energy Star home program. Homes stay in the environment for decades, so the benefit of resource efficient homes persists long into the future. In Florida the single greatest energy challenge is to substantially increase the baseline for acceptable efficiency standards.

g. Community Development

There are hundreds of municipalities in Florida, ranging from Islandia with 5 residents to the Greater Miami area with well over one million. Each Florida community has its own history and special flavor, as well as plans and hopes. The citizens of any community have the goal of working together to improve the quality of their lives and increase their opportunities. For communities to grow, they must have the active interest and involvement of citizens in the form of a rich civic life. In this way, citizens come together to discuss and debate the needs and directions for their community. Then, once the decisions are made, citizens must come together to make and execute their plans. Another requirement for growth and opportunity is a robust economy.

In Florida, a significant basis for such an economy is the natural environment, in terms of natural resources and natural beauty. Together, these account for much of Florida's overall economy in the forms of tourism, industry, recreation and agriculture. Most communities in Florida are looking to one or more of these areas as sources of economic growth. As much as citizens and leaders might desire to have vibrant, cooperative communities, the skills needed to achieve this must be learned. Communities need guidance and expertise. They need support and information. Hanging over all plans and achievements, however, is the possibility of disaster. In the last ten

years or so, Florida has sustained major natural disasters, including devastating hurricanes and drought. These disasters have challenged –and in several cases—leveled communities.

A hurricane or tornado can cause irreparable damage to a community, and a severe drought can change the economic welfare of an entire region. The past few years have made all Floridians aware of other threats to the stability of our communities. Every community must now have some response ready in case of an intentional attack. These attacks can take many forms, including bombings and the introduction of disease agents. Central to the life of our communities are the lives of their citizens, and that means working for their safety in the everyday hazards they face in their homes and workplaces. Florida's natural environment and large agricultural sector expose Florida citizens to a wide range of personal hazards or the possibility of creating hazards for others. As concerned as we are about large-scale emergencies, Floridians are much more likely to face death or injury through equipment or situations they encounter everyday. Whatever our communities are confronted with, Extension must be ready to play its role. Through its reputation for community involvement and quality information, Extension has special capabilities that can assist communities in valuable ways during good times and bad. Currently there are 11 FTEs at the county level devoted to programming in community development and 2.70 FTEs at the state level who provide leadership and support to the major programs in community development.

CD: Challenges for the Future

1. Issues surrounding the rural-urban interface (Growth Management, Land Use Planning, Resource Conservation)
2. Economic development issues (rural-urban disparities, job quality)
3. Community capacity issues (Education, Leadership, Healthcare, Infrastructure)

Long Range Planning, Ag Summits, Multi-State Collaborations, Stakeholder Involvements, and Meeting the Needs of the Under-Served and Under-Represented.

Both FAMU and UF Extension completed a long range planning process in early 2004. Research has been involved in a series of Ag Summits across the state. These grass roots processes provide valuable information for teaching, research and extension to disseminate into needed research projects, and for the development of teaching courses and Extension programs and activities. A formal process is used and guidance through documents such as "Preparing for Challenge and Change in the 21st Century" and 9 Step Process ensure standardization of the process as well as assuring that all populations including the underserved and underrepresented have the opportunity to provide input.

Florida has also initiated the development of multi-state meetings between counties located along the Alabama, Georgia state lines. These annual meetings have allowed faculty from the three states to increase multi-state and multi-state integrated programs in the areas of 4-H, Agriculture, Family and Consumer Sciences, and natural resources. Florida also continues to look for opportunities on the state, regional and national level to increase our multi-state and multi-state integrated activities in an effort to better utilize time and resources.

Meeting the Priority needs

Like most of the rest of the country, Florida has had to deal with the ramifications caused by 9/11 and the falling economy that occurred following that date. From 2001-2003 the Florida Legislature made cuts of approximately $12.4 million that, when coupled with the flat budget in the previous ten years, forced a severe decrease in funding for research and educational activities. In 2006 we were still recovering from these ramifications. To fully implement the reduced funding, the administration, faculty and support positions as well as facilities have undergone consolidation with a downsizing of over 251 positions. Part of this downsizing was caused by the budget and part by the high percent of retirements that have occurred over the past few years resulting in the loss of some human resources in key critical areas. IFAS is presently reviewing all open positions and replacing those that are the most critically needed. In some cases this has resulted in a multi-county position replacing several county positions. Even within these severe restrictions UF/IFAS and

FAMU/CESTA administrators and faculty, through carefully prepared reorganization processes and prioritizing needs assessments are striving to provide the necessary research projects and Extension programs requested by Florida's citizens and at the same balance the needs of the remaining faculty who are being asked to accept additional responsibilities into already full schedules.

Through multiple stakeholder opportunities for input at the grassroots level, as well as through interaction with business and industry, 1862 research and Extension and 1890 Extension have identified needs for research projects and Extension programs that will be the focus for the Florida land-grant college through the next five to ten years. Faculty will continue to increase integration between research and Extension and develop additional collaborations outside of Florida—regional, national, and international. Florida IFAS and FAMU are also increasing their involvement in interdisciplinary and inter-county activities as we continue to strive for excellence, efficiency and an effective organization that meets the needs of our clientele.

Number of Professional FTEs/Sys expending formula funds.

	Extension		Research	
Year	**1862**	**1890**	**1862**	**1890**
2006	32.5	8.2	25.6	0.0

Changes in Accountability Policy in IFAS

Along with identifying critical needs from Florida stakeholders, IFAS has also identified the need to develop a method of better capturing accountability and evaluating these programs. To this end Florida has developed a faculty accountability system based on a logic model that provides all activities and outcomes for teaching, research and extension. Extension has also been updating policy and developing policy related to this process. An example is the definition of indirect contact. In the past, if a faculty member wrote a weekly article we captured the indirect count on a weekly basis. The policy we are presently following removes duplication. For this reason, there will be a big difference between last years projected numbers of indirect contacts and the actual number given in the ROA. For direct contacts there has been an enormous increase in the use of email list serves (to named individuals) which have allowed increases to occur in direct contacts. Florida continues to work towards better recording, quality control of the data, and effective reporting.

II. Merit Review Process

The Merit Review Process that will be Employed during the 5-Year POW Cycle

- Internal University Panel
- Expert Peer Review

Brief Explanation

Prior to the initiation of any research project or extension program that will be wholly, or in part, funded by federal formula funding, the designated review coordinator (or, in the case of some multi-institutional, regional or multi-state projects, the administrative advisor) will call for a peer review of the proposed research or extension project. A minimum of three peer scientists (i.e., individuals qualified by their status in the same discipline, or a closely related field of science) will be selected to read and provide written comments to the appropriate administrator on the proposed project. The focus goal team made up of focus team leaders will read and provide written comments to the appropriate administrator on proposed programs (focus areas).

The terms of reference for the reviewers will focus their attention on questions of the quality of the proposed science, technical feasibility of the research or extension program, the validity of the approach, and the likelihood for completing the stated objectives. Other equally important comments will include relevance to the state's priorities, the degree of integration between extension and research (as appropriate), responsiveness to stakeholders identified critical need areas, and the accuracy of any claims for multi-disciplinary, multi-institutional and multi-state collaboration.

Peer and Merit reviewers may be selected from the same campus or from another institution or organization at the discretion of the research and/or Extension dean(s), or by their delegated authority. Consideration will be given to the expenses associated with the reviewing individual proposal in the selection of reviewers. Additional consideration will be given to appointing reviewers who are without any apparent conflicts of interest and who are without personal or professional bias. Consideration may also be given in selecting reviewers that can protect confidential business information. The anonymity of the reviewers will not be preserved except in very special circumstances.

Peer and Merit reviewers may be selected from the same campus or from another institution or organization at the discretion of the research and/or Extension dean(s), or by their delegated authority. Consideration will be given to the expenses associated with the reviewing individual proposal in the selection of reviewers. Additional consideration will be given to appointing reviewers who are without any apparent conflicts of interest and who are without personal or professional bias. Consideration may also be given in selecting reviewers that can protect confidential business information. The anonymity of the reviewers will not be preserved except in very special circumstances.

Reviewers will be asked to present their findings in either paper or electronic format, and records of the reviewer's comments will be preserved for the life of the project, or for a period of three years in the event that a project is not initiated. Document storage of all materials related to the Peer and Merit Review will be paper and/or electronic.

1. Results of Merit and Peer Review for 2006

Florida Extension and research (both UF/IFAS and FAMU/CESTA) continue to follow the guidelines as outlined in the Florida AREERA Plan of Work. UF/IFAS Research reviews projects and results are kept in the dean of research office. Extension (UF/IFAS and FAMU/CESTA) review goal and focus teams using a peer review process. These reports are kept in the Program Development and Evaluation Center (PDEC) at the University of Florida. Information obtained from the Extension evaluations will be used by each focus team to

improve, change, add or delete to their present program. Since the teams making up these program areas are state-wide, they are able to add direction to the 2004 strategic plan and keep Extension focused on the needs of Florida's citizens as these needs change. These teams also interact closely with the research teams providing information concerning needed research both for the present and the future. Many focus teams related to these program areas are also composed of Extension, Research, teaching faculty as well as stakeholders from across the state adding to their value in identifying program direction and activity.

III. Evaluation of Multis & Joint Activities

How will the planned programs address the critical issues of strategic importance, including those identified by the stakeholders?

Planned programs address the critical issues of strategic importance in several ways including integration between research and Extension and through collaboration and cooperation between states and regions.

Following each long range planning cycle which involves input by stakeholders from the grassroots to the state and national level, critical needs are identified, prioritized and separated into manageable focus areas. Critical issues requiring research are provided to research for further discussion and action.

In Extension goal teams are developed around these critical need areas. Critical issues are further divided into three to five focus teams related to each goal area. Presently Extension has a total of seven goal areas and 28 focus teams. These focus teams lead the statewide effort to find and implement solutions to the critical issues. These teams include faculty with research, teaching and Extension appointments. Both UF/IFAS and FAMU/CESTA faculty are included on these teams as well as some agricultural commodity and industry representatives. Besides obtaining critical need issues from Extension research also works closely with stakeholders, regulatory agencies and international agencies to monitor other issues and critical needs that have been revealed as problems or potential. Projects are then developed that may be state, regional, national or international in composition.

Extension uses the scientific based results of research as they plan programs. Extension also works with other states in developing multi-state programs. One highlight are the yearly multi-state meetings held in the panhandle area of Florida between Florida, Alabama and Georgia. Several other states have expressed a desire to be involved. As can be seen, all of Florida's Extension programs and many research projects related directly to critical issues identified by stakeholders.

How will the planned programs address the needs of under-served and under-represented populations of the State(s)?

As part of the strategic plan Extension identifies under-served and under-represented clientele. Issues are identified both by these populations and by organizations and services that work with and for them. Through this process Florida is aware of whether these issues are county specific or state-wide. Focus teams are provided with all of this information before they begin to design state-wide programs. Target audiences are identified as part of this process and special emphasis is placed on including under-served and under-represented populations.

How will the planned programs describe the expected outcomes and impacts?

In Extension, as part of the program planning process state outcomes and impacts are developed by Extension focus teams to be used by all Extension faculty across the state. This allows for the collection of data that can be state aggregated. Outcomes and impacts may be measured and described in a multitude of ways. Some outcomes are obtained through qualitative or quantitative measures. Case studies identify others. Some outcomes are provided through observation.

Research identifies potential outcomes at the time the research project is developed and approved. For both Extension and research the expected outcomes and impacts described based on the critical issue that has been identified.

How will the planned programs result in improved program effectiveness and/or efficiency?

The planned programs as they relate to integrated and multi-state activities result in improved program effectiveness and efficiency through:

- The development of better solutions through the integration of research and extension
- A broader knowledge base
- A wider network of human resources
- A wider more diverse audience reached
- Less time spend by individual faculty in developing and implementing programs

1. Results of FY 2006 Florida Multi-State and Integrated Activities

Florida has always had integration between research and Extension. Multi-state activities are also a common occurrence. Problems have been related to formal accountability of these activities. Over the last eight years Florida has actively worked to develop a cutting edge accountability system that would capture all of the faculty activities in the areas of teaching, research and Extension as well as the integration of research, teaching and extension and multi-county, multi-regional, multi-state, national and international interactions. Florida uses a system of pre-information in the form of the semester faculty report allowing funding to be placed on required activities before they occur. This process is followed at the end of the year with entry of all activities during the year being put into the UNIFAS activity system that provides standardized information of statewide activities.

This year IFAS research surpassed the required 25% integration. The FYI target amount was $651,657. Florida faculty expended time in the amount of $1,288,542 related to Hatch and McIntire-Stennis funds.

The Extension multi-state target amount was $1,115,371. Florida faculty expended time in the amount of $1,589,949 which exceeded the required amount of Smith-Lever funds needed in this target area.

The Extension integrated target amount was $1,115,371. Florida faculty reported expended time of $1,128,254.

Florida met all federal requirements in the areas of Research integration, Extension multi-state and Extension integration for the 2006 AREERA report.

a. Statistics for FY 2006 Florida Multi-State and Integrated Activities

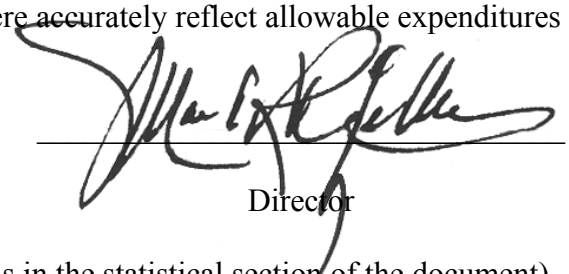
- **Research Integrated**

U.S. Department of Agriculture
Cooperative State Research, Education, and Extension Service
Supplement to the Annual Report of Accomplishments and Results
Actual Expenditures of Federal Funding for Multistate Extension and Integrated Activities
(Attach Brief Summaries)
Fiscal Year: 2006

Select One: Interim X Final
Institution: University of Florida
State: Florida

	Integrated Activities (Hatch)	Multistate Extension Activities (Smith-Lever)	Integrated Activities (Smith-Lever)
Established Target %	25 %		
This FY Allocation (from 1088)	$2,606,471		
This FY Target Amount	$ 651,617		
Title of Planned Program Activity			
Natural Resources and Environment	$ 25,450		
Plants and Their Systems	$ 390,938		
Animals and Their Systems	$ 84,477		
Agricultural, natural resourc & bio engine	$ 166,954		
Food and non-food products	S 13,025		
Economic, Markets and Policy	$ 153,920		
Human Nutrition, Food Safety, hum health	$ 453,778		
Total	$1,288,542		
Carryover	$0		

Certification: I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays represented here accurately reflect allowable expenditures of Federal funds only in satisfying AREERA requirements.



Director — April, 2007 (Date)

(see also by national goals in the statistical section of the document)

- **Extension Multi-state**

U.S. Department of Agriculture
Cooperative State Research, Education, and Extension Service
Supplement to the Annual Report of Accomplishments and Results
Actual Expenditures of Federal Funding for Multistate Extension and Integrated Activities
(Attach Brief Summaries)
Fiscal Year: 2006

Select One: Interim XFinal
Institution: University of Florida
State: Florida

	Integrated Activities (Hatch)	Multi-state Extension Activities (Smith-Lever)	Integrated Activities (Smith-Lever)
Established Target %		25%	
This FY Allocation (from 1088)		$ 4,461,484	
This FY Target Amount		$ 1,115,371	

Title of Planned Program Activity	
1. Enhance and Maint Ag and Food sys	$608,657
2. Maint. And Enhance Fl Environ	$195,818
3. Dev. Respon and prod. Youth	$190,309
4. Create & main Fl. Friendly landscape	$ 84,512
5. Assist Indivd & families to achieve econ. Well-being	$305,153
6. Healthy Communities	$52,240
7. Promote prof. develop activities design to enhanc organ	$153,344

Total	$ 1, 589,946
Carryover	$ 0

Certification: I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays represented here accurately reflect allowable expenditures of Federal funds only in satisfying AREERA requirements.

Director

April 2007
Date

- **Extension Integrated**

U.S. Department of Agriculture
Cooperative State Research, Education, and Extension Service
Supplement to the Annual Report of Accomplishments and Results
Actual Expenditures of Federal Funding for Multistate Extension and Integrated Activities
(Attach Brief Summaries)
Fiscal Year: 2006

Select One: Interim XFinal
Institution: University of Florida
State: Florida

	Integrated Activities (Hatch)	Multistate Extension Activities (Smith-Lever)	Integrated Activities (Smith-Lever)
Established Target %			25%
This FY Allocation (from 1088)			$4,461,484
This FY Target Amount			$1,115,371
Title of Planned Program Activity			
Enhance and Maint Ag and Food sys			$856,868
2. Maint. And Enhance Fl Environ			$121,066
3. Dev. Respon and prod. Youth			$52,798
4. Create & main Fl. Friendly landscape			$32,119
5. Assist Indivd & families to achieve econ. Well-being			$35,370
6. Healthy Communities			$1,879
7. Promote prof. development activities designed to enhance organ			$28,154
Total			$1, 128,254
Carryover			$0

Certification: I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays represented here accurately reflect allowable expenditures of Federal funds only in satisfying AREERA requirements.

Director

April 2007
Date

IV. Stakeholder Input

Actions taken to seek stakeholder input that encourages their participation

- Targeted invitation to selected individuals from general public
- Targeted invitation to non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals
- Survey of the general public
- Survey of traditional stakeholder individuals
- Survey of selected individuals from the general public
- Survey of traditional stakeholder groups
- Use of media to announce public meetings and listening sessions
- Targeted invitation to non-traditional stakeholder individuals

Brief explanation.

The strategic planning committee and the Extension and Research advisory committees help to identify ways to encourage participation in long range planning. The strategic planning committee was composed of county and state faculty with research, extension and teaching appointments. There was also professional staff included who have experience in strategic planning. This committee laid out a list of stakeholders and stakeholder groups who needed to participate. The research advisory committee also includes agriculture commodity and industry leaders who were able to provide additional input.

District directors, county extension directors and educational research and extension center directors from around the state were also asked to provide names of stakeholders or organizations at grass roots levels that needed to be included in identifying critical issues. Special action was taken to find and include underrepresented and underserved groups. The entire process used by Florida for the Extension Strategic Plan can be found at http://pdec.ifas.ufl.edu

A brief statement of the process that has been used by Florida to identify stakeholder individuals and groups and to collect input from them

Method to identify individuals and groups

- Use Advisory Committees
- Use External Focus Groups
- Open Listening Sessions
- Use Internal Focus Groups
- Needs Assessments
- Use Surveys

Brief explanation.

Involving People in Long-range Planning

Florida Extension under went a long-range planning process that covered the period 2004-2007, a series of listening sessions were conducted with a variety of individuals and groups. Participants of these listening sessions will be asked to help translate Extension's purpose, vision and strategy into tangible future results. In support of that task, listening sessions will be conducted with the following groups:

1. Target audiences of Extension programs (both current and potential).This group of ultimate users must find relevance in our products and services or they will not use them. One way to insure relevance of purpose and direction of our educational programs is to ask those for whom such programs are targeted.
2. Extension advisory committees. Individual committee members who understand both the Extension program development process and the needs and concerns of their community can be a most valuable asset. In addition, their involvement in planning can foster greater commitment to programs they help develop.
3. Research, Teaching and Extension faculty. One of the long-standing missions of the land-grant university is to enhance economic well-being and quality of life of those the university is charged to serve. Keeping people abreast of current and emerging research and the educational experiences resulting from adaptations of that research is crucial to this mission.
4. Stakeholders of local, state and national priorities. Stakeholders (external and internal) play a key role in providing financial and other support for Extension programs. Listening sessions provide an opportunity to both obtain their input and make them aware of effective programs and changes/challenges that may impact Extension.

County Listening Sessions

The input from targeted audiences, stakeholders and County Extension Advisory Committees were collected through listening sessions conducted within each county and sponsored by the County Extension Advisory Committee. Local citizens who are knowledgeable of the community—its important features, changes impacting it and what the community values—will be invited to participate in their county's listening session. The purpose of each listening session is to develop a community vision2 that begins with answers to the following questions:

1. What do we value about our community?
2. What trends and issues are impacting what we value?
3. If current directions persist, is this where we want to go? If not, are there local resources that can best address each trend or issue?
4. Of those issues and/or concerns that can best be addressed through the expertise of Extension educators, what priority should be placed on each issue or concern?

A brief statement of the process used by Florida to identify individuals and groups who are stakeholders and to collect input from them

Methods for collecting Stakeholder Input

- Survey specifically with non-traditional groups
- Survey of traditional Stakeholder individuals
- Meeting with traditional Stakeholder groups
- Meeting specifically with non-traditional groups
- Meeting with traditional Stakeholder individuals
- Meeting with the general public (open meeting advertised to all)
- Survey of selected individuals from the general public
- Survey of traditional Stakeholder groups

Brief explanation

Every five to ten years, the Florida Cooperative Extension Service develops a long range plan. The purpose of this plan is to help prepare for the challenges and changes facing the people of Florida over the next four years. It also is a time for Extension to reflect upon our purpose, vision, and strategies for carrying out our mission. By examining our past while looking to the future, we can better determine how well-prepared we are in helping people cope with the changing world.

One step of the planning process is to ask stakeholders, county extension advisory committees, traditional and potential audiences and Extension faculty to come together and help translate Extension's purpose, vision, and strategies into tangible future programs that address economic, environmental and life quality issues facing individuals, families and youth, and communities in this county. Attention also focuses on how such issues affect those involved in the food and agricultural system and natural resources and the environment in which we live and work. This process included an external review conducted by administrators from other land grant universities, county listening sessions, customer satisfaction surveys, open meetings open to all, and calls for meetings in communities made up of non-traditional individuals. The information generated during this listening session is used by the county Extension faculty and the county Extension advisory committee in developing long-range objectives and action plans to guide our educational programs for future years. Research surveys traditional stakeholder groups and also holds informational meetings with traditional and non-traditional stakeholder individuals and groups in order to gather pertinent information. Both Extension and research have ongoing advisor committees made up of a wide diversity of members who provide and/or identify information related to critical issues affecting the state of Florida.

Florida also each year, Florida research and Extension at both UF/IFAS and FAMU/CEST listens to advisory committees on both county and state levels as well as organizations, businesses and clientele to obtain their feedback. Florida Extension also completes a yearly customer satisfaction survey which provides additional information in how best to serve our clientele and meet their needs.

A statement of how the input will be considered

- In the Action Plans
- In the Budget Process
- To Set Priorities
- To Identify Emerging Issues
- Redirect Research Programs
- In the Staff Hiring Process
- Redirect Extension Programs

Brief explanation.

Both Extension and Research used and continue to use the information obtained through stakeholder input to identify critical need priorities. In the most recent long range planning Extension identified over 800 specific critical needs. Some of these were county specific and some require state-wide attention. Emerging issues also became obvious. Once priorities were identified administration and faculty were able to identify needs as short term, intermediate and long term. Once needs were identified both research and Extension were able to redirect programs as needed. For example over the past few years it became obvious that a department dealing with poultry was no longer needed however almost every county identified needs related to community development and sustainability. Priorities also identify the need for additional faculty and staff in specific areas where research or educational programs are required. These needs affect the budget and are taken into consideration as increase revenue is requested.

Input collected will be used to:

- Identifying emerging issues
- Redirect Extension programs as critical issues change
- Redirect research programs as critical areas evolve and change
- Set new priorities based on findings

Based on this information Florida identified 7 major Extension goal areas and 7 major Research goal areas. Research goals are identified by using the word "research at the end of the goal name. They are as follows:

S. NO.	**PROGRAM NAME** *(If the program area is research the title is followed by the word "research")*
1	Enhance and Improve Animals and their Systems--research
2	Assist Individuals and Families to Achieve Economic Well-being and Life Quality
3	Create and Maintain Florida Friendly Landscapes: The Smart Way to Grow
4	Developing Responsible and Productive Youth Through 4-H and Other Youth Programs
5	Support the development of better Economics, Markets and Policy through research--research
6	Enhance and Maintain Agricultural and Food Systems
7	Improve the quality of life for Families, Youth. and Communities through research
8	Food and Non-Food Products: Development, Processing, Quality, and Delivery--research
9	Enhance and maintain Healthy Communities
10	Improve Human Nutrition, Food Safety, and Human Health--research
11	Maintain and Enhance Florida's Environment
12	Find ways to protect and maintain Natural Resources and the Environment--research
13	Enhance and improve the quality of Plants and Their Systems-research
14	Promoting professional development activities designed to enhance organizational efficiency and effectiveness

V. Planned Program (Summary)

1. Enhance and Improve Animals and their Systems--research

Brief summary

- Reproduction performance
- Nutrient utilization in animals
- Animal physiological Process

Program existence: Intermediate (One to five years)

Program duration: Long-Term (More than five years)

Expending formula funds or state-matching funds: Yes

Expending other than formula funds or state-matching funds: No

Program Knowledge Areas and Percentage

301	10%	Reproductive Performance of Animals
302	20%	Nutrient Utilization in Animals
303	10%	Genetic Improvement of Animals
304	10%	Animal Genome
305	10%	Animal Physiological Processes
307	20%	Animal Management Systems
311	10%	Animal Diseases
312	10%	External Parasites and Pests of Animals

Situation and priorities

The primary mission of the IFAS statewide animal sciences program in the area of research is to provide critical information needed to assist the livestock industries of Florida to achieve efficient production by contributing to the solution of livestock production problems through research. This mission is accomplished through the integration of research both at the University of Florida and research facilities such as the Department of Animal Sciences, the Range Cattle Research and Education Center (Ona), the North Florida Research and Education Center (Marianna), the Subtropical agricultural Research Station, USDA-ARS (Brooksville) and the sixty-seven county extension facilities. Research in the area of animals includes issues related to animal production and protection. Included in this area but not inclusive are:

Reproduction Performance
The advancement in vitro embryo technologies are still quite inefficient due to associated problems with early embryonic loss, large offspring syndrome, and postnatal mortality . The purpose of one project in Florida is twofold: 1) to devise rapid methods for assessing viability in pre-implantation bovine embryos for increased survival; and 2) determine how in vitro culture conditions effect the expression of Insulin-like Growth Factor (IGF) family members.

Nutrient utilization in animals
Management practices, diets fed and shortened dry periods are being evaluated in several projects involving dairy cows. The purpose of one of the studies is to examine the effectiveness of available technology, feeding management, and short dry periods to improve the feed intake of dairy cows around calving. The purpose is to improve their intake of feed, reduce their health problems and allow high milk production after calving. The

project also examines whether it is possible to speed-up the dry-off of mammary tissue by using estrogen at the time of dry-off and thereby reduce the standard 60-day dry period in half.

Scope of the Program

- Integrated Research and Extension
- Multistate Research
- In-State Research
- Multistate Integrated Research and Extension

Assumptions made for the Program

Research will uncover critical information needed to assist the livestock industries of Florida to achieve efficient production by contributing to the solutions of livestock production problems .

Some specific goals within this programmatic area include:

- Examine the effectiveness of available technology, feeding management, and short dry periods to improve the feed intake of dairy cows around calving.
- Improve their intake of feed, reduce their health problems and allow high milk production in cows after calving Decrease early embryonic loss, large offspring syndrome, and postnatal mortality in meat and milk animals
- Understand how the equine GnRH receptor can tolerate continuous

Estimated Number of professional FTE/SYs to be budgeted for this Program

	Extension		Research	
Year	1862	1890	1862	1890
2008	0.0	8.0	32.5	0.0
2009	0.0	0.0	33.0	0.0
2010	0.0	0.0	33.5	0.0
2011	0.0	0.0	34.0	0.0
2012	0.0	0.0	34.2	0.0

Activity for the Program

- Conduct research experiments
- Partnering

Description of targeted audience

Producers and other residents of Florida interested in animals and animal science. This includes:

- Growers//Ranchers
- Producers/packaging
- General public
- Government officials
- Scientists

Number of Patents (Standard Research Target)

Actual Patents for 2006 were 0 in this program area

Actual Peer Review Publications

Peer-reviewed publications for 2006 was 95

Outcomes

- Developed BMPS to improve animal management systems
- Improve reproductive performance
- Improve nutrient utilization in Animals
- Develop genetic improvements of animals
- Investigate and improve animal production through research in animal genome
- Improve animal physiological processes
- Identify and develop BMPs that decrease environmental stress in Animals
- Improve animal products (before harvest)
- Develop solutions for animal diseases
- Develop solutions for external parasites and pests of animals
- Develop solutions for internal parasites in animals
- Find solutions to problems related to toxic chemicals, poisonous plants, naturally occurring toxins and other hazards affecting animals
- Find solutions and develop BMPs that increase animal welfare/well-being and protection

External Factors which may affect Outcomes

- Appropriations changes
- Competing Public priorities
- Populations changes (immigration, new cultural groupings, etc.)
- Government Regulations
- Competing Programmatic Challenges
- Economy
- Natural Disasters (drought, weather extremes, etc.)
- Public Policy changes

Description
Florida is a state located in the tropics. Natural disasters such as tropical storms and hurricanes are common annual occurrences in this state. Severe weather conditions such as droughts frequently led to large-scale fires. Florida also has other weather extremes such as floods leading to large scale damage especially along the coastal regions.

Florida has three international shipping ports: Miami, Jacksonville and Tampa. These cities all have international airports. Along with this we have over 53 million tourists visiting from around the world. It has been estimated that this international influx into Florida has made us the entry point of one new invasive pest, plant or disease each week. Any of this could be an external factor affecting land-grant research outcomes.

Changes may occur because of:

- The loss of test sites from storm damage
- An invasive species that requires priority
- Changes in public priorities
- Changes in state, county and federal appropriations
- Changes in governmental regulations

Evaluation Studies Planned

- After Only (post program)
- During (during program)
- Case Study
- Comparison between locales where the program operates and sites without program intervention
- Before-After (before and after program)
- Time series (multiple points before and after program)
- Retrospective (post program)

Description
Florida IFAS/research understands the importance of evaluating projects to provide scientifically accurate information and recommendations. Accepted research guidelines and procedures are followed.

Data Collection Methods

- Telephone
- Mail
- Structured
- Tests
- Case Study
- Observation
- Journals
- On-Site
- Unstructured
- Portfolio Reviews
- Sampling
- Whole population

Description
Florida IFAS/research uses acceptable forms of qualitative and quantitative data collection methods.

a. EXECUTIVE SUMMARY for Enhance and Improve Animals and their Systems

In the area of animals and their systems Florida has hatch projects that are working to reduce the impact that animal manure and other waste is having on sustainable agriculture. There is also research taking place in the area of poultry as a food system looking at the poultry process from farm to table as a way to increase food while providing the best economic gain. Other projects relate to enhancing the production and reproductive performance of heat-stressed dairy cattle, a common problem in a tropical state. Studies related to animal stress factors and the effects of these factors on performance are also on going. Beef cattle are an important industry in Florida and there is Hatch funding being used to look at the evaluation and ways to maximize the use of by-product feedstuffs for beef cattle as well as looking at the selection for residual feed intake in these cattle. Keep soil in animal systems productive and safe from contaminates is also an issue being looked at in Hatch related funds. In particular is the study of the remediation of soils contaminated with trace elements. All of these research projects relate to critical need areas identified by Florida clientele

2. Assist Individuals and Families to Achieve Economic Well-being and Life Quality

Brief summary about Planned Program

In the program designed to assist individuals and families to achieve economic well-being and life quality the following areas must be considered:

- Personal and Family Well-being
- Financial Management and Economic Well-being
- Nutrition Food Safety and Health
- Housing and Environment
- Non-profit Organizations, Leadership and Volunteer Development

Program Existence: Intermediate (One to five years)

Program Duration: Long-Term (More than five years)

Expending formula funds or state-matching funds: Yes

Expending other than formula funds or state-matching funds: No

Program Knowledge Areas and Percentage

112	5%	Watershed Protection and Management
136	5%	Conservation of Biological Diversity
602	5%	Business Management, Finance, and Taxation
603	5%	Market Economics
604	5%	Marketing and Distribution Practices
608	5%	Community Resource Planning and Development
701	5%	Nutrient Composition of Food
703	5%	Nutrition Education and Behavior
712	5%	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	5%	Hazards to Human Health and Safety
724	5%	Healthy Lifestyle
801	5%	Individual and Family Resource Management
802	5%	Human Development and Family Well-Being
803	5%	Sociological and Technological Change Affecting Individuals, Families and Communities
804	5%	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
805	5%	Community Institutions, Health, and Social Services
806	5%	Youth Development
901	5%	Program and Project Design, and Statistics
902	5%	Administration of Projects and Programs
903	5%	Communication, Education, and Information Delivery

Situation and priorities

Florida is a rapidly growing state with a very diverse population. Many Floridians face special needs and issues that must be addressed. People are living longer - but not planning adequately for retirement, a time when costs for medical services and living assistance can be significant. Florida has the highest percentage of residents

over the age of 65 in the nation. Lifestyle related chronic illnesses, such as diabetes, obesity, and circulatory diseases are on the rise. Poor food choices create health and developmental related problems for people of all ages, and are of critical concern for young mothers and their infants. Florida is one of the top 10 states nationwide in the incidence of food-borne diseases. Of these, about half are attributed to food service operations. Health care costs are increasing more rapidly than other costs, and many people are without healthcare insurance. Personal indebtedness, especially credit card debt is at an all-time high and savings at an all-time low. Although the state and nation is moving toward automation and a cashless society, many Floridians, especially low income families and recent emigrants from third-world nations do not use any type of banking service; most are poor managers of their finances. More than one-fourth of Florida's adults have difficulty making accurate change in a financial transaction. Low-to-moderate income families are finding it difficult to find affordable housing. During the ten-year period of 1992-2002 housing costs increased from 20.2 percent to 35 percent of an average household income. The structural integrity of residences or ability to withstand hurricanes and other severe weather conditions is now becoming an important concern of Floridians. Also, the indoor air quality of a residence can affect the health of its residents, especially those with respiratory problems such as asthma, a major problem with children in Florida. Florida's families are diverse and include teenage parents, single parents, duel earner families, stepparents, grandparents raising grandchildren, and traditional two-parent families. Single parents head almost one-third of the families. With 57 percent of the women with children under the age of 6 and 66 percent of those with children 6 to 17 employed there is a critical need for affordable, quality childcare. Extension uses unpaid volunteers to expand its outreach programs. The volunteers contribute to the development of their communities and provide social capital through the development of their leadership capabilities and cooperative work. They generate cross-community channels of communication and receive training that benefits both the individuals and their communities.

Scope of the Program

- In-State Extension
- Integrated Research and Extension
  Multi-state Extension
- Multi-state Integrated Research and Extension

Assumptions made for the Program

For the economically disadvantage, a large majority of the elderly, and many families the quality of life in Florida needs to improve. Research has confirmed that providing education and support services to families significantly reduces many problems such as child abuse, debt, and bad eating habits. Reducing and/or improving these issues can result in better health physically and financially, a better outlook on life and more functional family units.

Ultimate goal(s) of this Program

- Improved delivery of Extension programs.
- Improved practices to strengthen individuals, couples, and families.
- Improved knowledge and skills of professionals who work with individuals, couples, and families.
- Improved procedures and techniques to manage debt
- Improved procedures and techniques to manage income.

Activity for the Program

Activity Type	Count
Advisory Council	80
Classroom Enrichment	130
Clinics	34
Consultations	75
County Event	51

Curriculum Development	135
Demonstrations	7
Building Collaborations	106
District Event	6
Facilitating Groups	69
Fairs/Exhibits	107
Field Days	14
Funding Efforts	9
Group Teaching Events	881
In-Service Training	60
Marketing	39
Needs Assessment	9
Program Development	66
Reporting Results	5
State/National Event	9
Working With Media	35

Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods

- One-on-One Intervention
- Demonstrations
- Education Class
- Other 1 (telephone calls)
- Group Discussion
- Workshop

Indirect Methods

- Public Service Announcement
- Newsletters
- TV Media Programs
- Web sites
- Other 1 (radio)

Description of targeted audience

- Childcare Operations
- Individual and Family Service Operations
- Includes all for profit business or industries.
- Individuals that own property or have established legal residency in the state of Florida. Includes all personnel that are supervised by IFAS.
- Finance, Insurance, and Real Estate Operations
- Adults
- Families
- Youth
- Administrators of Education
- Administrators of Social, Human Resource and Income Maintenance Programs
  Florida Based Non-governmental Organizations
- Non-Florida Based Non-governmental Organizations

Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

Year	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
2006	1,369,320	12,114,676	0	0

Number of Patents (Standard Research Target)

Actual Patents 3

Actual Peer Review Publications

Year	Research	Extension
2006	0	61

Output Target

- classroom

Outcomes

	Number Surveyed	Number Changed
Individuals will develop the skills needed to manage stress effectively, thereby improving their personal health and	320	290
Individuals will learn the knowledge and skills necessary to attain strong, healthy family relationships	19	18
Number choosing appropriate estate planning tools	37	36
Number comparing and choosing appropriate credit products	547	444
Number creating a spending or savings plan	1,209	1,001
Number demonstrating an understanding of consumer rights, responsibilities and laws	566	508
Number evaluating estate planning needs	224	40
Number evaluating their insurance needs and policies	226	220
Number implementing steps to avoid fraud, scams and other deceptions	73	69
Number implementing strategies to improve ability to qualify for credit	170	85
Number implementing strategies to reduce cost of credit	379	335
Number increasing savings and investments to build wealth	1,618	1,571
Number obtaining and correcting credit reports	386	308
Number of families that developed and adopted a spending plan.	10	2
Number of families with improved financial condition	10	7
Number of new volunteers	5	5
Number of organizations increasing public initiatives	24	7
Number of organizations reporting increased public policy programs	15	15
Number of organizations with a strategic plan	42	21
Number of participants completing required home ownership classes	1,092	1,065
Number of participants purchasing homes	24	18

Number of participants reporting improved balance of work and family.	73	44
Number of participants that adopt one or more energy efficiency practices	600	400
Number of participants that adopt one or more home care and maintenance practices	1,369	1,331
Number of participants that adopt one or more practices for home safety	494	240
Number of participants that recognize the effect of building codes and regulations on their operation	20	20
Number of participants that understand building codes and regulations related to home maintenance or renovations	575	569
Number of participants that understood housing financial documents	10	10
Number of participants with effective communication skills.	134	132
Number of program participants that are satisfied with Extension's services.	743	699
Number of program participants that are satisfied with the information received by Extension	2,761	2,721
Number of program participants who adopt food resource management practices	2,607	1,985
Number of program participants who adopt recommended food handling practices	1,522	1,355
Number of program participants who increase knowledge about positive lifestyle changes	8,395	7,207
Number of program participants who increase knowledge about recommended food handling practices	5,678	5,080
Number of program participants who increase knowledge of food resource management	2,361	1,938
Number of program participants who report intent to adopt food resource management practices	434	402
Number of program participants who report intent to adopt recommended food handling practices	102	102
Number of program participants who report intent to make one or more positive lifestyle changes	2,794	2,087
Number of program participants who report one or more positive lifestyle changes	5,289	3,042
Number of volunteers trained	158	101
Number of youth demonstrating/ reporting increased levels of positive activities promoting physical health and well-being.	15,844	10,573
Number of youth demonstrating/ reporting moderate levels of attainment of knowledge, skills or practices for personal	17	17

Number of youth demonstrating/ reporting moderate levels of attainment on positive self attitudes.	37	35
Number of youth demonstrating/ reporting moderate to high levels of knowledge, skill or practices for healthy food choices, preparation and/or safety.	9,899	8,152
Number of youth demonstrating/reporting moderate level of knowledge of consumer rights and responsibilities.	471	437
Number of youth demonstrating/reporting moderate to high level of financial literacy and money management skills.	35	22
Number reducing debt	425	282
Number updating insurance coverage	97	41
Number using financial institutions to manage assets	240	231
Number utilizing financial tools to improve money management	769	666
Participants will encourage curiosity, exploration and development of problem solving skills in a safe environment for children in their care.	18	11
Participants will increase knowledge and skills of social and emotional development for children in their care.	17	17
Participants will increase their knowledge in subject matter and confidence in teaching.	55	55
Participants will use positive techniques for guiding children's/teen's behavior.	18	17

Outcome Type: Change in Action Outcome Measure

External Factors which may affect Outcomes

- Natural Disasters (drought, weather, extremes, etc.)
- Public Policy changes
- Economy
- Appropriations changes
- Competing Public priorities
- Government Regulations
- Competing Programmatic Challenges

Description
Florida is a state located in the tropics. Natural disasters such as tropical storms and hurricanes are common annual occurrences in this state. Severe weather conditions such as droughts frequently led to large-scale fires. We also have other weather extremes such as floods leading to large scale damage especially along the coastal regions. Florida is a state with constant demographic changes. The influx of immigrants, elderly, increasing birthrates and changing demographics that occur because of natural disasters such as hurricanes can change population demographics quickly. Dwindling resources can have an effect on public priorities that directly

affect dollars earmarked for individual and family educational programs. Changes in state, county and federal appropriations can also affect the outcomes.

Evaluation Studies Planned

- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention
- Time series (multiple points before and after program)
- Before-After (before and after program)
- Retrospective (post program)
- Case Study
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- After Only (post program)
- During (during program)

Description
The Florida land-grant college understands the value of evaluation in our annual program plan. Methods of evaluation are included as part of the annual faculty activity plan of work and report of accomplishment process (unifas). This information is collected as part of the logic model used in our Florida system and will be available for the CSREES reports of accomplishment on a yearly basis.

Data Collection Methods
- Whole population
- Observation
- Structured
- On-Site
- Mail
- Case Study
- Sampling
- Telephone
- Unstructured
- Tests

Description
The Florida land-grant colleges use acceptable forms of qualitative and quantitative data collection methods.

a. EXECUTIVE SUMMARY for Assist Individuals and Families to Achieve Economic Well-being and Life Quality program

This programmatic area reached a total of 1,369,320 adults in the area of economic well-being and quality of life. These adults were reached through one-on one interactions, through demonstrations, educational classes, group discussions, workshops and telephone calls. Emails sent to specific individuals are also reported in this area this year. Over 12 million (unduplicated numbers) were reached through radio, TV, newspapers and other mass media methods that constitute indirect contacts. Faculty carried out evaluations on many of these activities and identified multi changes occurring to improve both economic well-being and quality of life. One example is related to the need to increase savings and investments to build wealth. Of the 1,618 surveyed, 1,571 said they were making positive changes. Of 8,395 who were surveyed in the area of having increased knowledge about positive lifestyle changes, 7,207 said they had increased their knowledge and/or made the changes. In the areas of youth and obesity, of 15,844 surveyed following educational programs given by Extension personnel, 10,573 stated that they could either demonstrate or report increased levels of positive activities promoting physical health and well-being (see state defined outcomes for state standardized results).

Special effort was made to reach both underserved and underrepresented through methods such as radio and television announcements, working with agencies that have direct access to underserved and underrepresented populations. Some documents are also reproduced in Spanish and other languages as a means of further reaching certain populations.

3. Create and Maintain Florida Friendly Landscapes: The Smart Way to Grow

Brief summary about Planned Program

In order to create and maintain Florida friendly landscapes Florida Extension teaches how to "grow smart" through educational programs in the areas of:

- Commercial horticulture/urban forestry services
- Residential landscapes
- Florida Yards and Neighborhoods (FYN)

Program Existence: Intermediate (One to five years)

Program Duration: Long-Term (More than five years)

Expending formula funds or state-matching funds: Yes

Expending other than formula funds or state-matching funds: No

Program Knowledge Areas and Percentage

101	5%	Appraisal of Soil Resources
102	5%	Soil, Plant, Water, Nutrient Relationships
112	5%	Watershed Protection and Management
133	5%	Pollution Prevention and Mitigation
201	5%	Plant Genome, Genetics, and Genetic Mechanisms
204	5%	Plant Product Quality and Utility (Pre-harvest)
205	5%	Plant Management Systems
206	5%	Basic Plant Biology
211	5%	Insects, Mites, and Other Arthropods Affecting Plants
212	5%	Pathogens and Nematodes Affecting Plants
213	5%	Weeds Affecting Plants
216	5%	Integrated Pest Management Systems
405	5%	Drainage and Irrigation Systems and Facilities
602	5%	Business Management, Finance, and Taxation
603	5%	Market Economics
604	5%	Marketing and Distribution Practices
608	5%	Community Resource Planning and Development
610	5%	Domestic Policy Analysis
723	5%	Hazards to Human Health and Safety
802	5%	Human Development and Family Well-Being

Situation and priorities

The state of Florida includes 19 million residents, 58 million annual visitors, a unique ecology and climate, and a wide range of plant material grown year round. Frequently the residents, visitors and property managers have unrealistic expectations. These expectations may encourage customers to use landscape maintenance practices that have negative impacts on Florida's environment. Many of these people are dependent on professional horticulture service providers to make decisions regarding the landscape management of their properties. The professional horticulture services industry in Florida has a tremendous economic impact. According to the 2002 FNGA/IFAS Economic Impact Study this industry generates $7.6 billion per year in estimated revenues. This industry also employs more than 120,000 people who make thousands of horticulture and pest management decisions daily. A large and growing portion of this work force is Hispanic. IFAS/Extension research and

science-based educational programs can provide the green industry with best management practices and skills necessary to create and manage landscapes with reduced risk to the environment. Florida has just over 5 million acres of lawns, many of which are in close proximity to water bodies. To reduce non-point source pollution and preserve these water resources and natural areas, it is critical that lawns and landscapes are managed with an environmental emphasis. Development of Best Management Practices (BMPs) for lawns and landscapes is one way to achieve this. How fertilizer is handled, stored, and applied and how water is used in the landscape can have a large effect on reduction of non-point source pollution. These principles should be followed by commercial horticulture services as well as homeowners. Many Florida residents - new, permanent, and temporary - share misperceptions about proper landscape care. Some Green Industry/Development professionals also have inaccurate conceptions about Florida-friendly landscaping practices. Faced with Florida's diverse and often unfamiliar conditions, well-meaning individuals often waste water, fertilizers, pesticides, and energy through inappropriate landscape designs and improper landscape practices. These existing practices can contribute to the degradation of the environment through runoff, leaching, and misuse of resources.

Scope of the Program

- In-State Extension
- Multi-state Integrated Research and Extension
  Multi-state Extension
- Integrated Research and Extension

Assumptions made for the Program

People will be motivated by workshops and other educational activities to learn/change Information on best practices related to healthy landscapes show that these approaches work well for these target audiences Changes suggested in activities related to this program will improve quality of life for participants

Ultimate goal(s) of this Program

- Improved procedures and techniques for managing professional horticulture operations
- Improved procedures and techniques for managing Florida landscapes.
- Improved procedures and techniques for handling and using agricultural chemicals, fuels, and other products. Improved compliance with local, state, and federal regulations.
- Use of BMPs for managing Florida landscapes.

Number of professional FTE/SYs to be budgeted for this Program

	Extension		Research	
Year	1862	1890	1862	1890
2006	43.2	0.5	0.0	0.0

Activity for the Program

Activity	Count
Advisory Council	61
Classroom Enrichment	59
Clinics	90
Consultations	233
County Event	41
Curriculum Development	22
Demonstration/Fields Trials	100
Developing Educational Materials	70
Developing Partnerships and	42

District Event	12
Facilitating Groups	31
Fairs/Exhibits	141
Field Days	29
Funding Efforts	12
Group Teaching Events	987
In-Service Training	27
Marketing	18
Needs Assessment	4
Program Development	64
Reporting Results	13
State/National Event	17
Video Conference	1
Working With Media	57

Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods

- Other 1 (telephone calls)
- Workshop
- Demonstrations
- Education Class
- Group Discussion
- One-on-One Intervention

Indirect Methods

- Public Service Announcement
- Billboards
- Other 1 (radio)
- Newsletters
- TV Media Programs
- Web sites

Description of targeted audience

- Homeowners
- Adult Volunteers
- Youth
- Youth Volunteers
- Administrators of Environmental Quality
- County Government
- Other Pubic Administrators
- County Faculty and Staff
- State Faculty and Staff
- Individuals that own property or have established legal residency in the state of Florida.
- Includes the executive, legislative, judicial, administrative and regulatory activities of Federal, State, local, and international governments.
- Includes all personnel that are supervised by IFAS.

Standard output measures

Number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults
Year	Target	Target
2006	6,662,857	6,963,450

Number of Patents (Standard Research Target)

Actual Patents for 2006 were 0

Actual Peer Review Publications

Year	Research Target	Extension Target
2006	0	51

Output Target

- Field trials
- classroom enrichment

Outcomes

	Number Surveyed	Number Changed
Number of agricultural operations that use appropriate information technology	18	18
Number of educational activities conducted by volunteers	1,680	1,570
Number of horticulture professionals that receive pesticide certification	726	620
Number of horticulture professionals that receive pesticide renewal certification	495	420
Number of horticulture professionals that use appropriate irrigation practices.	259	225
Number of horticulture professionals that use appropriate landscape diagnostic techniques	97	92
Number of horticulture professionals that use appropriate plant care practices.	361	310
Number of horticulture professionals that use appropriate soil management practices	51	49
Number of horticulture professionals that use appropriate turf grass practices	114	108
Number of horticulture professionals that use chemical equipment appropriately	565	495
Number of horticulture professionals that use chemicals as recommended by the manufacturer	11	11
Number of horticulture professionals that use integrated pest management strategies	292	211
Number of program participants that are satisfied with Extension's services.	9,540	9,314
Number of program participants that are satisfied with the information received by Extension	4,596	4,057
Number of residents that control pests responsibly	4,478	3,462
Number of residents that design landscapes and choose plants appropriately ("Right Plant Right Place")	5,271	4,564
Number of residents that fertilize appropriately	4,296	3,178
Number of residents that mulch	3,382	2,908

Number of residents that protect the waterfront	1,537	1,280
Number of residents that recycle yard wastes	1,418	1,328
Number of residents that reduce storm water runoff	3,748	2,208
Number of residents that use practices to attract wildlife	1,671	1,475
Number of residents that water efficiently	6,778	5,826
Number of youth demonstrating/ reporting moderate levels of attainment/standard on public presentations.	100	93
Number of youth demonstrating/ reporting moderate levels of conservation practices.	65	65
Number of youth demonstrating/ reporting moderate levels of knowledge of ecological systems.	161	155

Outcome Type: Change in Condition Outcome Measure

External Factors which may affect Outcomes

- Competing Programmatic Challenges
- Appropriations changes
- Natural Disasters (drought, weather extremes, etc.)
- Public Policy changes
- Government Regulations
- Economy
- Competing Public priorities

Description
Florida is a state located in the tropics. Natural disasters such as tropical storms and hurricanes are common annual occurrences in this state. Severe weather conditions such as droughts frequently led to large-scale fires. We also have other weather extremes such as floods leading to large scale damage especially along the coastal regions.

Florida also has three international shipping ports: Miami, Jacksonville and Tampa. These cities all have international airports. Along with this we have over 53 million tourists visiting from around the world. It has been estimated that this international influx into Florida has made us the entry point of one new invasive pest, plant or disease each week. Any of this could be an external factor affecting land-grant outcomes.

Changes in state, county and federal appropriations can also affect the outcomes.

Evaluation Studies Planned

- During (during program)
- Before-After (before and after program)
- Case Study

Description
The Florida land-grant college understands the value of evaluation in our annual program plan. Methods of evaluation are included as part of the annual faculty activity plan of work and report of accomplishment process (unifas). This information is collected as part of the logic model used in our Florida system and will be available for the CSREES reports of accomplishment on a yearly basis.

Data Collection Methods

- On-Site
- Observation
- Telephone
- Sampling
- Mail
- Other (online)
- Whole population
- Unstructured
- Case Study
- Structured
- Portfolio Reviews
- Tests

Description
The Florida land-grant colleges use acceptable forms of qualitative and quantitative data collection methods.

a. EXECUTIVE SUMMARY for the Create and Maintain Florida Friendly Landscapes: The Smart Way to Grow program

This programmatic area reached a total of 6,662,857 adults in the area of creating and maintaining Florida friendly landscape and providing smart ways to grow green. These adults were reached through one-on one interactions, through demonstrations, educational classes, group discussions, workshops and telephone calls. Emails sent to specific individuals are also reported in this area this year. Over 6 million more adults (unduplicated numbers) were reached through radio, TV, newspapers and other mass media methods that constitute indirect contacts. This is a program area that includes many volunteers. Over 1,680 programs were conducted by volunteers who conducted surveys. Faculty also carried out evaluations on many of activities and identified multi changes occurring that helped to create and maintain Florida friendly landscapes not only to improve ascetic looks but to increase the quality of air and soil and wildlife habitats. Through this program over 726 horticulture professionals received pesticide certificates and 495 renewed their existing certificates. Over 4,478 residents attended programs educational programs to learn how to control pests properly with 3,462 saving they made significant changes. More than 5,200 were surveyed in designing landscape classes to learn to choose appropriate plants and of these 4,564 said they can now effectively to this. Other areas in which educational programs were held in this program area related to storm water runoff, practices to attract wildlife, and ways to protect the soil and water (see state defined outcomes for state standardized results).

Special effort was made to reach both underserved and underrepresented through methods such as radio and television announcements, working with agencies that have direct access to underserved and underrepresented populations. Some documents are also reproduced in Spanish and other languages as a means of further reaching certain populations.

4. Developing Responsible and Productive Youth Through 4-H and Other Youth Programs

Brief summary about Planned Program

Developing responsible and productive youth through 4-H and other youth programs relates specifically to areas including: Life skills developed in youth through subject matter experience Organizational strategies and learning environment to support youth programs Volunteer development and systems to support youth

Program Existence: Intermediate (One to five years)

Program Duration: Long-Term (More than five years)

Expending formula funds or state-matching funds: Yes

Expending other than formula funds or state-matching funds: No

Program Knowledge Areas and Percentage

806 100% Youth Development

Situation and priorities

In an increasingly complex and competitive world market, the human capital of the United States is an important resource. Young people under 18 years represent 28.3% of the population in the United States and over 33% in Florida. Each day America's youth decide how they will spend their waking hours when not in school. For many, these hours harbor both risk and opportunity. For some, particularly those supervised by adults, the out-of-school hours offer opportunities to be with friends, play sports, pursue interests, and engage in challenging activities. But for many home alone, the out-of-school hours present serious risks for substance abuse, crime, violence, and sexual activity. Time spent alone is not the crucial contributor to high risk. Rather it is what young people do during that time, where they do it, and with whom that leads to positive or negative consequences. Positive youth development provides opportunities for youth to feel safe, secure, respected, intellectually stimulated, and engaged in their community. Positive youth development occurs from an intentional process that promotes positive outcomes for young people by providing opportunities, relationships, and support. Youth development takes place in families, peer groups, schools, neighborhoods and communities. 4-H Youth Development uses experiential, research-based educational opportunities that help youth become competent, caring, confident, connected, and contributing citizens of character. Research indicates that regular participation in extracurricular activities during adolescence can lead to long-term payoffs. Recent studies indicate that youth spending time in positive youth programs, such as 4-H, are less likely to become involved in high risk behaviors, have higher school attendance and grades, better conflict management practices and better work habits. Additional research studies have shown that when young people have safe, structured, supervised and healthy activities in which to participate, they are less likely to become involved in the high-risk, unhealthy behaviors (such as substance abuse, crime, violence, and sexual activity) that can delay or derail positive development, and they are more likely to obtain a broad range of competencies. In addition, studies find that teens who are consistently involved in extracurricular activities are likely to go on to attend college, leading to increased lifetime earnings. Involved youth are also more likely as adults to vote in national and local elections, and to volunteer in community and religious organizations. This truly makes the concept of civic engagement real. Recent surveys of 4-H members in Florida have shown that 4-H equips and trains the youth with leadership and communication skill, offers community service, and builds a network of people that the youth can later utilize. Reports from 97% of Florida counties have prioritized three areas for youth programming: developing life skills and career awareness, creating constructive learning environments for youth (organizational design and development), and enhancing adult support system for youth (volunteer development).The Florida 4-H program is committed to providing inclusive and positive youth development programs that target the following outcomes for young people:

- Youth are physically and emotionally safe;
- Youth develop and maintain positive relationships;
- Youth develop a sense of belonging, in an inclusive environment;
- Youth develop personal competencies for self-reliance, independence and autonomy;
- Youth grow and contribute as active citizens through service and leadership; and
- Youth develop marketable, productive skills and competencies for work and family life.
- In summary, Florida IFAS/Extension 4-H will utilize positive youth development program standards identified through research and practice to enhance the knowledge, well-being, quality of life, and civic engagement of youth by focusing on:
    - Life Skills Developed in Youth Through Subject Matter Experience
- Organizational Strategies and Learning Environments to Support Youth Programs, and Volunteer Development and Systems to Support Youth.

Scope of the Program

- Multi-state Extension
- Multi-state Integrated Research and Extension
  In-State Extension
- Integrated Research and Extension

Assumptions made for the Program

Youth will be motivated by workshops, projects and other educational activities to learn/change Volunteers will learn to provide effective and efficient guidance to youth

Changes suggested in activities related to this program will increase knowledge and experience for Florida youth involved in 4-H and other land-grant college activities.

Ultimate goal(s) of this Program

- Develop Communication Skills
- Develop Decision-making, problem-solving and Critical Thinking Skills
- Develop Improved Competencies of Goal-setting, Planning and Organizing
  Develop Positive Relationship Skills with Others
- Develop Leadership Skills
- Develop Competencies in Citizenship and Civic Engagement

Number of professional FTE/SYs to be budgeted for this Program

	Extension		Research	
Year	1862	1890	1862	1890
2006	64	1.5	0.0	0.0

Activity for the Program

Activity	Count
Advisory Council	206
Classroom Enrichment	373
Clinics	145
Consultations	76
County Event	498

Curriculum Development	39
Demonstration/Fields Trials	21
Developing Educational Materials	29
Developing Partnerships and	67
District Event	196
Facilitating Groups	148
Fairs/Exhibits	197
Field Days	65
Funding Efforts	97
Group Teaching Events	1612
In-Service Training	43
Marketing	134
Needs Assessment	13
Program Development	299
Reporting Results	11
State/National Event	244
Working With Media	33

Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods

- Other 1 (telephone calls)
- Education Class
- Group Discussion
- Workshop
- Demonstrations
- One-on-One Intervention

Indirect Methods

- Other 1 (radio)
- Public Service Announcement
- Newsletters
- Web sites
- TV Media Programs

Description of targeted audience

- Adults
- Families
- Youth
- County Government
- Administrators of Social, Human Resource and Income Maintenance Programs
- Administrators of Education
- Florida Based Non-governmental Organizations
- Non-Florida Based Non-governmental Organizations
- County Faculty and Staff
- Administrators
- State Faculty and Staff

Standard output measures

Number of persons(contacts) reached through direct and indirect contact methods

Year	Direct Contacts Adults Target	Indirect Contacts Adults Target	Direct Contacts Youth Target	Indirect Contacts Youth Target
2006			1,136,188	7,303,472

Number of Patents (Standard Research Target)

Actual number of Patents for 2006 was 0

Actual Peer Review Publications

Year	Research Target	Extension Target
2006	0	60

Output Target

- Field trials
- classroom enrichment

Outcomes

	Number Surveyed	**Number Changed**
Number of Chartered 4-H Clubs	182	160
Number of program participants that are satisfied with Extension's services.	238	236
Number of program participants that are satisfied with the information received by Extension	708	328
Number of volunteers evaluated	40	40
Number of volunteers identified and recruited	94	29
Number of volunteers oriented with extension	12	9
Number of volunteers recognized for accomplishments	35	35
Number of volunteers retained	132	119
Number of volunteers selected and screened	276	276
Number of volunteers that demonstrate leadership/teamwork skills.	43	43
Number of volunteers trained	442	260
Number of volunteers using appropriate curriculum	18	18
Number of volunteers utilized	104	104
Number of volunteers with subject area expertise	189	125
Number of youth and adults demonstrating/reporting adopting best practices for effective youth-adult partnerships.	121	114

Number of youth demonstrating / reporting positive choices among friends.	142	137
Number of youth demonstrating and reporting moderate levels of attainment in problem solving skills.	627	612
Number of youth demonstrating moderate to high level of ability in animal exhibition/showmanship.	1,162	1,151
Number of youth demonstrating practices/ reporting moderate to high levels of respect for diversity.	50	47
Number of youth demonstrating/ reporting increased levels of positive activities promoting physical health and well-being.	211	199
Number of youth demonstrating/ reporting moderate levels of attainment in respect and consideration for others.	135	133
Number of Youth demonstrating/ reporting moderate levels of attainment of communication skills.	4,695	4,126
Number of youth demonstrating/ reporting moderate levels of attainment of knowledge, skills or improved practices of healthy food choices, food preparation or food safety.	964	779
Number of youth demonstrating/ reporting moderate levels of attainment of knowledge, skills or practices for personal	150	150
Number of youth demonstrating/ reporting moderate levels of attainment of knowledge/practices in environmental stewardship and conservation principles.	1,321	1,268
Number of youth demonstrating/ reporting moderate levels of attainment of practices in animal care management	636	626
Number of youth demonstrating/ reporting moderate levels of attainment on intrapersonal communication skills.	118	113
Number of youth demonstrating/ reporting moderate levels of attainment on positive self attitudes.	176	159
Number of youth demonstrating/ reporting moderate levels of attainment regarding interview skills.	35	30
Number of youth demonstrating/ reporting moderate levels of attainment regarding resume skills.	32	27
Number of youth demonstrating/ reporting moderate levels of attainment regarding wise use of resources.	605	603
Number of youth demonstrating/ reporting moderate levels of attainment/standard on public presentations.	5,166	5,123
Number of youth demonstrating/ reporting moderate levels of civic governance and community decision-making.	232	213
Number of youth demonstrating/ reporting moderate levels of confidence to try new	2,275	2,261

things and feelings of safety.		
Number of youth demonstrating/ reporting moderate levels of conflict resolution skill attainment.	60	58
Number of youth demonstrating/ reporting moderate levels of conservation practices.	60	58
Number of youth demonstrating/ reporting moderate levels of knowledge of agricultural production	1,886	1,813
Number of youth demonstrating/ reporting moderate levels of knowledge of biological principles.	209	191
Number of youth demonstrating/ reporting moderate levels of knowledge of career choices.	28	23
Number of youth demonstrating/ reporting moderate levels of knowledge of ecological systems.	180	180
Number of youth demonstrating/ reporting moderate levels of skill attainment in decision-making.	142	142
Number of youth demonstrating/ reporting moderate levels of skill in time management.	1,757	1,753
Number of youth demonstrating/ reporting moderate levels of volunteer service.	508	505
Number of youth demonstrating/ reporting moderate to high ability level to judge and select quality animals.	1,144	1,131
Number of youth demonstrating/ reporting moderate to high level of attainment regarding new friendships.	50	49
Number of youth demonstrating/ reporting moderate to high levels of attainment in peer collaboration.	70	62
Number of youth demonstrating/ reporting moderate to high levels of knowledge, skill or practices for healthy food choices, preparation and/or safety.	431	386
Number of youth demonstrating/ reporting moderate to high levels of respect and consideration for others.	99	76
Number of youth demonstrating/ reporting moderate to high levels of teamwork or group cooperation.	92	90
Number of youth demonstrating/ reporting positive practices of character and ethical principles.	90	87
Number of youth demonstrating/report/apply moderate to high level of knowledge of the scientific inquiry process.	20	15
Number of youth demonstrating/reporting leadership skills associated with serving as officers in community or school based clubs, committees, and, councils	225	219
Number of youth demonstrating/reporting leading and group facilitation skills.	110	102

Number of youth demonstrating/reporting moderate levels of attainment with acquiring, processing, and interpreting data.	163	128
Number of youth demonstrating/reporting moderate levels of goal-setting skills.	232	229
Number of youth demonstrating/reporting moderate levels of skill attainment in planning and organizing.	174	149
Number of youth demonstrating/reporting moderate to high level of ability related to acquiring, processing and interpreting	30	30
Number of youth demonstrating/reporting moderate to high level of financial literacy and money management skills.	13	13
Number of youth demonstrating/reporting moderate to high levels of knowledge and skills in clothing construction, care, and selection	77	77
Number of youth demonstrating/reporting moderate to high levels of knowledge of biological principles of living organisms.	4,024	4,024
Number of youth demonstrating/reporting moderate to high levels of safe and ethical animal care.	1,107	1,107
Number of youth demonstrating/reporting teaching / helping others.	63	55
Number of youth involved in more than one 4-H event.	229	507
Number of youth reporting hours of community service	53	53
Volunteers indicating 4-H has made a positive difference	127	127
Volunteers indicating satisfaction with 4-H curriculum	99	96
Volunteers involved in 4-H more than one year	335	171
Volunteers reporting 4-H offers opportunities to meet youth interests	128	120
Volunteers reporting 4-H program provides awareness of opportunities and events	47	45
Volunteers reporting 4-H provides a safe place for learning and growing	32	32
Volunteers reporting 4-H provides a supportive environment		
Youth indicating 4-H has made a positive difference	122	101
Youth involved in 4-H more than one year	385	385
Youth reporting 4-H offers opportunities to meet interests	90	78
Youth reporting 4-H provides a safe place for learning and growing	405	404
Youth reporting 4-H provides a supportive environment	315	315
Youth reporting 4-H provides opportunities to meet people of other cultures and ethnic backgrounds	29	29
Youth reporting 4-H provides opportunities to meet people of other cultures and ethnic backgrounds	439	439

Outcome Type: Change in Condition Outcome Measure

Associated Knowledge Area(s)

- 806 - Youth Development

External Factors which may affect Outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Description
Florida is a state located in the tropics. Natural disasters such as tropical storms and hurricanes are common annual occurrences in this state. Severe weather conditions such as droughts frequently led to large-scale fires. We also have other weather extremes such as floods leading to large scale damage especially along the coastal regions. All of these can have a direct and indirect impact on youth programs.

Because of limited resources in Florida and continuing devolution youth programs can always be affected by changing public and governmental priorities. These can include appropriations. Natural and national disasters can also affect the number of volunteers available to work with youth. Changes in state, county and federal appropriations can also affect the outcomes related to youth.

Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention

Description
The Florida land-grant college understands the value of evaluation in our annual program plan. Methods of evaluation are included as part of the annual faculty activity plan of work and report of accomplishment process (unifas). This information is collected as part of the logic model used in our Florida system and will be available for the CSREES reports of accomplishment on a yearly basis.

Data Collection Methods

- Sampling
- Whole population
- Mail

- Telephone
- On-Site
- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests

Description
The Florida land-grant colleges use acceptable forms of qualitative and quantitative data collection methods.

a. EXECUTIVE SUMMARY for Developing Responsible and Productive Youth Through 4-H and Other Youth Programmatic area

This programmatic area reached a total of 1,136,188 youth during FY2006 in ways that develop responsible and productive youth through both 4-H and other youth programs. Of these million plus youth, 223,057 were involved in 4-H programs. All of these youth were reached through one-on one interactions, through demonstrations, educational classes, group discussions, workshops and/or club activities. Over 7 million more youth (unduplicated numbers) were reached through radio, TV, newspapers and other mass media methods that constitute indirect contacts. This is a program area that includes many volunteers. In the area of 4-H over 13,120 adults volunteered to work with youth during the past year. Another 1,391 youth also worked as volunteers in 4-H programs. 4-H faculty also carried out evaluations on many of the educational activities held for youth and identified multi changes occurring that will help to produce responsible and productive youth who will one day become productive adults. For example of 5,166 youth surveyed in the area of attaining abilities in the area of public presentations, 5123 said they had gotten better. Of 1,886 who were surveyed in a better knowledge of agricultural production, 1,813 felt they had increased their knowledge in this area. Many of these are youth who will be Florida's agricultural producers of tomorrow. Communication is an important skill that all adults must master. Of 4,695 youth surveyed on improved communication skills, 4,126 said they have attained higher levels of communication proficiency (see state defined outcomes for state standardized results).

Special effort was made to reach both underserved and underrepresented through methods such as radio and television announcements, working with agencies that have direct access to underserved and underrepresented populations. Some documents are also reproduced in Spanish and other languages as a means of further reaching certain youth populations. In the area of 4-H, this year's membership included 78% white, 20.08% African American, .57 American Indian, .09 Pacific Islander and 14.33 Hispanic.

5. Economics, Markets and Policy--research

Brief summary about Planned Program

- Economics of Agricultural production and farm management
- Marketing and distribution practices
- International trade and development

Program Existence: Intermediate (One to five years)

Program Duration: Long-Term (More than five years)

Expending formula funds or state-matching funds: Yes

Expending other than formula funds or state-matching funds: No

Program Knowledge Areas and Percentage

601	10%	Economics of Agricultural Production and Farm Management
603	20%	Market Economics
604	20%	Marketing and Distribution Practices
605	10%	Natural Resource and Environmental Economics
606	10%	International Trade and Development
607	10%	Consumer Economics
609	10%	Economic Theory and Methods
610	10%	Domestic Policy Analysis

Situation and priorities

Economic development generally refers to targeted programs designed to enable people to raise overall per capita incomes or to improve circumstances for specific disadvantaged populations. The emphasis of the area is the enhancement of people's capacity to acquire and manage re-sources effectively, understand markets and policy related to these elements. Presently, economic transitions underway in rural Florida result in pockets of economic disadvantage. Public and private managers must cope with the costs of economic change and must be able to influence both the pattern and pace of growth. Insights are sometimes obtained from problem-solving work in other locations that may be applicable in Florida. Rural economic development, international development, economic impact analysis, domestic policy analysis and agricultural labor subject matter are also of interest. Some specific areas where Hatch research is taking place in IFAS include:

Economics of Agricultural Production and Farm Management
Citrus remains the most important crop produced in Florida. Florida citrus producers face a number of challenges including increased foreign competition, adoption of new technology including mechanical harvesting, and threats from invasive pests. This intent of one project in this area is to provide economic analysis of the issues confronting Florida including assessment of the competitive position of the citrus industry.

Marketing and Distribution Practices
Understanding more about the factors that influence consumers' subjective perceptions about food consumption will allow agribusinesses, agricultural producers, and policy makers to respond more effectively to consumer concerns. One Hatch project is designed to improve our understanding of the effects of consumer tastes and preferences, including food safety, on Florida agriculture. International Trade and Development International trade and development of new markets is important to Florida's agricultural industries. This includes the understanding and development of policy necessary for improved development of international trade. One project seeks to evaluate how the relative economic size of Caribbean Basin countries will condition their

ability to realize the full economic benefits of trade liberalization and integration efforts in the Western Hemisphere.

Scope of the Program

- Multistate Integrated Research and Extension
  Multistate Research
- In-State Research
- Integrated Research and Extension

Assumptions made for the Program

- Improvements provided by these research projects will improve the quality of life for Florida residents
- Improvements provided by these research projects will improve markets and policies for Florida stakeholders involved in international sales of Florida agricultural products
- Information provided by these research projects will improve the economic well-being of Florida residents

Ultimate goal(s) of this Program

- Provide economic analysis of issues confronting Florida stakeholders including assessment of the competitive position of Florida crops in the international market place.
- Research factors that influence consumers' subjective perceptions about food consumption that will allow agribusiness, ag producers, and policy makers to respond more effectivley to consumer and producer concerns
- Understand and develop policy necessary for improved development of international trade

Number of professional FTE/SYs budgeted for this Program

	Extension		Research	
Year	1862	1890	1862	1890
2006	0.0	0.0	12.0	0.0

Activity for the Program

- Conduct Research Experiments
- Partnering on an international level

Description of targeted audience

- international:
  - Agribusiness
- producers
- policy makers (county, state, regional, national, international

Number of Patents (Standard Research Target)

Actual Patents for 2006 were 0

Expected Peer Review Publications

Year	Research Target	Extension Target
2006	98	0

External Factors which may affect Outcomes

- Economy
- Appropriations changes
- Competing Programmatic Challenges
- Natural Disasters (drought, weather extremes, etc.)
- Government Regulations
- Public Policy changes

Description
Florida is a state located in the tropics. Natural disasters such as tropical storms and hurricanes are common annual occurrences in this state. Severe weather conditions such as droughts frequently led to large-scale fires. Florida also has other weather extremes such as floods leading to large scale damage especially along the coastal regions.

Florida has three international shipping ports: Miami, Jacksonville and Tampa. These cities all have international airports. Along with this we have over 53 million tourists visiting from around the world. It has been estimated that this international influx into Florida has made us the entry point of one new invasive pest, plant or disease each week. Any of this could be an external factor affecting land-grant research outcomes.

Changes may occur because of:

- The loss of test sites from storm damage
- An invasive species that requires priority
- Changes in public priorities
- Changes in state, county and federal appropriations
- Changes in governmental regulations
- Loss of public or private funding opportunities
- Changes in international policy or trade agreements

Evaluation Studies Planned

- Retrospective (post program)
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Case Study
- After Only (post program)
- Comparison between locales where the program operates and sites without program intervention
- Time series (multiple points before and after program)
- Before-After (before and after program)
- Comparisons between program participants (individuals, group, organizations) and non-participants
- During (during program)

Description
Florida IFAS/research understands the importance of evaluating projects to provide scientifically accurate information and recommendations.

Accepted research guidelines and procedures are followed.

Data Collection Methods

- Structured

- Case Study
- Unstructured
- Tests
- Whole population
- Sampling
- Portfolio Reviews
- Mail
- Journals
- Telephone
- On-Site
- Observation

Description
Florida IFAS/research uses a variety of acceptable forms of qualitative and quantitative data collection methods.

a. EXECUTIVE SUMMARY for Economics, Markets and Policy--research

In the area of economics, markets and policy Florida has hatch projects that are working to increase the economic level of Florida Agriculture, as well as other areas of Florida's population. Researchers are also involved in developing new markets on a global level and dealing with economic problems that require research in these areas. One Hatch project is looking at ways to reduce error in rural and agricultural surveys. Another project is looking at developing management systems to improve the economic and environmental sustainability of dairy enterprises. Plants are a valuable commodity in Florida and one Hatch project is working on methods to manage and market environmental plants fro improved production but also for profitability and efficiency. In the area of policy one hatch project is working on reducing barriers to the adoption of micro-irrigation. Although these barriers are not totally related to policy, policy changes must always be considered. Another project in this programmatic area includes the economic analysis of the Florida citrus industry, an important Florida crop, and its competition in a global market. All of these research projects and many more in this programmatic area relate to critical need areas identified by Florida clientele.

6. Enhance and Maintain Agricultural and Food Systems

Brief summary about Planned Program

Planned programs relate to:

- Agricultural profitability and sustainable use of environmental resources;
- Awareness of agriculture's importance to an economy that ranges from local to global Processing, distribution, safety and security of food systems
- Plant, animal and human protection
- Safety for agricultural operation and equipment
- Some of the major commodity areas found in Florida include:
  Agronomic row crops
- Animal sciences and forages
  Aquaculture
- Citrus
- Forestry
- Fruits and Vegetables
  Ornamentals and Turf
- Small Farms and Alternative Enterprises (including small crop profitability) Sugarcane and Rice
- Small animal production (including goat)

Florida's agriculture and natural resources industry comprises a wide array of economic activities. This industry represents numerous value-added stages, including production, processing, wholesale distribution, retailing, and associated inputs and services. Some of the major production groups are fruits and vegetables, livestock, meat and dairy, forestry, environmental horticulture, seafood, and sugar. In addition, a variety of input and service businesses provide critical supporting roles. In 2003, the agriculture and natural resource industry generated over 50.8 billion dollars of output or sales impacts, $27.6 billion in exports, $2.6 billion in tax contributions and 756,993 jobs that provided $25.1 billion in labor income.

These economic benefits are felt at local, state and international levels. In some rural counties, agriculture is the largest component of the economy. Much of Florida's agricultural produce is exported outside the state, contributing to a $1.5 trillion national agricultural economy. In addition to economic contributions, these industries provide the state with various non-monetary benefits, such as wildlife habitat, aquifer recharge areas and areas of open space. These environmental attributes also support the state's large eco-tourism industry. Surveys indicate that over 50 percent of Florida visitors engage in some form of nature-related activity.

According to Lyons (2006), a large and growing number of Floridians are unaware of the numerous contributions of the state's agricultural industry. Rapid population growth places increasing pressures on land, water and environmental quality. As a consequence, the agricultural sector continues to be challenged for resources including land, water, labor, and other farm inputs.

Food processing, service, preparation, and distribution are all vital activities that support the people of Florida and the state's agricultural industry. New and value-added product development contributes to a viable market for Florida products and provides for the array of products consumers expect. Effective distribution systems also enhance the state's ability to compete effectively in the domestic and global marketplace.

Food safety and security are critical components of a sustainable industry. According to the Centers for Disease Control and Prevention (CDC), there are over 250 known different foodborne diseases. These diseases are caused by viruses, chemicals, toxins, and fungi, as well as bacteria which are the major source of illness. In the United States, where the food supply is one of the safest in the world, it is estimated that there are 76 million incidences of foodborne illness and approximately 5,000 deaths yearly.

These issues surrounding safety and security span the entire food sector, ranging from consumers to the food service and processing industries. Increasingly, food safety and security are a focus of government, industry, media and consumer awareness. The need for accurate, easy to understand, accessible information is paramount to the success of the entire industry and the health and welfare of the entire population.

Plant, animal, and human protection is becoming increasingly important as Florida's urban areas continue to grow rapidly and the more isolated farm population shrinks. The extension community is helping to provide this protection through partnerships across the continuum from farmers to households, including researchers, extension agents, agricultural producers, Master Gardeners, and Doctors of Plant Medicine. The mechanism for delivery is integrated pest management (IPM), the effective management of pests by using a variety of options that minimize risks to human health and the environment, e.g., pest resistant cultivars, selected growing practices, commercial natural enemies, antagonist microorganisms, and biorational pesticides. Available pest management options are diverse but virtually all of them rely on timely and accurate pest identification and diagnosis. The use of IPM is particularly challenging in Florida because of the climate and global agricultural markets that cause the state to be susceptible to the accidental or intentional introduction of invasive pests. To assure that IPM action is rapid and appropriate, the University of Florida, Institute of Food and Agricultural Sciences (IFAS) has established plant and animal pest diagnostic clinics and networks, such as Florida Plant Diagnostic Network (FPDN) and the Distance Diagnostic and Identification Information System (DDIS) that collaborate with Southern Plant Diagnostic Network (SPDN) and the Florida Department of Agriculture and Consumer Services (FDACS). When pesticides are used as a pest management option, the UF/IFAS Pesticide Safety Education Program (PSEP) provides training and information to applicators on safe, environmentally sound pesticide application practices, personal safety, and regulations. PSEP also assists applicators in meeting state and federal certification and licensing requirements to use pesticides in Florida.

Program Existence: Intermediate (One to five years)

Program Duration: Long-Term (More than five years)

Expending formula funds or state-matching funds: Yes

Expending other than formula funds or state-matching funds: No

Program Knowledge Areas and Percentage

104	5%	Protect Soil from Harmful Effects of Natural Elements
111	5%	Conservation and Efficient Use of Water
132	5%	Weather and Climate
133	5%	Pollution Prevention and Mitigation
136	5%	Conservation of Biological Diversity
141	5%	Air Resource Protection and Management
201	5%	Plant Genome, Genetics, and Genetic Mechanisms
204	5%	Plant Product Quality and Utility (Pre-harvest)
205	5%	Plant Management Systems
211	5%	Insects, Mites, and Other Arthropods Affecting Plants
212	5%	Pathogens and Nematodes Affecting Plants
213	5%	Weeds Affecting Plants
214	5%	Vertebrates, Mollusks, and Other Pests Affecting Plants
216	5%	Integrated Pest Management Systems
307	5%	Animal Management Systems
315	5%	Animal Welfare/Well-Being and Protection
402	5%	Engineering Systems and Equipment
405	5%	Drainage and Irrigation Systems and Facilities
502	5%	New and Improved Food Products
603	5%	Market Economics

Situation and priorities

The scope of challenges facing agriculture and natural resource industries of Florida fall into four primary areas:

1) economic well-being
2) environmental issues
3) quality, safety and security issues
4) civic engagement.

Economic Well-Being:
Declining profitability due to stable or falling commodity prices and increasing cost of production. Liberalized trade agreements that reduce tariffs and subsidies can benefit both foreign and domestic producers by having greater access to markets. Resource limitations resulting from the following: Land loss due to urban sprawl, Increased water consumption due to population growth, Restricted use of farm inputs due to environmental concerns, and Reduced availability of labor due to a growing reliance on migrant labor. New and innovative products and processing technologies must be developed for the industry to remain competitive and to adequately meet the rising expectations of consumers.

Environmental issues:
Public concern over the following environmental issues has translated into increasingly stringent and costly environmental regulations on certain agricultural practices that can adversely affect a firm's economic viability in the short run and sustainability in the longer run. Water quality, as impacted by agricultural production practices, such as fertilizer and pesticide residue leaching and runoff, and management of waste from livestock and aquaculture production, Water availability as impacted by production-related surface and groundwater withdrawals, Conservation of the state's natural resource base, including land for production, wildlife habitat, green space, and fresh and saltwater recreation.

Quality, Safety and Security Issues:
A heightened awareness by agricultural producers and processors concerning safe production practices such as chemical residues, biological safety concerns, and personal hygiene practices. Continued development of modern processing, distribution and storage, technologies and the use of improved handling practices that prevent unnecessary food losses while simultaneously ensuring high quality and safety standards; Availability of a wide range of wholesome foods that meet the needs of an increasingly unhealthy population; At the retail sector, adequate packaging and labeling so that consumers have reliable information to optimize their food choices; Development and implementation of food safety and security programs that protect the nation's food supply, and; Providing adequate information to the state and country's farm laborers who support agriculture to help them avoid dangers from equipment and exposure to farm chemicals that pose a number of potential risks to their health and safety.

Civic Engagement:
Awareness of agriculture and natural resources and their contribution to the state's economic, environmental, and social well-being. Agricultural awareness efforts can create an informed voting public so that wise choices can be made that benefit Florida's citizens and visitors. The scope of these issues includes: Educating the public regarding the role and importance of agriculture in Florida's economy, the stewardship of natural resources, and the relationship between agricultural production and food availability. Keeping legislators up-to-date on industry concerns, such as pesticide regulations, worker protection standards, immigration, and international trade. Providing public interest groups and the media with objective information regarding the contributions of the agricultural industry, Developing information and programs that educate the industry regarding new information on such topics as Best Management Practices, regulatory legislation, and technological advancements. Assisting the industry to promote the numerous benefits of agriculture.

Scope of the Program

- In-State Extension
- Multistate Integrated Research and Extension

- Integrated Research and Extension
- Multistate Extension

Assumptions made for the Program

- People will be motivated by workshops and other educational activities to learn/change
- Information on best practices shows that these approaches work well for these target audiences Changes suggested in activities related to this program will improve quality of life for participants

Ultimate goal(s) of this Program

Goals for Agricultural Profitability and the Sustainable Use of Environmental Resources Improved procedures and techniques for managing agricultural operations

- Improved procedures and techniques to increase revenue from agricultural practices
- Improved procedures and techniques to reduce costs from agricultural practices
- Improved management systems, procedures, and/or techniques to conserve water
- Improved management systems, procedures, and/or techniques to improve water quality
- Improved compliance with local, state, and federal regulations.
- Improved delivery of Extension programs.

Goals for Awareness of Agriculture's Importance to an Economy That Ranges From Local to Global

- Improve understanding of agriculture's contribution to the economy by agriculture and natural resources
- Improve understanding of agriculture's contribution to the environment
- Improve understanding of the effects of domestic policy on the agricultural industry

Goals for Processing, Distribution, Safety and Security of Food Systems

- Improved procedures and techniques for processing agricultural products
- Improved procedures and techniques for distributing agricultural products
- Improved compliance with local, state and federal regulations

Goal for Plant, Animal and Human Protection

- Improved procedures and techniques for identifying and monitoring pests
- Improved procedures and techniques for controlling pests
- Improved procedures for handling and using agricultural chemicals, fuels, equipment, and other products.
- Improved procedures and techniques to reduce costs from agricultural practices
- Improved procedures and techniques for using protective safety equipment

Number of professional FTE/SYs budgeted for this Program

	Extension		Research	
Year	1862	1890	1862	1890
2006	157.3	3.0	0.0	0.0

Activity for the Program

Activity	Count
Advisory Council	143
Classroom Enrichment	117
Clinics	107
Consultations	293
County Event	101
Curriculum Development	19
Demonstration/Fields Trials	494
Developing Educational Materials	272
Developing Partnerships and	181
District Event	42
Facilitating Groups	76
Fairs/Exhibits	62
Field Days	187
Funding Efforts	15
Group Teaching Events	1266
In-Service Training	75
Marketing	24
Needs Assessment	26
Program Development	116
Reporting Results	124
State/National Event	157
Video Conference	16
Working With Media	36

Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods

- Other 1 (telephone calls)
- Education Class
- Workshop
- Group Discussion
- One-on-One Intervention
- Demonstrations

Indirect Methods

- Public Service Announcement
- Newsletters
- TV Media Programs
- Other 1 (radio)
- Web sites

Description of targeted audience

- Producers
- Commodity Associations
- Owners/Operators
- Managers/Supervisors
- Workers/Laborers
- Allied Industry Representatives
- Small Farmers
- Government/Regulatory
- County government
- State government
- Federal government
- Tribal government
- International governing bodies
- Harvesting/Packing/Processing/Distribution
- Harvesters/Packers
- Processors
- Distributors/Transporters
- Retailers
- Importers/Exporters
- Youth
- 4H(K-12)
- Other Youth
- Youth Educators
- Extension Faculty
- Extension Faculty

Standard output measures

Number of persons(contacts) reached through direct and indirect contact methods

Year	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
2006	3,212,880	6,488,502	0	0

Number of Patents (Standard Research Target)

Actual Patents for 2006 were 0

Peer Review Publications

Year	Research Target	Extension Target
2006	0	185

Output Target

- Field trials
- classroom enrichment

Outcomes

	Number Surveyed	Number Changed
Number of Agricultural operations improving product quality	1,225	1,004
Number of Agricultural operations increasing yield	240	173
Number of agricultural operations that have reduced costs associated with pesticide applications	149	149
Number of Agricultural operations that have reduced input costs	1,480	1,074
Number of Agricultural operations that improve product margins	890	775
Number of agricultural operations that understand and use appropriate techniques for agricultural chemicals, fuels and other products	509	483
Number of Agricultural operations that use alternative enterprises	351	272
Number of Agricultural operations that use appropriate business management skills. (ie. Accurate record keeping, Financial statements and analysis, Appropriate credit management strategies, Appropriate tax management strategies)	481	474
Number of agricultural operations that use appropriate monitoring and sampling techniques	114	114
Number of agricultural operations that use appropriate pest management	652	612
Number of Agricultural operations that use appropriate production technology	295	194
Number of agricultural operations that use diagnostic services	15	15
Number of agricultural operations that use Integrated Pest Management (IPM)	13	11
Number of Agricultural operations that utilize appropriate equipment	9	4
Number of Agricultural operations that utilize best management practices for fertilizers, pesticides and water management.	433	316
Number of Agricultural operations that utilize efficient irrigation equipment	76	54
Number of Agricultural operations that utilize efficient irrigation methods	140	123
Number of Agricultural operations using value added processes	172	133
Number of agricultural operations that can identify pest species	36	36
Number of agricultural operators that understand and comply with local, state, and federal regulations.	1,501	1,494
Number of employers that have formal disciplinary procedures for not using safety equipment	75	75
Number of equipment operators that participate in equipment safety workshops	75	75
Number of equipment operators that participate in equipment safety workshops	215	215
Number of equipment operators that understand and use protective safety equipment	361	308

Number of operation that regularly conduct training for employees on safety related manufacturing activities	36	36
Number of operation that regularly conduct training for employees on safety related manufacturing activities	43	25
Number of operations that regularly conduct training for employees on quality related manufacturing activities		
Number of participants recognizing the effects of policy decisions on agriculture and natural resources	400	400
Number of participants recognizing the leading agriculture and natural resources commodities in their local area	19	19
Number of participants recognizing the significance of Florida agriculture and natural resources to the economy	239	239
Number of participants recognizing the significance of Florida agriculture and natural resources to the economy	180	180
Number of participants recognizing the significance of Florida agriculture and natural resources to the environment		
Number of participants recognizing the significance of Florida agriculture and natural resources to the environment	50	50
Number of participants recognizing the significance of Florida agriculture and natural resources to the environment	11,845	1,835
Number of participants that successfully complete licensure or re-licensure certification	1,379	1,223
Number of program participants that are satisfied with Extension's services.	2,828	2,807
Number of program participants that are satisfied with the information received by Extension	1,569	1,533
Number of program participants that indicate Extension information solved a problem	339	319
Number of program participants that indicate information is relevant to their situation	409	407
Number of program participants that indicate information is up-to-date and accurate	75	75
Number of youth demonstrating moderate to high level of ability in animal exhibition/showmanship.	170	110
Number of youth demonstrating/ reporting moderate levels of attainment of knowledge/practices in environmental stewardship and conservation principles	6,285	3,750
Number of youth demonstrating/ reporting moderate levels of attainment of practices in animal care management	90	85
Number of youth demonstrating/ reporting moderate levels of knowledge of agricultural production	691	672
Number of youth demonstrating/ reporting moderate to high ability level to judge and select quality animals.	12	12

Number reporting improved competencies related to Florida's natural systems	120	97

Outcome Type: Change in Condition Outcome Measure

Associated Knowledge Area(s)

- 104 - Protect Soil from Harmful Effects of Natural Elements
- 111 - Conservation and Efficient Use of Water
- 132 - Weather and Climate
- 133 - Pollution Prevention and Mitigation
- 136 - Conservation of Biological Diversity
- 141 - Air Resource Protection and Management
- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 204 - Plant Product Quality and Utility (Pre-harvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants

External Factors which may affect Outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Populations changes (immigration, new cultural groupings, etc.)
- Competing Programmatic Challenges
- Economy

Description
Florida is a state located in the tropics. Natural disasters such as tropical storms and hurricanes are common annual occurrences in this state. Severe weather conditions such as droughts frequently led to large-scale fires. We also have other weather extremes such as floods leading to large scale damage especially along the coastal regions.

Florida also has three international shipping ports: Miami, Jacksonville and Tampa. These cities all have international airports. Along with this we have over 53 million tourists visiting from around the world. It has been estimated that this international influx into Florida has made us the entry point of one new invasive pest, plant or disease each week. Any of this could be an external factor affecting land-grant outcomes.

Evaluation Studies Planned

- After Only (post program)
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Time series (multiple points before and after program)
- Retrospective (post program)
- Before-After (before and after program)
- Case Study
- Comparison between locales where the program operates and sites without program intervention
- Comparisons between program participants (individuals, group, organizations) and non-participants

- During (during program)

Description
The Florida land-grant college understands the value of evaluation in our annual program plan. Methods of evaluation are included as part of the annual faculty activity plan of work and report of accomplishment process (unifas). This information is collected as part of the logic model used in our Florida system and will be available for the CSREES reports of accomplishment on a yearly basis.

Data Collection Methods

- Telephone
- Case Study
- On-Site
- Whole population
- Tests
- Sampling
- Structured
- Portfolio Reviews
- Observation
- Journals
- Unstructured
- Mail

Description
The Florida land-grant colleges use acceptable forms of qualitative and quantitative data collection methods as specified by the Institutional Regulation Board (IRB) and the Southern Association Accreditation Board.

a. EXECUTIVE SUMMARY Enhance and Maintain Agricultural and Food Systems

This programmatic area reached a total of 3,212,880 adults in the area of economic well-being and quality of life. These adults were reached through one-on one interactions, through demonstrations, educational classes, group discussions, workshops and telephone calls. Emails sent to specific individuals are also reported in this area this year. Over 6.4 million more adults (unduplicated numbers) were reached through radio, TV, newspapers and other mass media methods that constitute indirect contacts. This is a very large programmatic section that includes areas of interest related to the following issues and commodities:

- Agricultural profitability and sustainable use of environmental resources;
- Awareness of agriculture's importance to an economy that ranges from local to global Processing, distribution, safety and security of food systems
- Plant, animal and human protection
- Safety for agricultural operation and equipment
- Animal sciences and forages
- Aquaculture
- Citrus
- Forestry
- Fruits and Vegetables
  Ornamentals and Turf
- Small Farms and Alternative Enterprises (including small crop profitability) Sugarcane and Rice*
- Small animal production (including goat)*

UF/IFAS and FAMU/CESTA work together on focus teams as well as within the individual land grant colleges to provide support to citizens of Florida on issues related to these critical need areas. In educational programs where survey's were completed results show that Extension has an impact on specific target audience outcomes. For example, of 1,480 surveyed in the area of reduced costs associated with agricultural operations, 775 said

they had successful made this change. Of 1,225 surveyed in improved product quality within agricultural operations 1,004 said changes had occurred leading to improvements. In programs designed to help agricultural operators understand and comply with local, state and federal regulations 1,494 said they understood the implication better following these programs. Finally of 1,379 who took certification courses taught by extension faculty in the area of enhancing and maintaining agricultural and food systems, 1,223 successfully completed the training (see state defined outcomes for state standardized results).

Special effort was made to reach both underserved and underrepresented through methods such as radio and television announcements, working with agencies that have direct access to underserved and underrepresented populations. Some documents are also reproduced in Spanish and other languages as a means of further reaching certain populations.

**of particular interest at FAMU in areas of goats and small farms*

7. Families, Youth, and Communities--research

Brief summary about Planned Program

- Youth Development
- Improved quality of life for families
- Development and sustainability of healthy communities

Program Existence: Intermediate (One to five years)

Program Duration: Long-Term (More than five years)

Expending formula funds or state-matching funds: Yes

Expending other than formula funds or state-matching funds: No

Program Knowledge Areas and Percentage

802 100% Human Development and Family Well-Being

Situation and priorities

A major strength of the area of families, youth and communities is the diversity of disciplines that operate in collaborative and complementary ways to address issues of importance to individuals, families, and communities. This diversity allows human development to be considered from a broad perspective, giving consideration to the key contextual setting in which people are embedded. These contextual factors include families, neighborhoods, schools, communities, and extra-community linkages. These elements form the conceptual foundation for the research that takes place in this area.

Youth Development
Some IFAS faculty focus their Hatch research on youth development issues such as crime and violence prevention in public schools. This research has led to the development of a safe school survey and school climate survey model for Florida schools, an analysis of school crime and violence data quality systems, longitudinal studies on trends of youth crime and violence, and research on youth risk prevention program effectiveness. Other youth development research has focused on investigating partnerships that adults and youth form, for the purpose of addressing the goals of a local organization, community, or government entity.

Florida youth and adults expand and learn leadership skills through partnerships that promote community volunteerism, more specifically, engagement in civic governance. The research examines the knowledge, attitudes and skills of youth and adults regarding willingness to be involved in partnerships and how they apply leadership skills in partnerships for community governance.

Scope of the Program

- In-State Research
- Integrated Research and Extension
- Multistate Integrated Research and Extension
- Multistate Research

Assumptions made for the Program

Through research human development can be considered from a broad perspective, giving consideration to the complex systems in which humans are embedded. These complex systems include families, neighborhoods, schools, communities, the state, the nation and the world.

Ultimate goal(s) of this Program

- Decrease crime and violence in youth populations
- Improve resource management
- Improve financial management skills
- Improve Families and work/business relationship
- Increase savings and investing within the community

Number of professional FTE/SYs to be budgeted for this Program

	Extension		Research	
Year	1862	1890	1862	1890
2006	0.0	0.0	0.4	0.0

Description of targeted audience

- Youth
- Families
- Community Leaders
- Business (private and public)

Number of Patents (Standard Research Target)

Actual Patents in 2006 were 0

Peer Review Publications

Year	Research Target	Extension Target
2006	267	0

External Factors which may affect Outcomes

- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)
- Competing Public priorities
- Appropriations changes
- Economy
- Government Regulations
- Natural Disasters (drought, weather extremes, etc.)
- Public Policy changes

Description
Florida is a state located in the tropics. Natural disasters such as tropical storms and hurricanes are common annual occurrences in this state. Severe weather conditions such as droughts frequently led to large-scale fires. Florida also has other weather extremes such as floods leading to large scale damage especially along the coastal regions.

Florida has three international shipping ports: Miami, Jacksonville and Tampa. These cities all have international airports. Along with this we have over 53 million tourists visiting from around the world. It has been estimated that this international influx into Florida has made us the entry point of one new invasive pest,

plant or disease each week. Any of this could be an external factor affecting land-grant research outcomes. All of these can cause disruption in families that impact research on youth.

Changes may occur because of:

- Displacement of subjects
- Problem with changing populations because of economy impacts
- Chaos and disorder caused by natural and national disasters
- Loss of computer systems and data collections

Evaluation Studies Planned

- During (during program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Time series (multiple points before and after program)
- Before-After (before and after program)
- After Only (post program)
- Retrospective (post program)

Description
Florida IFAS/research understands the importance of evaluating projects to provide scientifically accurate information and recommendations. Accepted research guidelines and procedures are followed.

Data Collection Methods

- Whole population
- Unstructured
- Structured
- On-Site
- Portfolio Reviews
- Observation
- Case Study
- Tests
- Sampling
- Telephone
- Journals
- Mail

Description
Florida IFAS/Research uses a variety of acceptable forms of qualitative and quantitative data collection methods.

a. EXECUTIVE SUMMARY-- Families, Youth, and Communities--research

In the research programmatic area of families, youth and communities Florida has hatch projects that are working to improve quality of life within each of these environments. One project relates to the reduction of error in rural surveys. Another important Hatch research project relating to youth is evaluating the knowledge, attitudes, skills, education and effectiveness of youth/adult partnerships in civic engagement. A second project in youth is evaluating research in the area of youth development and youth crime and violence in public schools. One project related to communities looks at agricultural and rural finance markets in transition. Many of the hatch projects such as this last one, relate to other areas such as economics, and human health and safety

found in another program also directly impact families, youth and communities especially in agricultural communities. For this reason there is an overlap between projects listed here and those that have been listed in a different section of the report. All of these research projects relate to critical need areas identified by Florida clientele.

8. Food and Non-Food Products: Development, Processing, Quality, and Delivery--research

Brief summary about Planned Program

- Post-harvest/post production
- Food and Agriculture
- New and Improved Food Processing Technologies
- New and Improved Non-Food Products and Processes

Program Existence: Intermediate (One to five years)

Program Duration: Long-Term (More than five years)

Expending formula funds or state-matching funds: Yes

Expending other than formula funds or state-matching funds: No

Program Knowledge Areas and Percentage

501	20%	New and Improved Food Processing Technologies
502	20%	New and Improved Food Products
503	20%	Quality Maintenance in Storing and Marketing Food Products
504	5%	Home and Commercial Food Service
511	15%	New and Improved Non-Food Products and Processes
512	20%	Quality Maintenance in Storing and Marketing Non-Food Products

Situation and priorities

This area addresses the needs in the development, processing, quality and delivery of food and non-food products. In this area Hatch research projects have been conducted in both areas. Some examples include:

Postharvest/Post Production
Research in this area addresses the needs of the foliage and floriculture market chain. Currently the best interior evaluation facilities in the US are located within IFAS and IFAS has the only department with a program nationally addressing whole plant longevity on a broad scale. Major emphasis is placed on research to improve the performance of fresh cut flowers for the consumer.

Food and Agriculture
Florida ranks as a major agricultural state and often leads the nation in the production of a wide variety of agricultural commodities. Before reaching the consumer, each product moves through a unique marketing channel often involving grading, processing, packaging, transporting, international trade, wholesaling and retailing. The provision of inputs and services to the agricultural sector also involves significant economic activity. Agricultural businesses must cope with increased regulatory pressure, shifting consumer preferences regarding food safety and environmental protection as well as dealing with emerging opportunities through biotechnology. Agribusiness, farm management and production economics, marketing, international trade and competition, and consumer economics are among the subject matter that is the concern of Florida IFAS research. New and Improved Food Processing Technologies Value-added by-products research requires strong product utilization and processing industry support to maintain industry prominence in International markets. By-products research allows development of processing and utilization schemes to profitably deal with waste utilization, rather than pay disposal costs. New and Improved Non-Food Products and Processes, Genetic manipulations to improve ethanol production in Z. mobilis are complicated by enzymes that prevent introduction of foreign DNA into the bacteria. The purpose of some projects in this area is to determine the

factors that limit the efficiency of transfer of foreign genes into Z. mobilis and to produce new strains which will be more amenable to genetic engineering which may be used to enhance their fuel ethanol production.

Scope of the Program

- Multistate Research
- In-State Research
- Integrated Research and Extension
- Multistate Integrated Research and Extension

Assumptions made for the Program

- Improvements provided by these research projects will improve the quality of life for Florida residents
- Improvements provided by these research projects will improve the development, processing, quality and delivery of food and non-food products
- Information provided by these research projects will improve the economic well-being of Florida residents and agricultural industries

Ultimate goal(s) of this Program

- Improve and better understand unique marketing channels that include grading, processing, packaging, transporting, international trade, wholesaling and retailing.
- Understand and identify regulatory pressure, shifting consumer preferences regarding food safety and environmental protection as well as dealing with emerging opportunities through biotechnology
- Identify and improve value-added by-products through strong product utilization and processing industry support to maintain industry prominence in International markets

Number of professional FTE/SYs to be budgeted for this Program

	Extension		Research	
Year	1862	1890	1862	1890
2006	0.0	0.0	11.5	0.0

Activities for the Program

- Conduct research experiments
- Partner
- Work with stakeholders in processing areas to create and construct research facilities

Description of targeted audience

State, national and international stakeholders affected by food and non-food developing, processing, quality and delivery. These may include but are not limited to:

- Producers
- Regulatory bodies
- Consumer groups

Number of Patents (Standard Research Target)

Actual number of patents in 2006 were 0

Peer Review Publications

Year	Research Target	Extension Target
2006	90	0

External Factors which may affect Outcomes

- Public Policy changes
- Natural Disasters (drought, weather extremes, etc.)
- Government Regulations
- Competing Public priorities
- Populations changes (immigration, new cultural groupings, etc.)
- Appropriations changes
- Economy
- Competing Programmatic Challenges

Description
Florida is a state located in the tropics. Natural disasters such as tropical storms and hurricanes are common annual occurrences in this state. Severe weather conditions such as droughts frequently led to large-scale fires. Florida also has other weather extremes such as floods leading to large scale damage especially along the coastal regions.

Florida has three international shipping ports: Miami, Jacksonville and Tampa. These cities all have international airports. Along with this we have over 53 million tourists visiting from around the world. It has been estimated that this international influx into Florida has made us the entry point of one new invasive pest, plant or disease each week. Any of this could be an external factor affecting land-grant research outcomes.

Changes may occur because of:

- The loss of test sites from storm damage
- An invasive species that requires priority
- Changes in public priorities
- Changes in state, county and federal appropriations
- Changes in governmental regulations
- Loss of public or private funding opportunities

Evaluation Studies Planned

- Before-After (before and after program)
- Case Study
- Time series (multiple points before and after program)
- During (during program)
- Retrospective (post program)
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- After Only (post program)

Description
Florida IFAS/research understands the importance of evaluating projects to provide scientifically accurate information and recommendations.

Accepted research guidelines and procedures are followed.

Data Collection Methods

- Structured
- Mail
- Whole population
- Observation
- Journals
- Portfolio Reviews
- On-Site
- Case Study
- Tests
- Sampling
- Telephone
- Unstructured

Description
Florida IFAS/research uses a variety of acceptable forms of qualitative and quantitative data collection methods.

a. EXECUTIVE SUMMARY-- Food and Non-Food Products: Development, Processing, Quality, and Delivery--research

In the research programmatic area of food and non-food products which includes the development, processing, quality, and delivery of these products, Florida has hatch projects that are developing ways to automate and mechatronate horticultural production systems. Another Hatch project is looking at how to do phytochemical and quality assessment of fresh and processed fruits and vegetables. In the area of quality, one project relates to finding ways to enhance food safety and quality through technologies and consumer research. Post-harvest is an important area of research in a state with tropical conditions. One project in this area deals with post-harvest quality and safety in fresh-cut vegetables and fruits. These projects have been listed in a different section of the report. All of these research projects relate to critical need areas identified by Florida clientele.

9. Healthy Communities

Brief summary about Planned Program

Healthy communities are developed by:

- Addressing the urban/rural interface
- Broad-based citizen participation and active communities
- Economic diversity
- Community Preparedness

Program Existence: Intermediate (One to five years)

Program Duration: Long-Term (More than five years)

Expending formula funds or state-matching funds: Yes

Expending other than formula funds or state-matching funds: No

Program Knowledge Areas and Percentage

608	20%	Community Resource Planning and Development
610	20%	Domestic Policy Analysis
723	10%	Hazards to Human Health and Safety
724	5%	Healthy Lifestyle
802	10%	Human Development and Family Well-Being
803	10%	Sociological and Technological Change Affecting Individuals, Families and Communities
805	5%	Community Institutions, Health, and Social Services
806	5%	Youth Development
902	5%	Administration of Projects and Programs
903	10%	Communication, Education, and Information Delivery

Situation and priorities

There are hundreds of municipalities in Florida, ranging from Islandia with 5 residents to the Greater Miami area with well over one million. Each Florida community has its own history and special flavor, as well as plans and hopes. The citizens of any community have the goal of working together to improve the quality of their lives and increase their opportunities. For communities to grow, they must have the active interest and involvement of citizens in the form of a rich civic life. In this way, citizens come together to discuss and debate the needs and directions for their community. Then, once the decisions are made, citizens must come together to make and execute their plans. Another requirement for growth and opportunity is a robust economy. In Florida, a significant basis for such an economy is the natural environment, in terms of natural resources and natural beauty. Together, these account for much of Florida's overall economy in the forms of tourism, industry, recreation and agriculture. Most communities in Florida are looking to one or more of these areas as sources of economic growth. As much as citizens and leaders might desire to have vibrant, cooperative communities, the skills needed to achieve this must be learned. Communities need guidance and expertise. They need support and information. Hanging over all plans and achievements, however, is the possibility of disaster. In the last ten years or so, Florida has sustained major natural disasters, including devastating hurricanes and drought. These disasters have challenged --- and in one case, leveled --- communities. A hurricane or tornado can cause irreparable damage to a community, and a severe drought can change the economic welfare of an entire region. The past two years have made all Floridians aware of other threats to the stability of our communities. Every community must now have some response ready in case of an intentional attack. These attacks can take many forms, including bombings and the introduction of disease agents. Central to the life of our communities are the

lives of their citizens, and that means working for their safety in the everyday hazards they face in their homes and workplaces. Florida's natural environment and large agricultural sector expose Florida citizens to a wide range of personal hazards or the possibility of creating hazards for others. As concerned as we are about large-scale emergencies, Floridians are much more likely to face death or injury through equipment or situations they encounter everyday. Whatever our communities are confronted with, Extension must be ready to play its role. Through its reputation for community involvement and quality information, Extension has special capabilities that can assist communities in valuable ways during good times and bad.

Scope of the Program

- Multistate Extension
- In-State Extension
- Multistate Integrated Research and Extension
- Integrated Research and Extension

Assumptions made for the Program

People will be motivated by workshops and other educational activities to learn/change related to community issues. Changes suggested in activities related to this program will improve quality of life for participants

Ultimate goal(s) of this Program

- Improved delivery of Extension programs.
- Improved procedures and techniques for managing population growth
- Improved procedures and techniques to resolve conflict
- Florida citizens participate more fully and effectively in the decision making that affect their communities Florida citizens mobilize human and fiscal resources to address the issues that affect their communities
- Improved procedures and techniques to retain and expand businesses

Number of professional FTE/SYs budgeted for this Program

	Extension		Research	
Year	1862	1890	1862	1890
2006	8.2	0.5	0.0	0.0

Activities for the Program

Activity	Count
Advisory Council	5
Classroom Enrichment	2
Clinics	4
Consultations	15
County Event	7
Curriculum Development	5
Demonstration/Fields Trials	5
Developing Educational Materials	9
Developing Partnerships and	32
Facilitating Groups	9
Fairs/Exhibits	2
Field Days	2
Funding Efforts	1
Group Teaching Events	61
In-Service Training	7
Marketing	15

Needs Assessment	3
Program Development	10
Reporting Results	3
State/National Event	13

Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods

- Demonstrations
- Group Discussion
- Workshop
- Education Class
- One-on-One Intervention
- Other 1 (telephone calls)

Indirect Methods

- TV Media Programs
- Web sites
- Newsletters
- Public Service Announcement
- Other 1 (radio)

Description of targeted audience

- Business and Industry
- All Businesses
- Florida Residents
- Adults
- Families
- Youth
- Government and Regulatory Agencies
- County Government
- Other Pubic Administrators
- Non-governmental Organizations
- Florida Based Non-governmental Organizations
- Non-Florida Based Non-governmental Organizations
- UF\IFAS Faculty and Staff

Standard output measures

Number of persons(contacts) reached through direct and indirect contact methods

Year	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
2006	69,813	3,154,986	0	0

Number of Patents (Standard Research Target)

Actual Patents for 2006 were 0

Peer Review Publications

Year	Research Target	Extension Target
2006	0	10

Output Target

- Field trials
- classroom enrichment

Outcomes

	Number Surveyed	Number Changed
Number of agricultural operations that develop or maintain a disaster plan	8	7
Number of alliances and coalitions built	9	9
Number of businesses that create and adopt a business plan.	81	73
Number of businesses that develop or maintain a disaster plan	200	137
Number of businesses with job growth in the base sectors (i.e., firms that export goods and services outside the	9	9
Number of communities that have business and retention programs.		
Number of program participants that are satisfied with Extension's services.	641	635
Number of program participants that are satisfied with the information received by Extension	28	28
Number of program participants that report improvements in customer satisfaction	28	28
Number of residents that develop a disaster plan.	80	45

Outcome Type: Change in Action Outcome Measure

External Factors which may affect Outcomes

- Competing Public priorities
- Appropriations changes
- Government Regulations
- Competing Programmatic Challenges
- Natural Disasters (drought, weather extremes, etc.)
- Populations changes (immigration, new cultural groupings, etc.)
- Public Policy changes
- Economy

Description
Florida is a state located in the tropics. Natural disasters such as tropical storms and hurricanes are common annual occurrences in this state. Severe weather conditions such as droughts frequently led to large-scale fires. We also have other weather extremes such as floods leading to large scale damage especially along the coastal regions. All of these can have serious effects on Florida communities.

Changing government regulations and population changes can impact outcomes of Extension programs. For example the increased urban building in rural counties is impacting population changes that are causing new challenges that may require different programming priorities. Communities are also susceptible to changes in the economy which can change and increase competing public priorities. Changes in state, county and federal appropriations can also affect the outcomes of Extension programs in the area of healthy communities.

Evaluation Studies Planned

- During (during program)
- Comparison between locales where the program operates and sites without program intervention
- After Only (post program)
- Before-After (before and after program)
- Retrospective (post program)
- Case Study
- Comparisons between program participants (individuals, groups, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Time series (multiple points before and after program)

Description
The Florida land-grant college understands the value of evaluation in our annual program plan. Methods of evaluation are included as part of the annual faculty activity plan of work and report of accomplishment process (unifas). This information is collected as part of the logic model used in our Florida system and will be available for the CSREES reports of accomplishment on a yearly basis.

Data Collection Methods

- Telephone
- Portfolio Reviews
- Sampling
- Structured
- Journals
- Case Study
- Observation
- Tests
- Unstructured
- Whole population
- On-Site
- Mail

Description
The Florida land-grant colleges use acceptable forms of qualitative and quantitative data collection methods.

a. EXECUTIVE SUMMARY for Healthy Communities

Although Florida has always been interested in the area of communities until recently it was imbedded in many other programmatic areas. Because of the growth in Florida and its identification in the 2004 strategic plan as an area of critical concern, it now is designated as a specific programmatic area. This programmatic area reached a total of 69,813 adults in educational programs in 2006. These adults were reached through one-on one interactions, through demonstrations, educational classes, group discussions, workshops and telephone calls. Emails sent to specific individuals are also reported in this area this year. Over 3.1 million more adults (unduplicated numbers) were reached through radio, TV, newspapers and other mass media methods that constitute indirect contacts. During the past year time was spent developing a better communication plan for this program area as well as identifying specific needs communities need help with. Because of its new designation some faculty are still reporting results for this area in other programmatic areas that relate to healthy communities. In particular it is clear that there is a need for educational programs for individuals and businesses in the area of disaster planning, business retention, and issues related to growth (see state defined outcomes for state standardized results).

Special effort was made to reach both underserved and underrepresented through methods such as radio and television announcements, working with agencies that have direct access to underserved and underrepresented populations. Some documents are also reproduced in Spanish and other languages as a means of further reaching certain populations.

10. Human Nutrition, Food Safety, and Human Health--research

Brief summary about Planned Program

- Human health
- Requirements and function of nutrients and other food components
- Food safety

Program Existence: Intermediate (One to five years)

Program Duration: Long-Term (More than five years)

Expending formula funds or state-matching funds: Yes

Expending other than formula funds or state-matching funds: No

Program Knowledge Areas and Percentage

702	20%	Requirements and Function of Nutrients and Other Food Components
703	20%	Nutrition Education and Behavior
712	20%	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally occurring Toxins
721	10%	Insects and Other Pests Affecting Humans
722	10%	Zoonotic Diseases and Parasites Affecting Humans
723	20%	Hazards to Human Health and Safety

Situation and priorities

Research in this area can be divided into three broad categories: food science, human nutrition and human health. Research in the area of human nutrition, food safety, and human health and well-being addresses problems and opportunities important to the food industry and quality of life in Florida and throughout the world. Research projects in the area of human nutrition involve many of the commodities important in Florida, including seafood and aquaculture products, citrus, fresh fruits and vegetables, and dairy products. Other research areas include food safety and microbiology issues, food processing and new method development, quality and sensory aspects of foods, and composition and chemistry of foods. Research in the area of human nutrition addresses basic and applied aspects of human nutrition in efforts to improve the health and wellness of Floridians and the world population, and includes studies on gene regulation, immunity, and women's health. Research areas include the function and biochemistry of micronutrients, the role of water-soluble vitamins in the health of various populations, the effects of phytochemicals and nutrient supplements on health, and the development of education programs for improved nutrition and health. Some Hatch projects include the following areas:

Human Health:
Mosquito-borne pathogens present a significant health risk to Florida residents, domestic animals and wildlife. This project helps identify periods when the risk of disease transmission is unusually high in Florida. Requirements and Function of Nutrients and Other Food Components Folate is a vitamin with important health implications. Impaired folate status has been associated with increased risk for birth defects, vascular disease, cancer, and cognitive dysfunction. Studying the relationship between folate status, genetic make-up and chronic disease risk may provide clues for improving human health that can be translated into nutrition education programs for the public.

Scope of the Program

- Multi-state Research

- In-State Research
- Multi-state Integrated Research and Extension
- Integrated Research and Extension

Assumptions made for the Program

Improvements provided by these research projects will improve the quality of life for Florida residents through a better understanding of requirements and functions of nutrients and other food components Improvements Methods identified by research projects will reduce outbreaks of food pathogens and increase food safety. Information provided by these research projects will improve the physical well-being of Florida residents

Ultimate goal(s) of this Program

Research in the area of human nutrition, food safety, and human health and well-being addresses problems and opportunities important to the food industry and quality of life in Florida and throughout the world

Number of professional FTE/SYs budgeted for this Program

	Extension		Research	
Year	1862	1890	1862	1890
2006	0.0	0.0	21.7	0.0

Activities for the Program

- Conduct Research Experiments
- Partnering

Description of targeted audience

- Food Industry
- General public
- Regulatory agencies

Number of Patents (Standard Research Target)

Actual number of patents for 2006 were 0

Peer Review Publications

Year	Research Target	Extension Target
2006	179	0

External Factors which may affect Outcomes

- Appropriations changes
- Public Policy changes
- Natural Disasters (drought, weather extremes, etc.)
- Competing Programmatic Challenges
- Competing Public priorities
- Populations changes (immigration, new cultural groupings, etc.)
- Government Regulations
- Economy

Description

Florida is a state located in the tropics. Natural disasters such as tropical storms and hurricanes are common annual occurrences in this state. Severe weather conditions such as droughts frequently led to large-scale fires. Florida also has other weather extremes such as floods leading to large scale damage especially along the coastal regions.

Florida has three international shipping ports: Miami, Jacksonville and Tampa. These cities all have international airports. Along with this we have over 53 million tourists visiting from around the world. It has been estimated that this international influx into Florida has made us the entry point of one new invasive pest, plant or disease each week. Any of this could be an external factor affecting land-grant research outcomes.

Changes may occur because of:

- The loss of test sites from storm damage
- An invasive species that requires priority
- Changes in public priorities
- Changes in state, county and federal appropriations
- Changes in governmental regulations
- Loss of public or private funding opportunities

Evaluation Studies Planned

- Retrospective (post program)
- Case Study
- During (during program)
- Before-After (before and after program)
- Time series (multiple points before and after program)
- Comparison between locales where the program operates and sites without program intervention
- After Only (post program)

Description
Florida IFAS/research understands the importance of evaluating projects to provide scientifically accurate information and recommendations. Accepted research guidelines and procedures are followed.

Data Collection Methods

- Case Study
- Sampling
- On-Site
- Tests
- Structured
- Unstructured
- Whole population
- Portfolio Reviews
- Telephone
- Journals
- Observation
- Mail

Description
Florida IFAS/research uses a variety of acceptable forms of qualitative and quantitative data collection methods.

a. EXECUTIVE SUMMARY for Human Nutrition, Food Safety, and Human Health--research

In the research programmatic area of human nutrition, food safety and human health Florida has hatch projects that are working to improve quality of life within each of these sections. There is a hatch project that looks at the health benefits of red muscadine wine and another that is studying ways to optimize health with folate and related nutrients throughout the lifespan. Another hatch projects relates to nutrition, immune function and clinical outcome which would impact all three environments. There are also multiple projects related to studies of mosquitoes and the diseases they carry. All of these research projects relate to critical need areas identified by Florida clientele.

11. Maintain and Enhance Florida's Environment

Brief summary about Planned Program

Maintaining and enhancing Florida's environment looks specifically at:

- Water resources
- Conservation and sustainable use of freshwater and terrestrial natural resources and ecosystems Environmental education
- Conservation and sustainable use of coastal and marine natural resources and ecosystems

Program Existence: Intermediate (One to five years)

Program Duration: Long-Term (More than five years)

Expending formula funds or state-matching funds: Yes

Expending other than formula funds or state-matching funds: No

Program Knowledge Areas and Percentage

102	5%	Soil, Plant, Water, Nutrient Relationships
103	5%	Management of Saline and Sodic Soils and Salinity
104	5%	Protect Soil from Harmful Effects of Natural Elements
111	5%	Conservation and Efficient Use of Water
112	5%	Watershed Protection and Management
131	5%	Alternative Uses of Land
132	5%	Weather and Climate
133	5%	Pollution Prevention and Mitigation
134	5%	Outdoor Recreation
135	5%	Aquatic and Terrestrial Wildlife
136	5%	Conservation of Biological Diversity
141	5%	Air Resource Protection and Management
216	5%	Integrated Pest Management Systems
403	5%	Waste Disposal, Recycling, and Reuse
605	5%	Natural Resource and Environmental Economics
608	5%	Community Resource Planning and Development
610	5%	Domestic Policy Analysis
723	5%	Hazards to Human Health and Safety
803	5%	Sociological and Technological Change Affecting Individuals, Families and Communities
804	5%	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Situation and priorities

Florida depends heavily on a healthy and sustainable environment. For example, freshwater is a critical resource for agriculture, industry, natural systems, tourism, and the health and convenience of all Floridians. From another view, Florida is a saltwater state. Its estuarine, coastal and marine systems stretch further than all the other Atlantic states from Georgia to New England, and they produce over $5 billion in fisheries and wildlife resources each year, buffer coastal areas from storms, absorb pollutants and provide amenities for coastal settlement, trade and tourism, including over 1 million boaters and divers per year. Terrestrial and freshwater flora and fauna also contribute significantly to Florida’s economy and the quality of life enjoyed by residents and tourists. People recognize the value of their environment. For example, prevention of water pollution,

protecting the marine environment, and conservation of wildlife habitat and endangered species were rated as high priority educational issues by 72%, 64% and 50% of respondents to a 1999 survey. As shown by this survey, there is an opportunity and need to inform and educate Floridians about their environment. The sustainability and health of Florida's environment is under pressure from a range of human activities. For example, Florida's water supply is currently sufficient, but experts predict that the 700 new residents arriving in Florida each day will increase demand to 9.3 billion gallons per day by 2020. This increase will put severe pressure on the state's water and other natural resources. The number of people living in Florida also increases potentially damaging inputs that enter coastal waters via watersheds and runoff. For example, household pesticide use is one factor that leads to five of Florida's estuaries being among the ten U.S. estuaries most threatened by pesticides. Historical losses of 50% of the salt marsh, 60% of the seagrass, and 85% of the mangroves in some of Florida's estuaries also need to be repaired. In addition, Florida ranks third among states in the number of plants and animals federally listed as being in danger of becoming extinct, and half of all Florida's non-marine vertebrates are declining in number. Successful management of these threats will require raised awareness, widespread distribution of useful information, suitable skills, and the demonstration of alternative behaviors that can ensure the quality and quantity of Florida's natural resources. The overall objective of this Goal is to sustain or enhance Florida's environment by increasing relevant knowledge and by motivating citizens, professionals, and agency personnel to take actions that reduce impacts on these valuable resources. The primary impact of this work will be increased efforts to apply sustainable management in Florida. This impact hinges on promoting increased awareness and understanding of ecological, economic, social and management principles and processes among citizens, professionals, and agency personnel. Tangible results include an increased involvement of citizens in monitoring and management, an increased use of key ecological concepts in discussions held by state and federal management agencies, and an increased awareness and use of adaptive and participative management. Programs that improve the skills and resources available to environmental educators also represent critical elements in achieving these objectives.

Scope of the Program

- In-State Extension
- Integrated Research and Extension
  Multistate Extension
- Multistate Integrated Research and Extension

Assumptions made for the Program

- People will be motivated by workshops and other educational activities to learn/change
- Information on best practices shows that these approaches work well for these target audiences Changes suggested in activities related to this program will improve quality of life for participants

Ultimate goal(s) of this Program

- Increased understanding of Florida's coastal and marine environment.
- Increased skills related to reducing impacts from human activity on Florida's coastal and marine environment. Improved procedures and techniques to reduce environmental impact from human activity.
- Improved compliance with local, state, and federal regulations.

Estimated Number of professional FTE/SYs to be budgeted for this Program

	Extension		Research	
Year	1862	1890	1862	1890
2006	47.8	1.0	0.0	0.0

Activities for the Program

Activity	Count
Advisory Council	39
Classroom Enrichment	52
Clinics	185
Consultations	74
County Event	35
Curriculum Development	15
Demonstration/Fields Trials	70
Developing Educational Materials	70
Developing Partnerships and	68
District Event	6
Facilitating Groups	48
Fairs/Exhibits	54
Field Days	55
Funding Efforts	6
Group Teaching Events	278
In-Service Training	66
Marketing	8
Needs Assessment	13
Program Development	84
Reporting Results	9
State/National Event	30
Working With Media	16

Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods

- Group Discussion
- Education Class
- One-on-One Intervention
- Other 1 (telephone calls)
- Demonstrations
- Workshop

Indirect Methods

- Web sites
- TV Media Programs
- Newsletters
- Public Service Announcement
- Other 1 (radio)

Description of targeted audience

- Recreation Service Operations
- Construction Operations
- Agricultural Operations
- Landscape and Horticultural Service Operations

- Homeowners
- Adults
- Adult Volunteers
- Renters
- School Age Youth
- Youth Volunteers
- Administrators of Education
- County Government
- Administrators of Environmental Quality
- Adults

Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

Year	Direct Contacts Adults Target	Indirect Contacts Adults Target	Direct Contacts Youth Target	Indirect Contacts Youth Target
2006	335,034	1,103,253	0	0

Number of Patents (Standard Research Target)

Actual Number of Patents for 2006 were

Peer Review Publications

Year	Research Target	Extension Target
2006	0	56

Output Target

- Field trials
- classroom enrichment

Outcomes

- Field trials
- classroom enrichment

Outcome Type: Change in Condition Outcome Measure

Outcomes

	Number Surveyed	**Number Changed**
Number observed complying with local, state, or federal regulations	54	54
Number of adults demonstrating/ reporting moderate levels of civic governance and community decision-making.		
Number of clientele increasing knowledge	160	159

Number of participants implementing BMPs	20	20
Number of participants that implement recommended practices related to improving Florida's coastal and marine	691	636
Number of participants that improve skills related to the ecological impact of human activity on Florida's coastal and marine environment	632	588
Number of participants that improve social and management principles competencies related to Florida's coastal and marine environment	20	20
Number of participants that understand federal regulations related to coastal and marine environment	13	13
Number of participants that understand state regulations related to coastal and marine environment	24	23
Number of participants that understand the ecological impact of human activity on Florida's coastal and marine environment	264	258
Number of participants that understand the social and management principles related to Florida's coastal and marine environment	124	124
Number of program participants that are satisfied with Extension's services.	321	310
Number of program participants that are satisfied with the information received by Extension	430	369
Number of youth demonstrating/ reporting moderate levels of attainment of knowledge/practices in environmental stewardship and conservation principles	223	209
Number reporting improved behaviors related to Florida's natural systems	237	157
Number reporting improved competencies related to Florida's natural systems	42	42
Number reporting improved compliance with local, state, and federal regulations	3	1
Number reporting increased awareness of Florida's natural systems	5,881	5,851
Number reporting increased knowledge of Florida's natural systems	84	81

Outcome Type: Change in Knowledge Outcome Measure

External Factors which may affect Outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Appropriations changes
- Competing Public priorities
- Government Regulations
- Public Policy changes
- Economy
- Competing Programmatic Challenges

Description
Florida is a state located in the tropics. Natural disasters such as tropical storms and hurricanes are common annual occurrences in this state. Severe weather conditions such as droughts frequently led to large-scale fires.

We also have other weather extremes such as floods leading to large scale damage especially along the coastal regions.

Florida also has three international shipping ports: Miami, Jacksonville and Tampa. These cities all have international airports. Along with this we have over 53 million tourists visiting from around the world. It has been estimated that this international influx into Florida has made us the entry point of one new invasive pest, plant or disease each week. Any of this could be an external factor affecting land-grant outcomes. Changes in state, county and federal appropriations can also affect the outcomes.

Evaluation Studies Planned

- Time series (multiple points before and after program)
- Before-After (before and after program)
- Case Study
- After Only (post program)
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Retrospective (post program)
- During (during program)
- Comparisons between program participants (individuals, group, organizations) and non-participants

Description
The Florida land-grant college understands the value of evaluation in our annual program plan. Methods of evaluation are included as part of the annual faculty activity plan of work and report of accomplishment process (unifas). This information is collected as part of the logic model used in our Florida system and will be available for the CSREES reports of accomplishment on a yearly basis.

Data Collection Methods

- Case Study
- Tests
- Telephone
- Unstructured
- Structured
- Portfolio Reviews
- Sampling
- Journals
- Mail
- Observation
- Whole population
- On-Site

Description
The Florida land-grant colleges use acceptable forms of qualitative and quantitative data collection methods.

a. EXECUTIVE SUMMARY for Maintain and Enhance Florida's Environment

This programmatic area reached a total of 335,034 adults in the educational programs related to maintaining and enhancing Florida's environment. These adults were reached through one-on one interactions, through demonstrations, educational classes, group discussions, workshops and telephone calls. Emails sent to specific individuals are also reported in this area this year. This area overlaps with many of the other programmatic areas and often agricultural programs contain sections related to improving the environment. Over 1.1 million more adults (unduplicated numbers) were reached through radio, TV, newspapers and other mass media

methods that constitute indirect contacts. This programmatic area is important in a green state like Florida that has expanding growth issues. Maintaining and enhancing Florida's environment looks specifically at:

- Water resources
- Conservation and sustainable use of freshwater and terrestrial natural resources and ecosystems Environmental education
- Conservation and sustainable use of coastal and marine natural resources and ecosystems

In Extension educational programs surveyed 5,851 said they had an increased awareness of Florida's natural systems. In the area of improving Florida's coastal and marine environments 636 said they had implemented recommended practices. (see state defined outcomes for state standardized results).

Special effort was made to reach both underserved and underrepresented through methods such as radio and television announcements, working with agencies that have direct access to underserved and underrepresented populations. Some documents are also reproduced in Spanish and other languages as a means of further reaching certain populations.

12. Natural Resources and Environment--research

Brief summary about Planned Program

- Landscape and Turf-grass management
- Landscape conservation and ecology
- Consumer horticulture--people, plants and environment
- Natural resources and environment
- Soil, plant, water and nutrient relationships
- Forestry
- Management and range resources

Program Existence: Intermediate (One to five years)

Program Duration: Long-Term (More than five years)

Expending formula funds or state-matching funds: Yes

Expending other than formula funds or state-matching funds: No

Program Knowledge Areas and Percentage

101	20%	Appraisal of Soil Resources
102	10%	Soil, Plant, Water, Nutrient Relationships
111	10%	Conservation and Efficient Use of Water
121	10%	Management of Range Resources
122	10%	Management and Control of Forest and Range Fires
132	10%	Weather and Climate
133	10%	Pollution Prevention and Mitigation
134	10%	Outdoor Recreation
135	10%	Aquatic and Terrestrial Wildlife

Situation and priorities

Florida's population growth and associated pressure on land, water, and natural resources of Florida in order to sustain the natural systems pose difficult choices. Research in the area of natural resources and environment addresses the use of soil, water, forest and range resources, natural resources and air and helps to provide factual information and direction. These projects can range from aquatic life to the conservation and efficient use of water within the environment. Some research areas of interest include:

Landscape and Turf-grass Management
pro-vides research that will ensure the successful establishment of landscape plants and turf-grass without polluting the environment or wasting resources. These projects range from the proper use of fertilizer in the landscape to the fate of pesticides on golf courses. The Environmental Horticulture Program addresses the use of ornamental plants and turf-grasses for home and commercial landscapes and for beautification in the home and office. Today, teaching, research and extension programs blend current day recommendations with the need to maintain and enhance our environment and preserve our natural resources. Florida faces many challenges in the future with efficient water use and prevention of runoff, production of a broad range of plant material for distribution world-wide and the need for highly qualified individuals to fill critical industry jobs.

Landscape Conservation and Ecology
Florida, by virtue of its size, diversity, geographic location and multiple climatic zones provides unique opportunities for modeling a sustainable horticultural industry in subtropical and tropical regions throughout the world. The components of the success of this model are development of appropriate propagation and production

techniques and introduction of new plants to the industry. Research to develop micro-propagation techniques has led to rapid availability of sea oats and wetland plants for beach and landscape restoration. An additional component, invasive plant evaluation, is being addressed for existing plants and new plant introductions. Consumer Horticulture-People, Plants and the environment - research has been identifying and producing environmentally sound landscape and gardening practices for the citizens of Florida in order to sustain the natural beauty and protect the natural resources of Florida, and to promote quality of life for residents and tourists.

Natural Resources and Environment
Florida's population growth and associated pressures on land, water, and natural systems pose difficult policy choices for public officials. Environmental and resource problems and policies affect agriculture and Florida's rural communities. The need for research increases as the competition between agricultural and nonagricultural users of land and water intensifies. These conflicting issues are clearly part of the management challenge in commercial agriculture. Natural resource and environ-mental economics, including marine economics, are the primary subject matter for research projects in this area.

Soil, Plant, Water and Nutrient Relationships
Both Pb and arsenic contamination in soils and groundwater has been a concern for the public due to the extensive contamination and toxicity to humans. Some studies in this area were conducted to determine the feasibility of using chemical (P-induced Pb immobilization) and biological (plant-based phytoextraction) methods in cleaning up metal contaminants soils and groundwater.

Forestry
Agroecosystems, especially small-scale production systems in the southeastern United States, are challenged as never before with natural resource management problems. According to USDA Census of Agriculture (2002), 88 percent of farms in Florida are considered small farms (annual sales less than $250,000), 84 percent of which are individually or family owned; but they constitute 56 percent of total agricultural income in the state. Similarly, out of the 6.6 million hectares (16.3 million acres) of forestlands in Florida, 52 percent are non-industrial private lands. Clearly, small farms and timber operations are significant drivers of the state's economy. These small-scale operations are under increasing pressures - if not threats - caused by various changes. The increasing impact of a rapidly urbanizing landscape on the wildland-urban interface creates significant changes in ecosystem characteristics such as increased fire danger, changes in water drainage patterns leading to soil erosion and flooding, and fragmentation of wildlife habitat. Agricultural non-point source pollution is a significant cause of stream and lake contamination and prevents attainment of water quality goals in the Clean Water Act. The problem of phosphorus (P) loss from soil is a major concern in fertilized agricultural and forestry enterprises, particularly in coarse-textured, poorly drained soils of the south-east, where drainage water ultimately mixes with surface water. The potential for P loss from fertilized pastures resulting in water quality degradation is a particularly serious issue. Faced with these consequences of rapid land-use changes, research related to the small-farm com-munity of the Southeast is under pressure identify land management practices that are economically and ecologically sustainable.

Scope of the Program

● Multistate Research
● In-State Research
● Multistate Integrated Research and Extension

Assumptions made for the Program

- Improvements provided by these research projects will improve the quality of life for Florida residents
- Improvements provided by these research projects will improve the environment

- Information provided by these research projects will improve the economic well-being of Florida residents

Ultimate goal(s) of this Program

Improve management recommendation to long-term responses of tree and grass populations under experimental treatments of fire and grazing. Identify land management practices that are economically and ecologically sustainable. Integrated systems such as agroforestry that provide economic advantages of diversified production as well as ecological benefits of mixed systems seem appropriate in this scenario. Determine the feasibility of using chemical (P-induced Pb immobilization) and biological (plant-based phytoextraction) methods in cleaning up metal contaminants soils and groundwater Through research identify viable choices related to policy choices concerning pressures on land, water, and natural systems Identify and produce environmentally sound landscape and gardening practices for the citizens of Florida in order to sustain the natural beauty and protect the natural resources of Florida Provides unique opportunities for modeling a sustainable horticultural industry in subtropical and tropical regions throughout the world. pro-vides research that will ensure the successful establishment of landscape plants and turf-grass without polluting the environment or wasting resources.

Estimated Number of professional FTE/SYs to be budgeted for this Program

	Extension		Research	
Year	1862	1890	1862	1890
2006	0.0	0.0	60.5	0.0

Activities for the Program

Conduct Research Experiments
Construct Research Facilities
Partnering

Description of targeted audience

- General Public
- Regulatory bodies
- Government leaders
- Youth
- Growers/producers

Number of Patents (Standard Research Target)

Actual number of Patents for 2006 were 0

2. Peer Review Publications

Year	Research Target	Extension Target
2006	135	0

External Factors which may affect Outcomes

- Economy
- Competing Public priorities
- Populations changes (immigration, new cultural groupings, etc.)
- Government Regulations
- Appropriations changes

- Natural Disasters (drought, weather extremes, etc.)
- Competing Programmatic Challenges
- Public Policy changes

Description
Florida is a state located in the tropics. Natural disasters such as tropical storms and hurricanes are common annual occurrences in this state. Severe weather conditions such as droughts frequently led to large-scale fires. Florida also has other weather extremes such as floods leading to large scale damage especially along the coastal regions.

Florida has three international shipping ports: Miami, Jacksonville and Tampa. These cities all have international airports. Along with this we have over 53 million tourists visiting from around the world. It has been estimated that this international influx into Florida has made us the entry point of one new invasive pest, plant or disease each week. Any of this could be an external factor affecting land-grant research outcomes.

Changes may occur because of:

- The loss of test sites from storm damage
- An invasive species that requires priority
- Changes in public priorities
- Changes in state, county and federal appropriations
- Changes in governmental regulations
- Loss of public or private funding opportunities

Evaluation Studies Planned

- Retrospective (post program)
- Time series (multiple points before and after program)
- During (during program)
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention
- After Only (post program)
- Before-After (before and after program)
- Case Study
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Description
Florida IFAS/research understands the importance of evaluating projects to provide scientifically accurate information and recommendations. Accepted research guidelines and procedures are followed.

Data Collection Methods

- Sampling
- Tests
- Whole population
- Case Study
- Mail
- Telephone
- Observation

- Journals
- On-Site
- Portfolio Reviews
- Structured
- Unstructured

Description
Florida IFAS/research uses acceptable forms of qualitative and quantitative data collection methods.

a. EXECUTIVE SUMMARY for Natural Resources and Environment--research

In the area of natural resources and the environment Florida has hatch projects that are working to improve Florida's natural beauty and protect the natural resources that we have from many elements bringing change to the environment. Many of the hatch projects that deal with water contamination, soil and wildlife are related to this program but may have been identified in other program areas because natural resources is a smaller component of the overall project. Some examples of hatch projects that fall into protecting the natural resources and the environment include reducing the potential for environmental contamination by pesticides and other organic chemicals, and the efficiency of alternative natural resource and environmental policies and practices. Invasive plants are an issue in Florida and one project is studying classical biological control of selected invasive exotic plants in Florida. Growth is also affecting a lot of Florida's native plants. One project is studying rural native roadside wildflowers and developing BMPs for establishment of these plants. All of these research projects and many more in this programmatic area relate to critical need areas identified by Florida clientele.

13. Plants and Their Systems-research

Brief summary about Planned Program

- Biological Control of pests affecting plants
- Agronomy
- Water management and plant nutrition
- Biotechnology, plant breeding and new crop development
- plant production management
- Horticulture
- Plant product quality

Program Existence: Intermediate (One to five years)

Program Duration: Long-Term (More than five years)

Expending formula funds or state-matching funds: Yes

Expending other than formula funds or state-matching funds: No

Program Knowledge Areas and Percentage

201	10%	Plant Genome, Genetics, and Genetic Mechanisms
202	10%	Plant Genetic Resources
203	10%	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	10%	Plant Product Quality and Utility (Pre-harvest)
205	10%	Plant Management Systems
206	10%	Basic Plant Biology
211	10%	Insects, Mites, and Other Arthropods Affecting Plants
212	10%	Pathogens and Nematodes Affecting Plants
213	10%	Weeds Affecting Plants
215	10%	Biological Control of Pests Affecting Plants

Situation and priorities

Plants and their systems include research in the areas of plant production and plant protection. Without plant life there could be no agriculture, and the systematic production and utilization of a major group of plants - a keystone of agriculture. Florida IFAS research is responsible for investigating and reporting finds necessary to ensure that this keystone remains strong, dynamic, relevant and intact. The size and diversity of the domestic industry and the world-wide importance of fruits and vegetables in human nutrition and economic development related to plants in landscape emphasize the need for consolidation of resources to accomplish this purpose. Some areas of research that are included and use Hatch funds are:

Biological Control of Pests Affecting Plants
The use of plant pathogens as bioherbicides has been a feasible method of weed control in several cases. Two registered bioherbicides, Collego and DeVine, are sold in the United States. Development and use of bioherbicides can help to diversify weed control options, supplement chemical herbicides, and provide an alternative to methyl bromide. Several projects study the development of several bioherbicide agents shown to be effective in small-scale and noncommercial trials.

Agronomy
The main aim of Agronomy research in Florida is to discover, develop, evaluate and disseminate knowledge and information necessary to support the agronomic-related industries of the State and nation, and to promote

and enhance the production and utilization of agronomic commodities and the management of pest plant species for the benefit of society.

Water Management and Plant Nutrition –
Research in this area is identifying, developing and disseminating environmentally and economically sound technologies that will increase production and utilization efficiencies as well as protect or improve environmental quality. Research is providing significant results leading to water conservation in nurseries, landscapes and on golf courses. New research is addressing the water and fertilizer requirements of turf-grasses and landscape plants.

Biotechnology, Plant Breeding and New Crop Development –
*T*hrough research IFAS scientists are striving to develop horticultural characteristics, disease and host/plant resistance through classical genetics and molecular techniques, allowing the creation of marketable products for consumers. Today, the floral biotechnology program is among the leading programs nationally and internationally.

Plant Production Management –
Through the work of research plant production management is a source of sound research-based information being made available to the professional horticultural industry, the scientific community and the consumer/student. These projects are viewed as leading in crop production and physiology information and will set an example for the industry in environmentally safe practices.

Horticulture
In the area of horticulture, research is solving immediate technical problems facing the fruit and vegetable industries. They are developing new information, materials and techniques to increase the efficiency of production, harvest and post-harvest handling. Their mission is to develop basic information on the genetics, growth, development and senescence of these crops through a continuous reservoir of research in breeding and genetics, biotechnology and molecular biology, biochemistry, and physiology that is at the forefront of knowledge applicable immediately or in the future.

Plant Product Quality
In this area plants such as strawberry cultivars are being developed that improve quality characteristics. This is especially important in Florida where strawberries are an important crop.

Scope of the Program

- In-State Research
- Multi-state Research
- Multi-state Integrated Research and Extension
- Integrated Research and Extension

Assumptions made for the Program

- Improvements provided by these research projects will improve Plants and their systems
- Improvements provided by these research projects will improve the environment
- Information provided by these research projects will improve the economic well-being of Florida residents

Ultimate goal(s) of this Program

- Development and use of bioherbicides can help to diversify weed control options, supplement chemical herbicides, and provide an alternative to methyl bromide
- Discover, develop, evaluate and disseminate knowledge and information necessary to support the agronomic-related industries of the State and nation,

- Promote and enhance the production and utilization of agronomic commodities and the management of pest plant species for the benefit of society.
- Developing and disseminating environmentally and economically sound technologies related to water management and plant nutrition that will increase production and utilization efficiencies
- Develop horticultural characteristics, disease and host/plant resistance through classical genetics and molecular techniques, allowing the creation of marketable products for consumers
- Research and develop crop production and physiology information and will set an example for the industry in environmentally safe practices.
- Research and solve immediate technical problems facing the fruit and vegetable industries including the development of new information, materials and techniques to increase the efficiency of production, harvest and post-harvest handling
- Develop new food plant cultivars that have improved quality characteristics.

Number of professional FTE/SYs to be budgeted for this Program

	Extension		Research	
Year	1862	1890	1862	1890
2006	0.0	0.0	156.2	0.0

Activities for the Program

Conduct Research Experiments
Partnering

Description of targeted audience

- Florida citizens with an interest in plants and plant science

May include among others:

- growers
- producers
- general public

Number of Patents (Standard Research Target)

Actual number of patents for 2006 were 0

2. Peer Review Publications

Year	Research Target	Extension Target
2006	111	0

Outcome Target

New solutions to critical need areas related to plants and their systems will be developed.

External Factors which may affect Outcomes

- Government Regulations
- Public Policy changes
- Competing Programmatic Challenges
- Natural Disasters (drought, weather extremes, etc.)
- Populations changes (immigration, new cultural groupings, etc.)
- Economy

- Competing Public priorities
- Appropriations changes

Description
Florida is a state located in the tropics. Natural disasters such as tropical storms and hurricanes are common annual occurrences in this state. Severe weather conditions such as droughts frequently led to large-scale fires. Florida also has other weather extremes such as floods leading to large scale damage especially along the coastal regions. Florida has three international shipping ports: Miami, Jacksonville and Tampa. These cities all have international airports. Along with this we have over 53 million tourists visiting from around the world. It has been estimated that this international influx into Florida has made us the entry point of one new invasive pest, plant or disease each week. Any of this could be an external factor affecting land-grant research outcomes.

Changes may occur because of:

- The loss of test sites from storm damage
- An invasive species that requires priority
- Changes in public priorities
- Changes in state, county and federal appropriations
- Changes in governmental regulations
- Loss of public or private funding opportunities

Evaluation Studies Planned

- Case Study
- Time series (multiple points before and after program)
- Retrospective (post program)
- Comparison between locales where the program operates and sites without program intervention
- During (during program)
- Comparisons between program participants (individuals, group, organizations) and non-participants
- After Only (post program)
- Before-After (before and after program)
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Description
Florida IFAS/research understands the importance of evaluating projects to provide scientifically accurate information and recommendations. Accepted research guidelines and procedures are followed.

Data Collection Methods

- Whole population
- Portfolio Reviews
- On-Site
- Structured
- Tests
- Observation
- Telephone
- Unstructured
- Case Study
- Sampling

- Mail

Description
Florida IFAS/research uses acceptable forms of qualitative and quantitative data collection methods.

a. EXECUTIVE SUMMARY for Plants and Their Systems-research

Because of the unique location of Florida in relationship to the rest of the country research in the area of plants and their systems is a critical area for research. The value of Florida as a winter location for crops and ornamental plants is important but the pests, diseases and other hazards of growing plants in the state as a food product or as ornamentals requires constant research. There is also the need to find new cultivars as well as finding solutions to the many problems that face plant production. For example there are hatch projects related to plant genetic resource conservation and utilization, and development of new potato clones for improved pest resistance. One Hatch project is working on the introduction and evaluation of ornamental plants. Strawberries are an important winter crop in Florida and there are many projects in this area including one looking at the biology and control of strawberry and ornamental diseases. Another is developing new strawberry cultivars. To date 75% of strawberry cultivars growing in the world has been developed by Florida researchers. All of these research projects and many more in this programmatic area relate to critical need areas identified by Florida clientele.

14. Promoting professional development activities designed to enhance organizational efficiency and effectiveness

Brief summary about Planned Program

Florida Land grant faculty need the opportunity for personal improvement through planned programs designed to enhance organizational efficiency and effectiveness through participation in:

- Program development, implementation and evaluation
- Professional development
- Faculty orientation and training
- Effective communication and technology use
- Personal and organizational health
- Administration and leadership

Program Existence: Intermediate (One to five years)

Program Duration: Long-Term (More than five years)

Expending formula funds or state-matching funds: Yes

Expending other than formula funds or state-matching funds: No

Program Knowledge Areas and Percentage

604	10%	Marketing and Distribution Practices
610	10%	Domestic Policy Analysis
802	10%	Human Development and Family Well-Being
803	10%	Sociological and Technological Change Affecting Individuals, Families and Communities
805	10%	Community Institutions, Health, and Social Services
806	10%	Youth Development
901	10%	Program and Project Design, and Statistics
902	20%	Administration of Projects and Programs
903	10%	Communication, Education, and Information Delivery

Situation and priorities

The UF/IFAS Extension Service (CES) is a large and dynamic organization consisting of local, regional, and state educators, administrators, and support professionals. As such, its personnel needs are diverse, extensive, and changing. This is particularly true at the local level where over 360 (2004) county faculty work across multiple program areas with adults and youth. Like many other organizations, the rate of turnover in CES is a concern as an average of 25-30 new county faculty are hired each year. In addition, a large majority of new CES faculty at both the county and state levels have limited professional experience and academic preparation in the process dimensions that are fundamental to the success of Florida CES (UF/IFAS CES Professional Development Task Force, 1998).Technical, interpersonal, and programming skills are necessary to ensure the effectiveness of Extension program development, delivery, and accountability. An organization with knowledge development and education as its base must have an effective process in place to continually develop its own intellectual capital (Van Buren, 2001). Professional development opportunities that reflect relevant organizational needs will prepare new faculty members to assess customer needs - then develop, deliver, evaluate and revise educational program effort. Veteran professionals will enhance skills in delivering relevant programs for citizens in Florida and elsewhere.

Scope of the Program

- Multistate Extension
- Multistate Integrated Research and Extension
- Integrated Research and Extension
- In-State Extension

Assumptions made for the Program

- People will be motivated by internal workshops and other educational activities to learn/change
- Information on best practices shows that these approaches work well for employees of Florida Extension
- Changes suggested in activities related to this program will improve quality of life for Extension faculty and staff

Ultimate goal(s) of this Program

- Improved delivery of Extension programs.
- Improved procedures and techniques to evaluate Extension Programs
- Improved communication methods and techniques
- Improved Development and Management of Volunteers
- Improved faculty and staff satisfaction
- Improved procedures and techniques to manage human resources.
- Improved procedures and techniques to plan county programs

Number of professional FTE/SYs budgeted for this Program

	Extension		Research	
Year	1862	1890	1862	1890
2006	29.5	0.5	0.0	0.0

Activities for the Program

Activity	Count
Advisory Council	82
Classroom Enrichment	1
Consultations	64
County Event	26
Curriculum Development	9
Demonstration/Fields Trials	2
Developing Educational Materials	12
Developing Partnerships and	94
District Event	5
Facilitating Groups	41
Fairs/Exhibits	4
Field Days	2
Funding Efforts	65
Group Teaching Events	35
In-Service Training	61
Marketing	36
Needs Assessment	7
Program Development	128
Reporting Results	11
State/National Event	16
Working With Media	2

Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Demonstrations	• Newsletters
• Other 1 (telephone calls)	• Web sites
• Workshop	
• Education Class	
• One-on-One Intervention	
• Group Discussion	

Description of targeted audience

- Administrators
- County Faculty and Staff

Standard output measures

Number of persons(contacts) reached through direct and indirect contact methods

Year	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
	Target	Target	Target	Target
2006	145,356	1,372,732	0	0

Number of Patents (Standard Research Target)

Actual number of Patents for 2006 were 0

Peer Review Publications

Year	Research Target	Extension Target
2006	0	35

Outcomes

	Number Surveyed	**Number Changed**
Number of educational activities that involve multiple faculty/collaborators.	195	171
Number of Faculty and Staff indicating satisfaction with their job	10	10
Number of Faculty and Staff with high levels of performance	55	52
Number of faculty utilizing appropriate marketing methods and techniques	63	63
Number of groups facilitated	102	89
Number of planning sessions that include advisory members	43	39
Number of planning sessions that include faculty and staff	60	60
Number of planning sessions that include governmental officials	11	3
Number of program participants that are satisfied with Extension's services.	431	428

Number of program participants that are satisfied with the information received by Extension	1,087	1,061
Number of program participants that indicate Extension information solved a problem	135	95

Outcome Type: Change in Condition Outcome Measure

External Factors which may affect Outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Description
Any changes in appropriations could impact Extension profession development activities. Although promoting professional development is important the first line is always providing educational programs in critical need areas to Florida's population.

Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study

Description
The Florida land-grant college understands the value of evaluation in our annual program plan. Methods of evaluation are included as part of the annual faculty activity plan of work and report of accomplishment process (unifas). This information is collected as part of the logic model used in our Florida system and will be available for the CSREES reports of accomplishment on a yearly basis.

Data Collection Methods

- Sampling
- Whole population
- Mail
- Telephone
- On-Site
- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals

Description
The Florida land-grant colleges use acceptable forms of qualitative and quantitative data collection methods.

a. EXECUTIVE SUMMARY for Promoting professional development activities designed to enhance organizational efficiency and effectiveness

This programmatic area called promoting professional activities designed to enhance organizational efficiency and effectiveness is another new area identified in the 2004 strategic plan. It became obvious from state and county faculty as well as from research that the quality of life enjoyed by faculty has a direct impact on the educational programs and research in which they are involved. This program area started out as an internal component but interest from community leaders has led to widening the focus of the particular programmatic area. Critical areas of interest include:

- Program development, implementation and evaluation
- Professional development
- Faculty orientation and training
- Effective communication and technology use
- Personal and organizational health
- Administration and leadership

In 2006 direct contacts in this programmatic area were at over 145,000. These adults were reached through one-on one interactions, through demonstrations, educational classes, group discussions, workshops and telephone calls. Emails sent to specific individuals are also reported in this area this year. Indirect contacts reached 1,372,732 through radio, TV, newspapers and other mass media methods that constitute indirect contacts. The Program Development and Evaluation Center (PDEC) at the University of Florida has also been charged with developing professional development opportunities working closely with this programmatic team. This curriculum that can be use both internally for faculty and externally for state and national stakeholders (see state defined outcomes for state standardized results).

Special effort was made to reach both underserved and underrepresented through methods such as radio and television announcements, working with agencies that have direct access to underserved and underrepresented populations. Some documents are also reproduced in Spanish and other languages as a means of further reaching certain populations.

VI. Additional Statistical Information

** Signed multi-state and integrated documentation is located in the "Multi & Joint" section of the document

Total Formula Funds Expended by National Goal

	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Total
1862 Extension	$1,843,798	$360,562	$801,849	$581,339	$873,936	$4,461,484
1862 Hatch	$1,325,685	$198,802	$44,353	$436,775	$46,837	2,052,452
1862 McIntire Stennis	$ 361,759	$ 50,983	$11,850	$111,447	$17,981	$ 554,019
1862 Research Total	$1,687,444	$249,785	$56,203	$548,221	$64,818	$2,606,471
1890 Extension	$639,889	$214,236	$162,087	$101,480	291,756	$1,409,448
*1890 Research						

*1890 Research will report separately

1862 Extension Matching Funds

	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Total
Federal Smith-Lever	$2,662,864	$301,334	$203,581	$642,355	$651,350	$4,461,484
State	$18,701,000	$1,644,039	$1,314,939	$3,226,098	$7,191,038	$32,077,114
County	$19,884,718	$1,656,594	$1,345,243	$2,713,908	$8,956,468	$34,556,931

1862 Research Matching Funds

	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Total
State	$85,799,148	$12,456,453	$2,796,174	$0	$30,149,136	$131,200,910

1890 State Matching Funds

	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Total
State	$631,076	$170,186	$99,878	$89,595	$345,776	$1,336,511

FTEs and Sys tied to formula funds

	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Total
1862 & 1890 Extension (FTEs) UF&FAMU	29	2.2	3	2	4.5	40.7
1862 Research (Sys)	14.2	1.25	8.45	0	1.7	25.6

** Please note that FTEs shown in the body of this document by goal area are all faculty involved in that programmatic area not just those with Smith-Lever or Hatch funding*

Integrated Hatch Research by National Goals

	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Total
Hatch Integrated	$667,819	$13,025	$453,778	0	$153,920	$1,228,542