

Energy and Florida Agriculture

October 22, 2018



Functions & Responsibilities

- Legislatively designated state energy policy development office within Florida
- Evaluate energy related studies, analyses, and stakeholder input
- Promote and advocate for the development and use of renewable energy resources and energy efficiency technologies
- Use available state and federal funds to develop and manage energy efficiency, renewable energy, and energy education programs
- Produce Annual Energy Report
- Serve as the State clearinghouse for all energy information



Florida Agriculture Quick Facts

300+ commodities



The state of Florida is comprised of more than
42 million acres.



Farms and forests encompass more than
25 million acres
in Florida, which is more than 3/5 of the state.

Farms occupy more than
9.4 million acres.
This includes lands for fruit and vegetables, citrus groves, field crops and pastures.



There are more than
47,100
farms in the state of Florida.

Agriculture and agribusiness contribute more than
\$132 billion
to the state's economy.

Agriculture and agribusiness employ
2.2 million
people.

On average, each
\$1 million in farm cash receipts:

Creates
17
Florida jobs

Produces
\$93,189
in additional indirect tax revenues

Generates more than
\$1.72 million
in overall economic impact

Sources: USDA Ag Census, UF implan study, IFAS implan study, FASS and Florida Forest Service.



Florida Department of
Agriculture and Consumer Services
Adam H. Putnam, Commissioner

Cash Receipts

(In rank order for 2016)

Commodity	2016	2017
Floriculture*	\$1,000,000,000+	\$1,000,000,000+
Oranges	\$1,070,657,000	\$886,486,000
Sugarcane	\$622,847,000	\$629,775,000
Cattle and Calves	\$546,571,000	\$580,080,000
Dairy Products	\$487,844,000	\$535,350,000
Strawberries	\$364,121,000	\$336,894,000
Tomatoes	\$382,200,000	\$262,020,000
Bell Peppers	\$125,962,000	\$206,260,000
Poultry and Eggs	\$285,263,000	\$314,321,000
Sweet Corn	\$160,080,000	\$158,340,000
Cucumbers	118,167,000	\$137,601,000
Watermelon	\$109,883,000	\$135,564,000
Peanuts	\$114,881,000	\$130,105,000
Grapefruit	\$136,224,000	\$109,593,000
Potatoes	\$82,577,000	\$89,245,000
Blueberries	\$53,656,000	\$84,633,000
Snap Beans	\$76,530,000	\$70,793,000
Cotton	\$51,049,000	\$63,467,000
Hay	\$63,302,000	\$60,782,000
Sweet Potatoes	\$38,506,000	\$52,894,000
Mushrooms	\$41,590,000	\$42,662,000

* USDA-ERS combined the Floriculture category with the Miscellaneous Crops category for 2016 and 2017. However, this industry is estimated at over \$1 billion annually.



Farm Energy & Water Efficiency Realization (FEWER) Program

- A pilot program in Suwannee County to promote the adoption of innovative technologies and practices that increase energy and water efficiency for the agricultural industry.
 - \$5.2 million from Farm to Fuel
- Provided a 75 percent cost share, up to \$25,000, to area farmers who participated in the audit and choose to implement some of the recommendations.
- Eligible activities include upgrades to center pivots, diesel pumps, upgrades from a diesel pump to an electric pump, solar pumps, lights, cooling equipment.



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Rural Business Enterprise Grant (RBEG)

- Received \$162,145 from U. S. Department of Agriculture RBEG program
- Eligible activities include upgrades to HVAC, adding insulation, lighting upgrades, controls as well as other efficiency upgrades to buildings..



Farm Energy & Water Efficiency Realization (FEWER) Program

Program Results:

- We have received 228 applications for audits.
- 167 audits were completed.
- 113 applicants were approved to implement the energy efficient measures outlined in the audit.
- As of December 31, 2016, the program had realized savings of 2,602,066 kWh of electricity and 49,573 MMBtu of heating fuels.
- Cost saving of \$281,014 in electricity savings and \$432,256 in heating fuel saving for a total savings of \$713,270 over the life of the program.



Farm Energy & Water Efficiency Realization (FEWER) Program

- Expansion to Aquaculture
 - Freshwater tropical ornamental fish farming is the largest sector of FL aquaculture – more than half, based on farm-gate sales
 - About 95% of all ornamentals produced in the U.S. are from FL.
 - Most producers are located in central & south Florida, where they can make use of earthen, outdoor ponds to grow-out fish.
- Energy usage is second highest cost behind labor
 - Must control temperature and water quality
 - Majority of facilities using systems that are decades old



Farm Energy & Water Efficiency Realization (FEWER) Program



Farm Energy & Water Efficiency Realization (FEWER) Program

- Project is exploring
 - Existing, off the shelf technologies
 - Variable speed, high-efficiency pumps
 - High-efficiency heat pumps for temperature control
 - Solar and geothermal supplemental heating and cooling
 - Improved water treatment equipment (reverse osmosis units)
 - Natural gas generators and heat exchangers
 - Automatic controllers
 - Changes in production practices to conserve energy
 - Renewable energy and energy resiliency during power outages



Farm Energy & Water Efficiency Realization (FEWER) Program



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Efficiency and Renewable Improvements in Commercial Aquaculture (ERICA)

- Worked with the Division of Aquaculture to develop the ERICA program.
- Targets commercial aquaculture production facilities located in Florida.
- Provides reimbursement for technologies that significantly increase energy efficiency and reduce energy usage.
- Total Available Funding: \$1,002,103.33



Farm Renewable and Efficiency Demonstrations (FRED)

- Targeted agricultural producers across the state.
- Provides a free energy evaluations valued up to \$4,500.
- Provides grant reimbursement for 80 percent of the cost to implement the recommendations from the free energy evaluation.
- Eligible projects include energy efficient lighting and water pumps, fuel efficient tractors and generators, and small scale renewable energy generation.
- Total Funding Available: \$1 million
 - Maximum Award: \$25,000
 - Grantee Cost Share: 20%



Bioenergy Demonstration Grant

- Provided bioenergy grants for research, development, and commercialization relating to bioenergy technologies and innovative technologies that significantly reduce fossil fuel consumption for transportation and/or electric generation.
- Goals of this program:
 - Further understand and develop bioenergy utilizing Florida-grown crops or biomass;
 - Develop additional means to expand, energy related, agribusiness in the State of Florida;
 - Stimulate in-state capital investments and economic development;
 - Research and develop new bioenergy related technologies; and
 - Create energy related jobs.
- Six grantees were awarded a total of \$3.9 million.



Southeast Partnership for Advanced Renewables from Carinata (SPARC)

- The University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) utilized funding from the R&D Bioenergy Grant Program to study the feasibility and best management practices for growing carinata in the southeast United States.
- Due to the success of the project, the U.S. Department of Agriculture's National Institute of Food and Agriculture awarded UF/IFAS a \$15 million grant to further study carinata and develop the supply chain to commercialize the crop.
- For more information visit <https://sparc-cap.org/>



Florida Small Community Energy Efficient Lighting Grant

- This competitive grant program is designed to provide funding to eligible local governments to make energy-efficient upgrades to indoor or outdoor lighting.
- Upgrades must be to publicly accessible, community-oriented facilities, such as libraries, museums, park, and community centers.
- Funding:
 - Total Funding Requested: \$2,088,767.00
 - Minimum award: \$50,000
 - Maximum award: \$250,000
 - Required cost share: 10%



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