



University of Florida Industrial Hemp Pilot Program

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What is industrial hemp?

Cannabis sativa with THC < 0.3% per dry weight

A potentially valuable and impactful alternative crop

Requires preliminary assessment of the crop for:

- plant varieties
- cropping systems
- invasion risk
- processing and commercialization



- This is Sunn Hemp,
- not industrial hemp



What is medical marijuana?

Cannabis sativa leaves and other plant material with THC > 0.3% per dry weight.

Medical applications include:

- Treat diseases (e.g. cancer, Alzheimer's)
- Treat conditions (e.g. PTSD, pain, nausea)



Why interest in industrial hemp?

Multi-use crop

- Fiber (textiles)
- Food (hemp seed oil, greens)
- Feed (forage)
- Building material (hempcrete)
- Bioplastics
- Medicinal (CBD oil)
- Environmental remediation



UF/IFAS Industrial Hemp Pilot Project

Authorization

- Federal – Agricultural Act of 2014, 7 U.S.C. s.5940, Legitimacy of industrial hemp research. DEA – Schedule 1 Permit and other forms for seed procurement.
- State – Florida Statute 1004.4473 (2017), Industrial hemp pilot projects
- FDACS – Rule 5B-57.013 (2018), Industrial hemp planting permits
- UF – Board of Trustees

UF/IFAS Industrial Hemp Pilot Project

Mandate

- 2-year pilot project (starts at FDACS planting permit date)
- Industry-funded
- Report project outcomes to legislation

University position

- Hemp production limited to UF facilities
- Genetics through variety trials without breeding
- Processing and market research without product sales

Pilot Project Research Objectives

The Goal Support the future viability and sustainability of an industrial hemp industry

The Plan Industry funded research and outreach at UF/IFAS research facilities with a multidisciplinary team to:

- Identify hemp varieties suitable for planting in Florida's various environments
- Develop hemp management practices and cropping systems economically viable for Florida
- Assess hemp invasion risk in Florida's natural and built environments

UF/IFAS Research Team

- **Dr. Zachary Brym**, Project Coordinator, South Florida location
- **Dr. John Erickson**, Central Florida location
- **Dr. Michael Mulvaney**, North Florida location
- **Dr. Josh Freeman**, North Florida location
- **Dr. Luke Flory**, Invasion risk analysis
- **Dr. Edward Evans**, Economic analysis
- **Dr. Bonnie Avery**, Analytical chemistry
- **Dr. Robert Gilbert**, Agronomy Department Chair
- **Jerry Fankhauser**, FL Ag. Experiment Station-UF/IFAS Research

Pilot Project Research Activities

Hemp Varieties

- 31 certified varieties identified so far for testing
- Germination, flowering, height, biomass, yield, disease, THC, CBD
- Planting date trial with best cultivars in year two

Hemp Management

- Field production (3 production sites, 7-10 acres each site)
- Spacing Trial, Fertilizer trial

Invasion Risk

- Greenhouse (light, water, soil response) and field trials
- Control measures to minimize escape
- Modeling invasion risk across FL

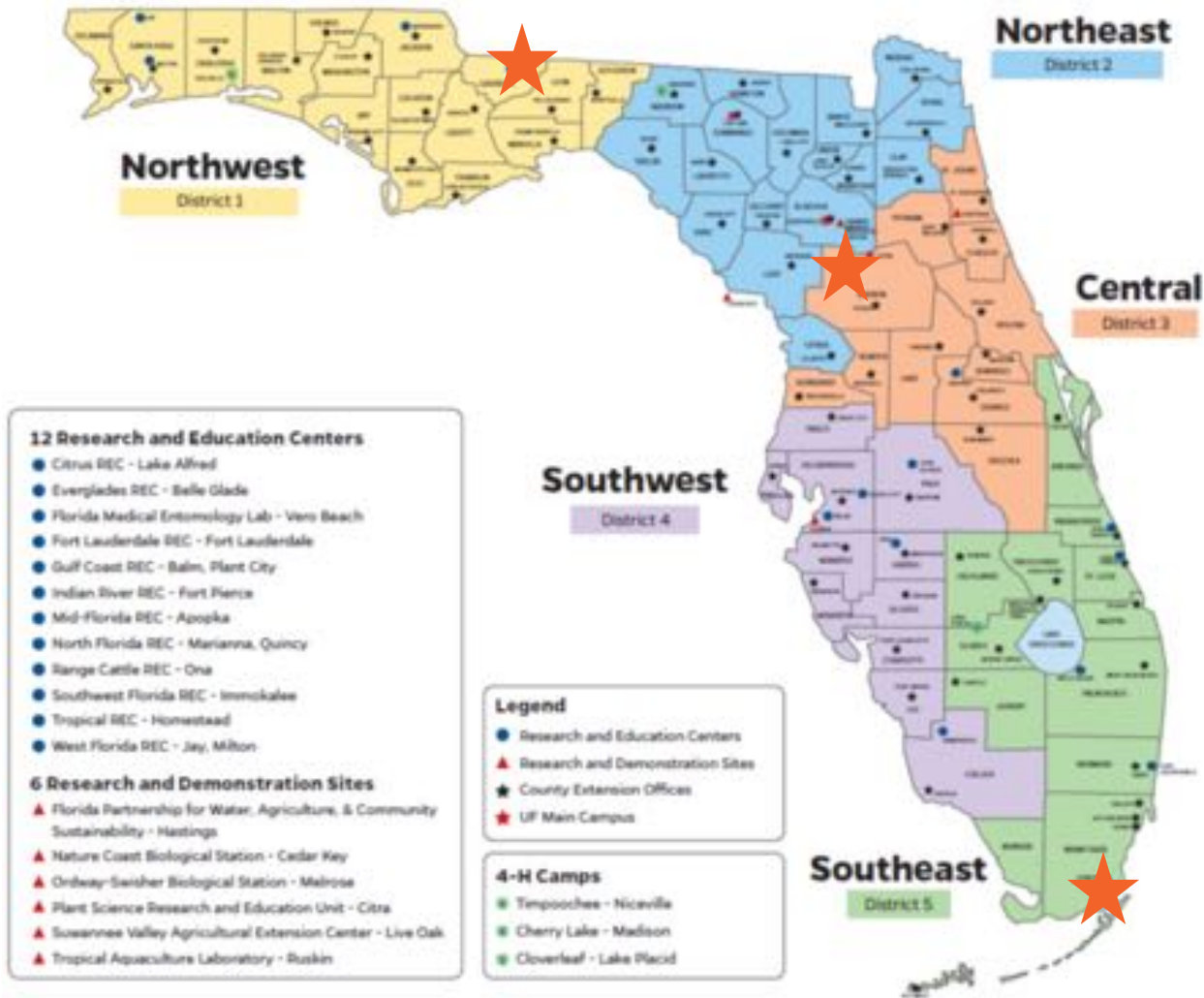
Pilot Project Field Locations

Beginning in late 2018, field studies will commence at the following locations:

- North Florida Research & Education Center, Quincy (NFREC-Quincy)
- Tropical Research and Education Center, Homestead (TREC)
- Agronomy Forage Research Unit, Hague (AFRU)
- Bivens Arm, Gainesville



UF/IFAS Statewide Facilities



Jack M. Payne, Senior Vice President, UF/IFAS
 1008 McCarty Hall, P.O. Box 110180, Gainesville, FL 32611-0180

Why only at UF facilities?

The State of Florida and FDACS have set all of the pilot project risk and liability on UF.

The risks

- Seed import and transportation
- THC testing and hot plants
- Biosecurity and invasion potential
- Lack of registered agrochemicals
- Personal security, theft, and law enforcement
- Bond requirements and financing

Pilot Project Sponsorship

Current pilot project objectives and research activities

- 3 production sites, 7-10 acres each site

Sponsorship necessary to initiate the project

- University, State, and Federal authorization

Public access to research activities and information

- workshops, field visits, and publications



Pilot Project Sponsorship

“We are committed to develop broad collaboration, partnership, and sponsorship with growers, industry, and other universities. Our collective goal is to develop a viable hemp industry for Florida supported by the best available information and technology.”



Pilot Project Workshops Sponsors

Program Sponsors



Farmhouse Tomatoes

Lunch Sponsors



Refreshment Sponsors



Timothy F Stanfield, Attorney at Law

Pilot Project Workshops

Objectives

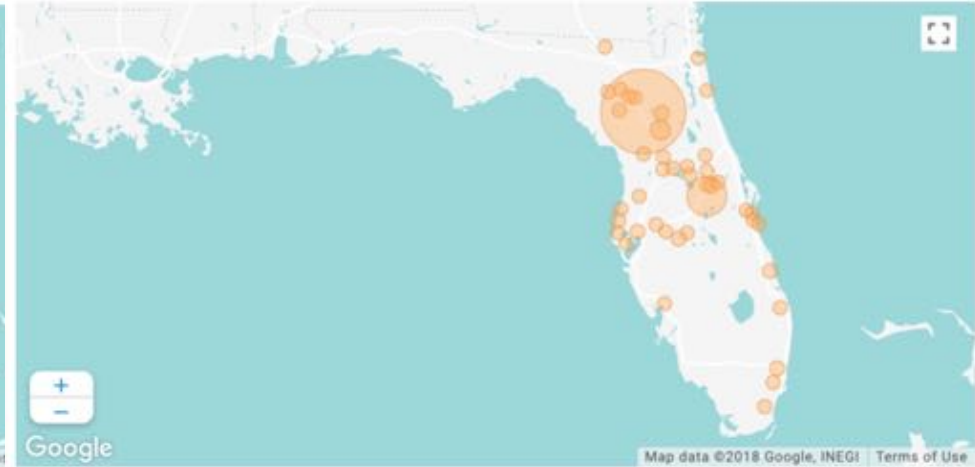
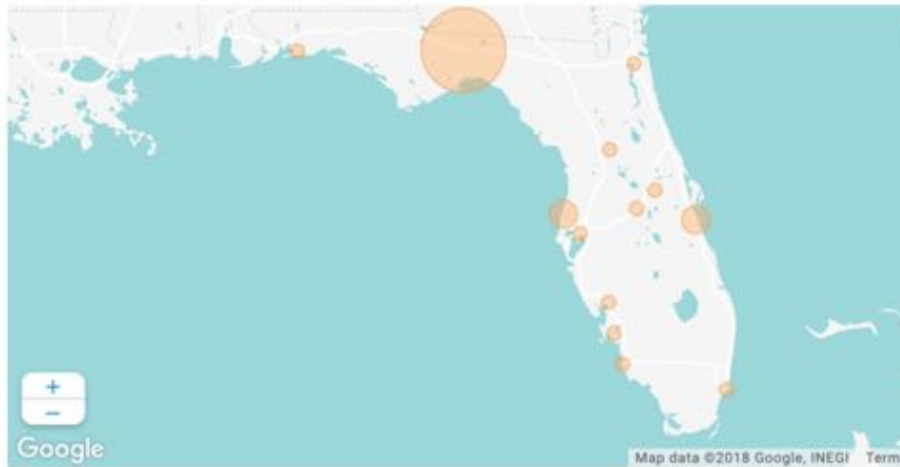
- Assess interest in the program
- Focus broad research objectives
- Identify individuals and groups seeking project involvement
- Establish a framework and procedure for project involvement



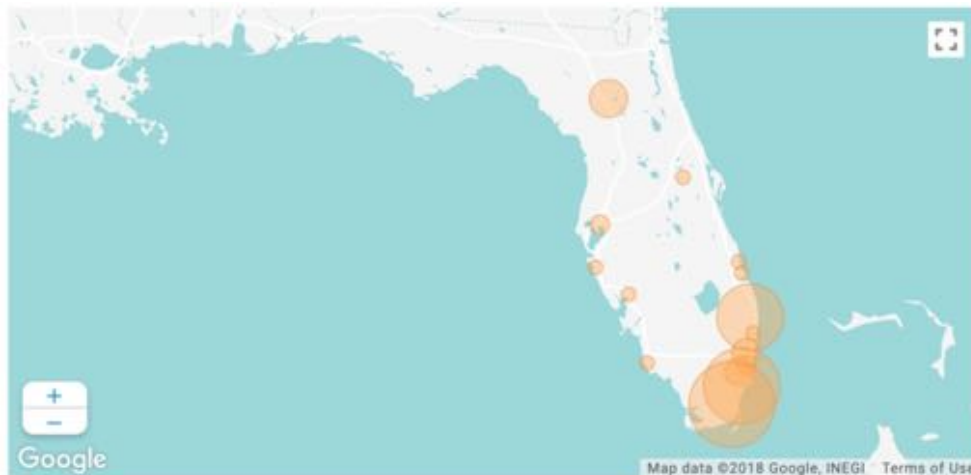
Workshop Attendance

Quincy – 50 (4)

Citra – 150 (8)

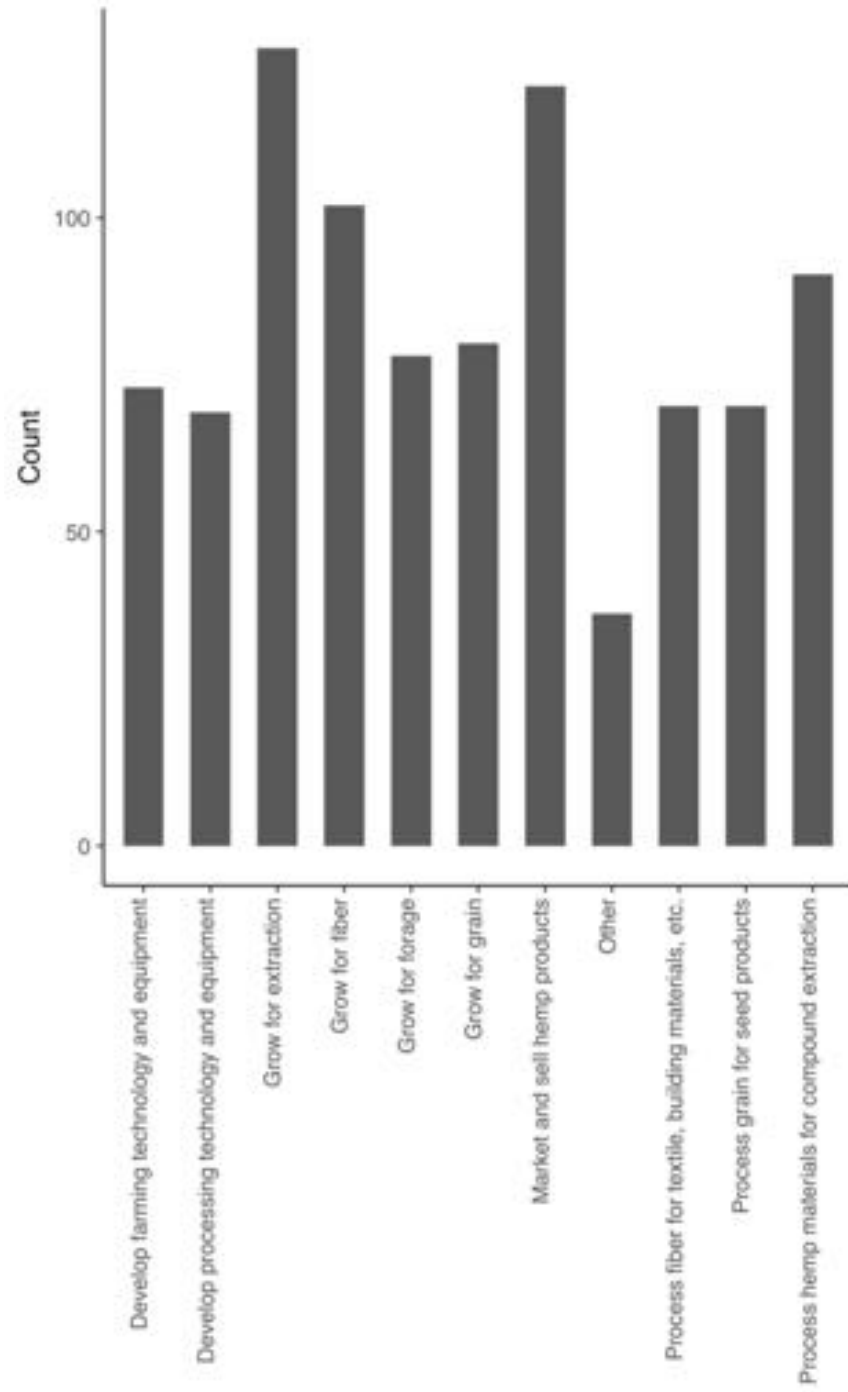


Homestead – 50 (3)

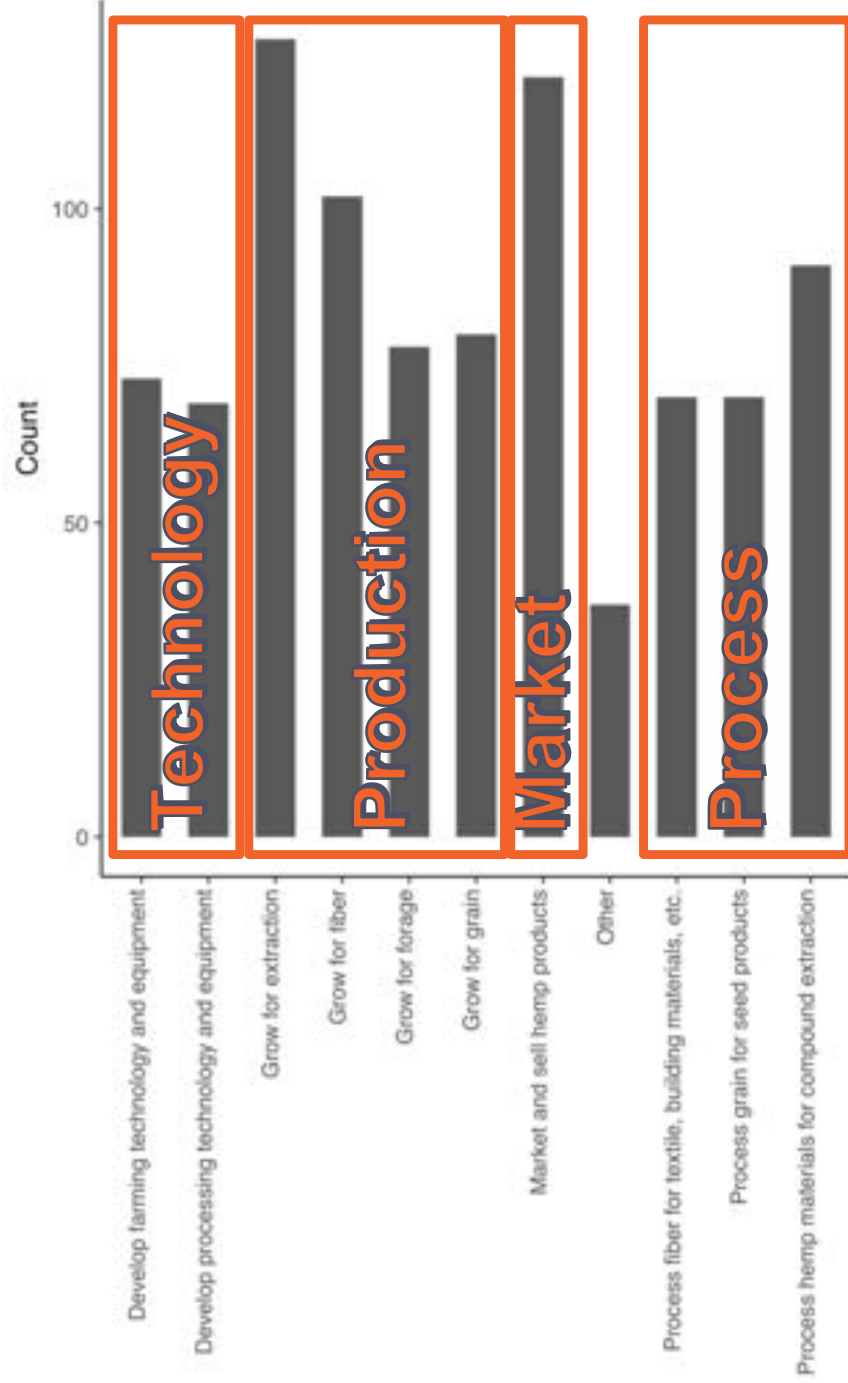


() = out of state

Interest Survey

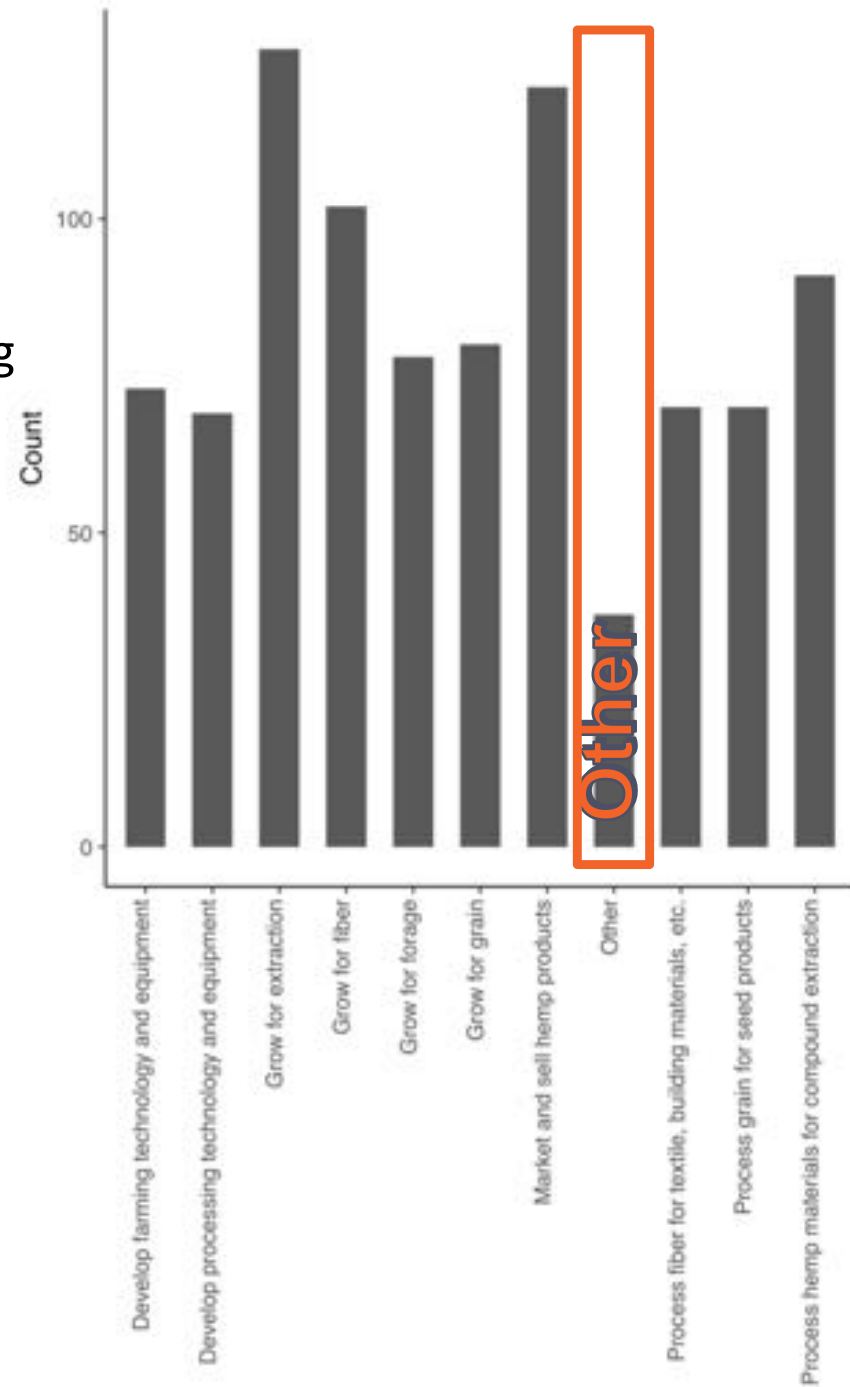


Interest Survey



Interest Survey

- Learn about the program and hemp opportunities
- Genetic improvement / breeding
- Product development
- Environmental improvement
- University research
- Medical research
- Education and consulting
- Legislation
- Not sure



Pilot Project Workshops

Feedback

- LOTS of interest and enthusiasm from the program
- Broad research objectives common starting place for interests
- Specific research activities could be expanded for industry
- Maintain representation of diverse backgrounds and interests
- Maintain communication through website and email updates
- Project Partners and Sponsors should form collaborations and focus on meaningful impact when considering additional research objectives and activities

Ways to Get Involved

Program Activities

- Workshops
- Field days

Advisory Group

- Oversee program execution
- Aid in program decisions

Qualified Project Partners

- Formal collaborator opportunity

Project Sponsors

- Workshops and Field Days
- Research Activities



Qualified Project Partners

FDACS 5B-57.013, Section 13

- Principal place of business in Florida
- Access to a grow site in Florida [That's UF]
- Access to a research facility in Florida [UF or private]
- Business or research plan [Let's talk]
- Prior experience in or knowledge of, **or** demonstrated interest in and commitment to... hemp.

Partnership Role

- Growers – consultant/volunteer with background check
 - As much as daily access to field site and operations
- Industry – provide research capacity for processing
 - Opportunity for use of raw plant materials

Qualified Project Partners

Things to Consider

- What work do you want to do in partner with the UF/IFAS Industrial Hemp Pilot Project?
- Are your objectives covered by our research plan?
- Are there others that want to do similar work?
- What will you need from us? Will we have to expand our research capacity?
- What will we get from you? Will you provide funds to expand our scope of work, if necessary?

Project Sponsors

Current Funding Status

- Sponsors necessary to get the work done
- Current sponsorship covers:
 - Objectives: Variety selection, Cropping systems, Invasion
 - Research activities: Planting date, Spacing, Fertilizer
 - 3 production locations, 7-10 acres
 - 31 primarily fiber and grain varieties

Funding Opportunities

- Additional research objectives and activities
- Production on more land or alternate locations
- Inclusion of processing objectives

Project Sponsors

Things to consider

- Are your objectives covered by our research plan?
- If not, how will we have to expand our research capacity?
- Will you provide funds to expand our scope of work?

Project Sponsorship Process

- List of objectives
- Budget
- Scope of Work or Research Plan
- Research Agreement
 - What is the timeline of fund transfer and reporting?
 - How will we handle material transfer and IP?
 - Can we publish our findings?

Partners and Sponsor Priorities

Community Development Goals

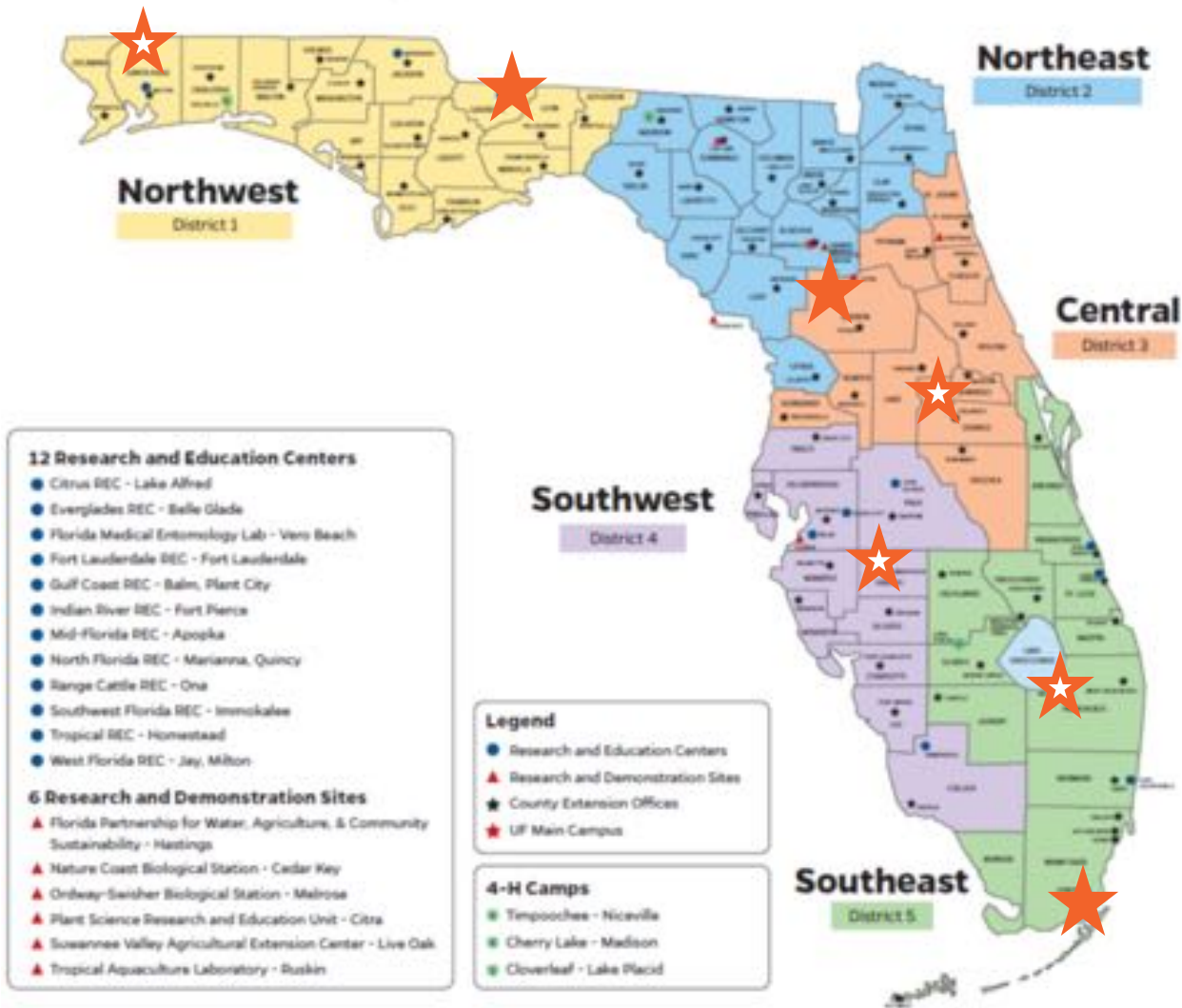
- Diverse representation
 - Sector, Region, Background, Cropping system, etc.
- Effective communication
 - Interested or have questions? Send me an email.
 - Zack Brym, brymz@ufl.edu
- Collaborative tone
 - Work together for viable hemp industry for Florida supported by the best available information and technology
 - Synergistic resource use and maximum impact

Partner and Sponsor Priorities

Program Growth Goals

- Objectives
 - Test high CBD varieties (seed and transplants)
 - Greenhouse and nursery production
 - Cattle feed/forage
 - Processing and product development
- Locations
 - MREC, Apopka
 - EREC, Belle Glade
 - WFREC, Jay
 - RCREC, Ona

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Partner and Sponsor Procedure

1. Commit to our collaborative community.
2. Reflect and answer the "Things to consider".
3. Reach out to folks that might be able to complement or support the work.
4. Send me an email with your proposal.
 - Zack Brym, brymz@ufl.edu
5. We'll get back to you with feedback and next steps.



THANK YOU!

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