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
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
GREEN ROADS
ALTERNATIVE LABORATORIES
Farmhouse Tomatoes

Lunch Sponsors
NATURE COAST CANNABIS ENTERPRISES
IMPACT

Refreshment Sponsors
IMPACT
PuraHemp
MARI
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
UF/IFAS Statewide Facilities

12 Research and Education Centers
- Citrus REC - Lake Alfred
- Everglades REC - Belle Glade
- Florida Medical Entomology Lab - Vero Beach
- Fort Lauderdale REC - Fort Lauderdale
- Gulf Coast REC - Balm, Plant City
- Indian River REC - Fort Pierce
- Mid-Florida REC - Apopka
- North Florida REC - Marianna, Quincy
- Range Cattle REC - Ona
- Southwest Florida REC - Immokalee
- Tropical REC - Homestead
- West Florida REC - Jay, Milton

6 Research and Demonstration Sites
- Florida Partnership for Water, Agriculture, & Community Sustainability - Hastings
- Nature Coast Biological Station - Cedar Key
- Ordway-Swisher Biological Station - Melrose
- Plant Science Research and Education Unit - Citra
- Suwannee Valley Agricultural Extension Center - Live Oak
- Tropical Aquaculture Laboratory - Ruskin

Legend
- Research and Education Centers
- Research and Demonstration Sites
- County Extension Offices
- UF Main Campus

4-H Camps
- Tempeochee - Niceville
- Cherry Lake - Madison
- Cloverleaf - Lake Placid

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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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