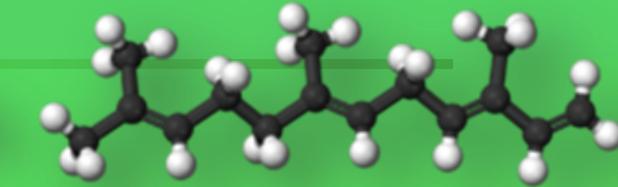
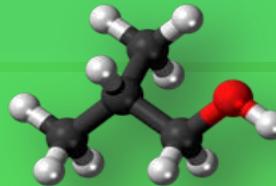
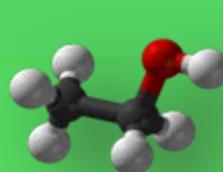
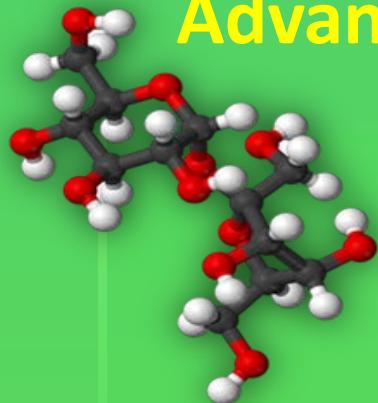


Florida Farm to Fly 2.0

Advanced BioFuel (ABF) Molecules from Sucrose



Ethanol (C2) Butenol (C4) Farnasene (C15)

ABF Root crop
Sucrose (C12) 15%
Pulp 8%
Water 77%

- Florida spends \$42 billion for 290 million barrels of petroleum annually, 90% in transportation.
- Florida aviation consumes 1.5-2.5 million gallons/day.
- Commercial aviation accounts for 18% of world GHG.

Commercial Airlines currently use ABF “Drop-In” Jet Fuels



Brazil's Gol Airlines



United - Continental Airlines



Alaska Airlines 1



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Florida Farm to Fly 2.0



Airlines for America®
We Connect the World

Florida Commercial Aviation

- ✓ State GDP \$61.9B (8.44%)
- ✓ 930,000 jobs (9.4%)

✓ **55 gallons of ABF
that replaces one
barrel of fossil crude
oil removes over
HALF A TON OF
GHG.**

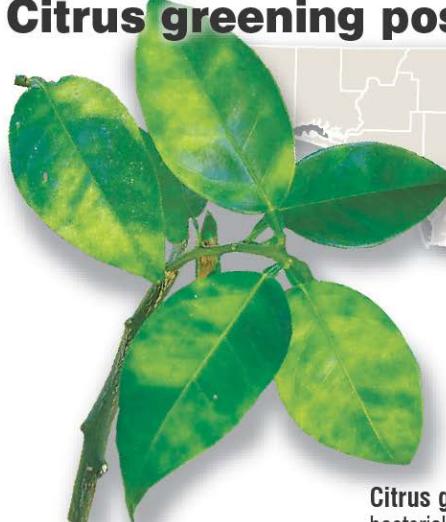
ABF Beet



✓ ABF crop
cultivation and
processing will help
Florida meet Title V
air standards of the
U.S. Clean Air Act as
amended in 1990.

Florida Farm to Fly 2.0

Citrus greening poses threat to Florida groves



Leaves yellowed from the veins out are a symptom of citrus greening. The tree will produce smaller, misshapen and bitter fruit, and the tree itself could die.

PHOTO / USDA



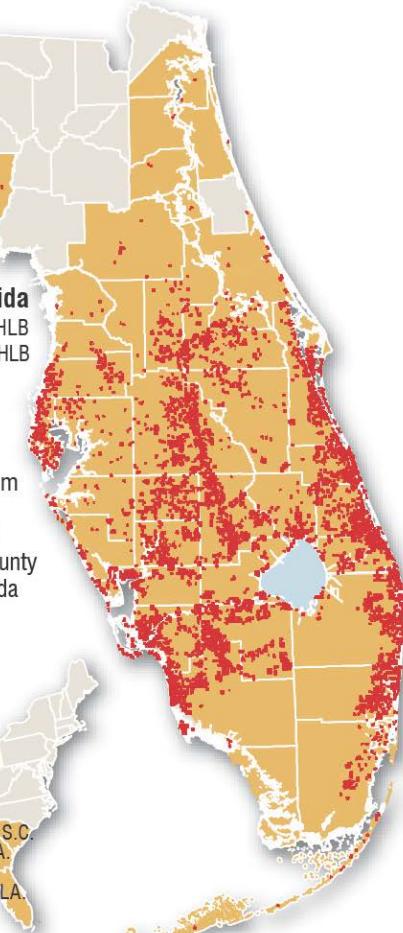
The Asian citrus psyllid is about 1/8 inch long. The psyllid lays eggs in the foliage and spreads the HLB bacteria.

PHOTO / UNIVERSITY OF CALIFORNIA INTEGRATED PEST CONTROL

Citrus greening in Florida

- 37 counties with HLB
- Reported areas of HLB

Citrus greening is an insect-borne bacterial disease called huanglongbing (HLB) which attacks the vascular system of plants. HLB spread across Asia and Africa beginning in the 1940s, and first appeared in the U.S. in Miami-Dade County in 2005. It has since spread to 37 Florida counties and 9 other states.



STAFF MAP / BARRY McCARTHY

SOURCES: Florida Department of Agriculture and Consumer Services; saveourcitrus.org



- since 2004, Florida lost over 40 million citrus trees with annual lost sales of over \$1 billion per year.
- HLB disease is present in every citrus growing state and country worldwide.
- No known feasible treatment.



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Florida Farm to Fly 2.0

- **Potential Advanced "Drop In Molecule" Market**
- **250,000 acres of Fallow Citrus Fields**
 - 4 season rotation
- **12,500,000 tons harvest @15% yields**
 - 1,875,000 tons industrial sugar
 - 375,000 tons feed
- **225,000,000 gallons 105 octane Ethanol**
 - \$687.5 Million Annual Sales @\$2.50/gallon
- **12,500 direct jobs + 37,500 indirect jobs**
- **\$750 Million Annual Economic Impact**



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Florida Farm to Fly 2.0

Goal: Build Florida's Integrated ABF Supply Chain
Seed Producer - Grower - Processor - Carrier - Traveler

- **ABF Feedstock Certification Working Group**
 - ¬ Commercial Advanced Aviation Fuel Initiative (CAAFI)
 - ¬ Florida Dept of Agriculture and Consumer Services (FDACS)
 - ¬ Office of Energy; Florida Energy System Consortium (FESC)
- **US Department of Agriculture (USDA)**
 - ¬ Rural Development (RD); Farm Services Agency (FSA);
National Resource Conservation Service (NRCS); Agriculture
Research Service (ARS)
- **The Treasure Coast Research Park (TCRP)**
 - ¬ The University of Florida
 - ¬ Institute for Food and Agricultural Sciences (UF IFAS)
 - ¬ Treasure Coast Fallow Fields Working Group
 - ¬ Civic - Business - Academia - Government



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