

# Biochemical Conversion

## Sustainable Job Creation for Rural Florida

1. Identification of carbohydrate rich crops / feed stocks for fuels and chemicals  
(Replacement crops for 500,000 acres idled by citrus diseases.)

Sugar crops -- energy beet, sweet sorghum, sugarcane

Starch crops – energy tubers, other?

Cellulosics – Eucalyptus for South FL; pine, oak and sweet gum for North FL

Agro-industrial waste (fruits, vegetables, and wood processing)

(Potential oils for biodiesel -- seed crops, Pongamia and algae)

2. Verification of feedstock performance during multi-year cultivation  
(Establishment of Florida version of BCAP for FL certified bioconversion crops)
3. Improvement of germplasms, best practices, and cost estimates for crops.

# Biochemical Conversion

## Sustainable Job Creation for Rural Florida

4. Stepwise plan to scale up production.  
    Sugar platform as intermediate stage.
5. Stan Mayfield Biorefinery and Pilot Plant  
    Florida's regional test facility for bioconversion
6. Development of biocatalysts and processes for  
    new products.
7. Development of improved biocatalysts for  
    lignocellulose deconstruction.
8. Development of co-products: nutraceuticals,  
    bio-based plastics, nanotubes, fertilizer, feeds,  
    etc.

# Biochemical Conversion -- Benefits to the State

1. Sustainable jobs for rural Florida
2. Replacement crops for former citrus farms
3. Increased energy independence
4. Economic development
5. Water and mineral sustainability – closed loop processes

Closed Loop Processes could borrow water and chemicals allocated for irrigation and crops. Water and chemicals could be used in processing, and as fermentation nutrients. Emerging water and nutrients could be returned to the field for new crops.