# University of Florida/IFAS BIOMASS TO ENERGY

# Florida's Bioenergy Feedstocks



#### Florida is #1 state in biomass production

- 15 million acres of forest land
- 10 million acres of farm land
- 3 million acres of pasture land

## **Cellulosic Ethanol Process**

Plant biomass

**Produce Ethanol** 

**Process to** 

Pretreatment production Enzyme

hydrolysis Enzymatic

termentation Ethanol

Distillation

Fuel ethanol



converted to ethanol hemicellulose in Cellulose and



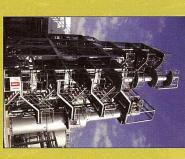
Bacterial enzymes are used in the process

### **Cellulosic Ethanol**

- Over 20 patents
- 1 spin-off company Verenium
- Center for Renewable Fuels
- Center of Excellence Biofuel Pilot Plant

# **Research and Extension Programs**

- Developing energy crops
- Process research and development
- **Environmental assessment**
- **Economics and policy**
- **Energy conservation**



and other biofuels produce ethanol in Florida can Future biorefineries

## **Benefits to Florida**

- Economic development
- Improving the environment
- Energy independence



