Weed control in perennial crops.

James Altland, USDA-ARS

Native and naturalized plants

- 4200 species in FL
- 3000 species in OH
- 3600 species in Oregon
- 3600 species in Arizona
- 18,000 species in the U.S.

Weeds

- Plants that are successful colonizing uniquely productive habitats, and maintaining their abundance with repeated disturbance.
  
  Liebman et al.
Unique environment

• Soilless substrate
• 100% organic matter
• Extremely high porosity (2x field soils)
• Irrigated daily
• Heavily (continuously?) fertilized
• No seed bank
• No soil connectivity
Mulches

• Characteristics of a good mulch
  – Resistant to decomposition
  – Large particle size
  – Does not retain moisture
    • If it retains soil moisture, that is generally a good thing, if it retains moisture itself, that is not a good thing.
  – Attractive

Current research

• Alternatives to herbicides

• Rice hulls
  – Commercially available for horticulture
  – Inexpensive
  – Organic certified
Rice hull efficacy

- Bittercress
- Oxalis
- Willowherb
- Liverwort
- Groundsel
Questions?