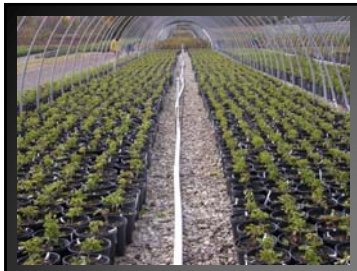
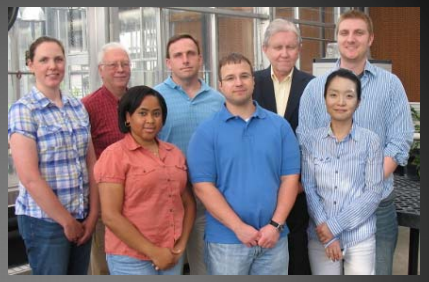




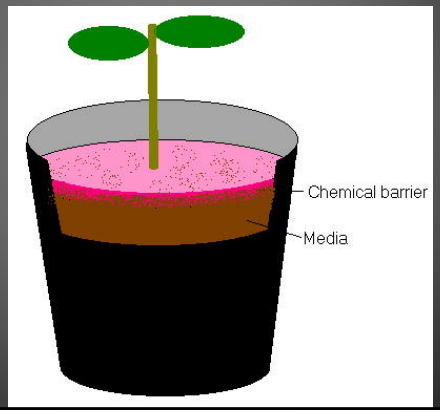
Weed control in sensitive crops

James Altland, USDA-ARS

Weed control in containers

- Sanitation
- Preemergence herbicides

Chemical barrier

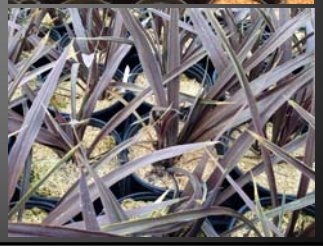


Preemergence herbicides

- Limited use in propagation
- Not labeled for use indoors
- Not labeled for some high value crops

Weed control tools

- Alternatives to herbicides
- Rice hulls
  - Commercially available
  - Inexpensive
  - Mulch



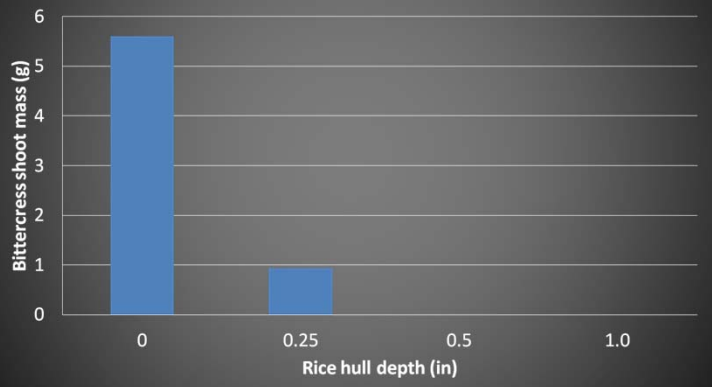
Mulch in containers

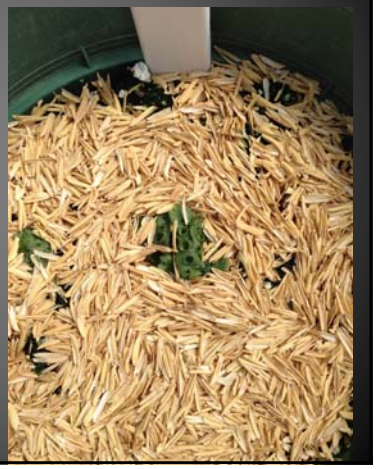
- Retains little water
- No available N
- Resistant to decomposition

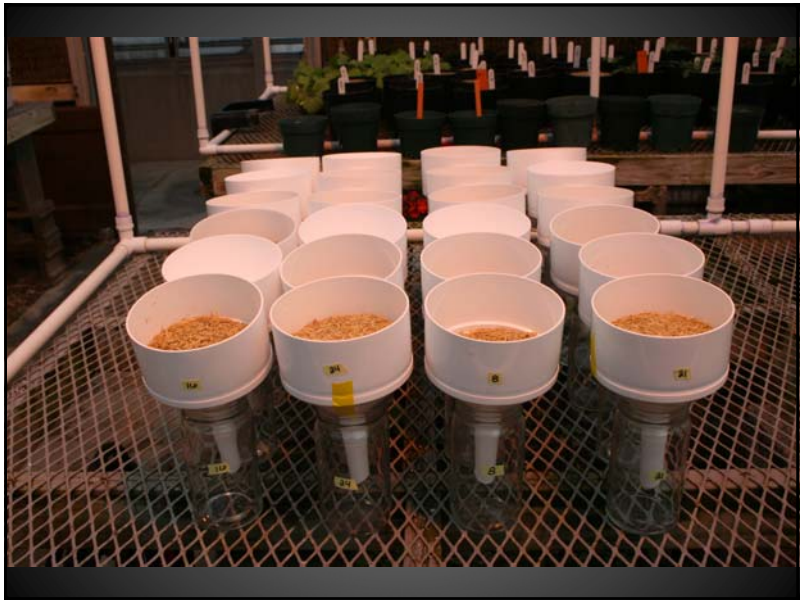
Rice hulls as a mulch

- Retain very little water
- Dry very quickly
- Very slow degradation
- Liverwort, bittercress, oxalis, willowherb, groundsel.

Weed growth





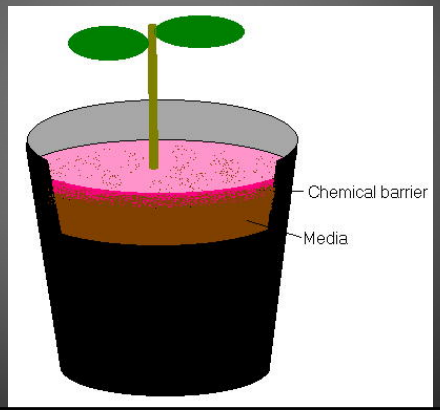


Container properties

- Substrates
  - No seed bank
  - Bark substrates are initially free of weeds
- Isolated substrate volume
- Irrigated daily
- No postemergence herbicides
- No mechanized cultivation

Weed biology

- Seed
  - Size, dormancy, dispersal, killing temperature
- Germination
  - Light, temperature, photoperiod, burial depth, N form
- Growth and development
  - Nutrition, substrate properties, light intensity, days to flower, seed production
- Movement in nurseries
  - Dispersal distance, plant cuttings, irrigation or ponds



Questions?