Fundamentals of Pepper Production

Bill Shoemaker
University of Illinois
Why Peppers?

- Value
- Productivity
- Demand
- Dependability
- Profit
Capsicum species

- Capsicum annuum
  - Bell peppers
  - Jalapeno
  - Serranno
  - Poblano
  - New Mexico/Anaheim chile
  - Sweet Frying peppers
  - Paprika peppers
  - Globally, many locally developed types
Beyond C. annuum
- Capsicum frutescens (Tabasco)
- Capsicum chinense (Habanero, etc.)
- Capsicum baccatum (Aji, etc.)
- Other wild species (chacoense, etc.)
Plant Fundamentals

- 5 Essential Elements
  - Light
  - Heat
  - CO2
  - Water
  - Mineral Nutrients
Growing Peppers

- Stand Establishment
  - Direct-seed?
  - Transplant?
Direct–Seeding Peppers

- Bad idea?
- Expectations
- Equipment
- Seed placement
- Water and Fertility
- Soil conditions
  - Moisture
  - Temperature
  - Tilth
Producin Pepper Transplants

- Seed Quality
- Timing of Seeding
- Facilities for production
- Trays and Media
- Transplant size and age
- Water
- Fertility
Field Preparation for Peppers

- Site characteristics
- Soil Fertility
  - Ph
  - Fertilizer
- Soil Preparation
- Soil Moisture
Plasticulture for Peppers

- What is plasticulture?
- Peppers and plasticulture
- Plastic mulch
- Drip irrigation
- Row tunnels
- Hi tunnels
Stand Establishment

- Spacial arrangements
- Populations
- Setting Transplants
- Starter Fertilizer
- Transplant age
Pepper Crop Management

- Peppers are continuously flowering
- Fruit set
- Supporting fruit development
- Timely harvest is critical
Crop Management Issues

- Pest management
- Water management
- Fertility management
Weed Control

- Impact of weed pressure
- Control techniques
Insect Pests in Peppers

- Flea Beetles
- Aphids
- European Corn Borer
- Hornworms
Pepper Diseases

- Bacterial Spot !!!!!!
- Phytophthora fungal disease
- Blossom End Rot
Managing water

- Influence of water on flowers/fruit
- Irrigation choices
- Monitoring water status
- Following through on crop potential
Post-plant fertility management

- Supplemental nitrogen
- P&K
- Micronutrients
- Organic fertility management
Harvest considerations

- The season isn’t over till the money is in your pocket!
- Harvest frequently to maximize yield
- Manage water right up to the end
Questions?

- Bill Shoemaker
- Sr. Research Specialist, Food Crops
- University of Illinois
- Dept of Crop Sciences
- St Charles Horticulture Research Center
- 535 Randall Road, St Charles, IL, 60174
- 630-584-7254, wshoemak@illinois.edu