Winter Cover Crops & Season Extension

Timothy McDermott DVM OSUE Franklin County
Garden Challenges

- Weeds
- Pests
- Disease
- Organic Matter
- Fertility
- Hardpan
- Soil Types
Cover crops

- Specific crops for specific uses
  - Add biomass
  - Weed suppression
  - Scavenge nutrients
  - Sub-soiler
  - Increase fertility
  - Mulch effect
  - Cools soil
  - Prevents erosion
• Number #1 adjustable input
• Number #1 for success
• Soil Health = Plant Health = People Health
• Maximize SOM – soil organic matter
• Keep plants growing at all times
• Keep roots in the soil

Soil Health
Productivity of SOM

Michigan study:

Every 1% SOM = 12% increase in crop yields.

MORE IS BETTER
Winter Cover Crop Challenges

- Seeding Timing
- Hardiness
- Management
- Crop Rotation
Wallace Garden BMP’s

- November 1st
- No-till, but will be mowed
- Benefits
  - Weed control
  - Soil erosion prevention
  - Organic Matter
  - Nutrition
Types of Cover Crops

**Legumes:** Fix Nitrogen, low C:N ratio
- cowpeas, Austrian winter pea, hairy vetch, red clover, soybeans

**Grasses:** Accumulate nutrients (fine roots), C:N ratio depends on killing date:
- oats, cereal rye, annual ryegrass, barley, wheat, Sorghum-Sudan

**Brassicas:** Good for surface compaction and weed control:
- Daikon radish, turnips, kale, rape
Types of Cover Crops

Others: Buckwheat, Phacelia

Mixes:
• Specific to a season commonly
• Crop Rotation Concerns
• Management Concerns
• Seeding Concerns
• Uses
Management is KEY

Concerns:
• What is your primary problem?
• What is your garden size?
• What implements do you have?
• What is your planting timeline?
Good Choices for Winter Cover Crops

- **Grasses**
  - Oats
  - Cereal Rye
- **Legumes**
  - Crimson Clover
  - Vetch
  - Austrian Winter Peas
- **Brassicas**
  - Forage Radish
  - Forage Rape
Cereal Rye

- Winter hardy
- Germinates down to 35
- Management is KEY
- C:N Ratio
Similar to Rye but:

- Winter kills for easier management
- Have to start earlier in fall
  - August 1st
- Fast breakdown in Spring
Legumes

- Winter hardy - Some
- Need Innoculant
- Management is KEY
- C:N Ratio
- Crop Rotation Concerns
Brassicas

- Allelopathic, Subsoiler,
- Can be rapid in and out.
- Can add a lot of organic matter – different form
- Forage radish, turnips, etc.
Mixes – Pros vs. Cons

• Each has benefits and detractions.

• Single
  • Get maximum production specific to the selection

• Mixed
  • Get multiple benefits, but less than the whole.
Management is KEY!
November 12th
Crimped and left as mulch in June
Questions?
McDermott.15@osu.edu