Weed management

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Today’s Focus

1. How weeds work
2. How we plan for effective management
3. What methods and tools we use
Promote good soil and crop health

- Weeds tend to do well in poor soils, crops do not
- Healthy soils will give your crops a fair chance
  - Compete/grow faster
  - Tolerate mechanical cultivation
Know your weeds, know your fields

- Weed hot spots
- Weed needs
- Weed season
- Life cycles
  - Germ timing, growth rate
  - Days to seed
  - Competitive vs. low-growing
- Disease hosts
Know your weeds, know your fields

**Abundant Seed Production**
- Giant foxtail – 10,000
- Common ragweed – 15,000
- Purslane – 52,000
- Lambsquarters – 72,000
- Pigweed – 117,000
Field set-up/crop rotation for efficient management

- Seed rain from previous year affects following year
  - Mulched field after bad weed year
  - Smothering crops
  - Moldboard plow?
Keep it clean!

- Use clean compost
- Clean equipment between fields
Set up your system to fit your equipment
Buy equipment that fits your system
Do as much work at Field prep time as possible

- Even beds
- Reduce residue
- Stale seed bed/occultation
Tilther

Spacing

- Standardize: minimize variations in spacing to minimize adjustment time
- SOF examples (handout)
- Budget enough time to make your tool work!
DIY Dibbler
Timing

- Right tool at the right time (handout)
- Perennials (deal with them when their reserves are depleted)
- Water → cultivate
- Weather/soil moisture
Perennial weed management

- Prevent spread of perennials to new fields
- Most sensitive before or during flowering
- Bare fallow
- Soil solarization
- Pigs
- Pull full root
- Common Perennial Weeds
  - Canada Thistle
  - Burdock
  - Bindweed
  - Grasses
Day 0
Sowing
Transplanting
1 inch
watering overhead

Day 4
1/2 inch watering overhead

Day 7
1/2 inch watering overhead

Day 11
Ready for Cultivation
White thread stage
Non-mechanical methods
(Recommend using a two wheel flame weeder and a propane backpack for stability and farmer comfort)
Quick Germ
Blind

- Tine Weeders
- Rotary Hoe

Photo: PAV Lelystad
The Netherlands
Lely Flextine
Johnny’s Tine Rake
Between Row

Lilliston, Basket weeder, S-tine, C-tine, knives, sweeps, multivators, etc.
S-tine sweeps
Wheelhoe
Other accessories for wheelhoe
Basket weeder
In-row

- Hiller
- Discs
- Middle buster
- Eco-weeder
- Finger Weeder
- Brushes

Photo: PAV Lelystad, The Netherlands

Photo: PAV Lelystad, The Netherlands
BCS-mounted Torsion Weeder
Terrateck with biodiscs
Hoes
Cultivation discs
Eco/Regi Weeder
Finger weeder
High Mow

- “Breakthrough weeds” in roots
- Mow above crop leaves
  - Makes harvest easier
  - Prevents weed seed production
Tool combination
Implement Alignment
Make your plan

- Know your weeds
- Know what tools are available
- Explore available resources:
  - msuorganicfarm.org/resources1.html
  - Other farmers