



# Great Lakes Fruit, Vegetable & Farm Market EXPO Michigan Greenhouse Growers EXPO

December 10-12, 2019

DeVos Place Convention Center, Grand Rapids, MI



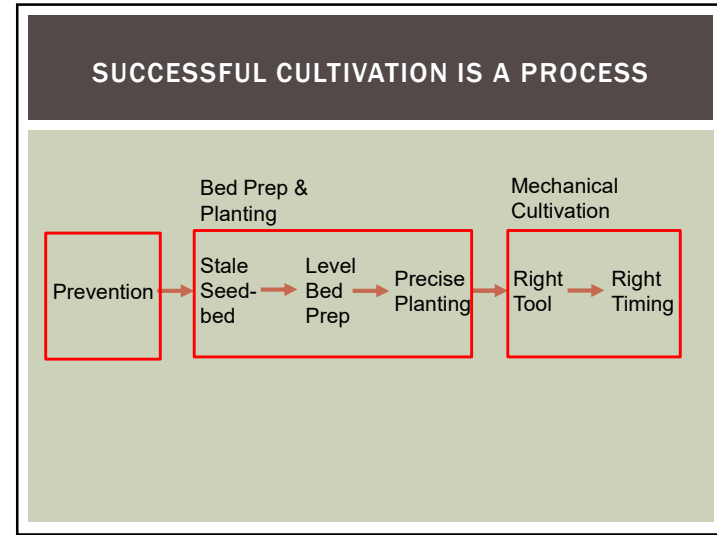
## Carrot

**Moderator:** Ben Werling, Michigan State University Extension

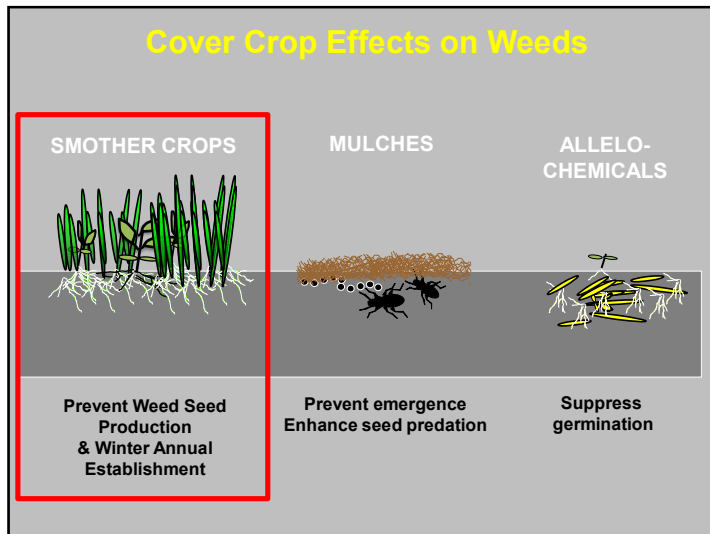
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|---------|--|
| 2:00 pm | Impact of Ozonation and Other Sanitizers on Storability of carrots <ul style="list-style-type: none"><li>• Trevor Suslow, Produce Marketing Association</li></ul>                                  |
| 2:40 pm | Mechanical Cultivation and Cover Crops for Weed Control in Carrots <ul style="list-style-type: none"><li>• Dan Brainard, Michigan State University Horticulture Department</li></ul>               |
| 3:00 pm | Sources and Symptoms of Different Strains of Aster Yellows in Carrots <ul style="list-style-type: none"><li>• Carolyn Malmstrom, Michigan State University</li></ul>                               |
| 3:30 pm | Investigating Nematicides and Cover Crops for Integrated Nematode Control (OH 2B, 0.5 hrs) <ul style="list-style-type: none"><li>• Marisol Quintanilla-Tornel, Michigan State University</li></ul> |



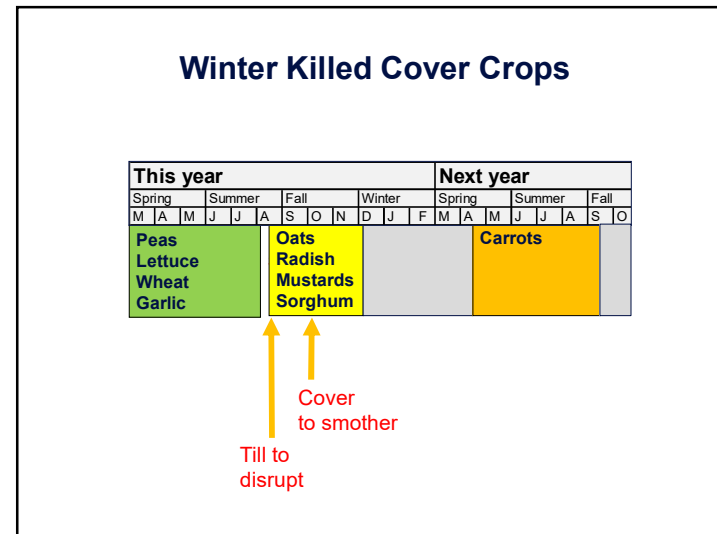
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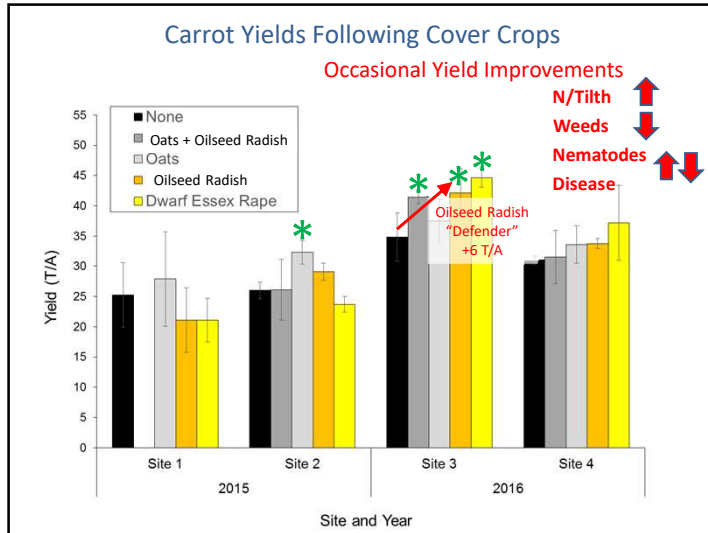


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Carrot Cover Crop & Cultivation; Dan Brainard, Michigan State University



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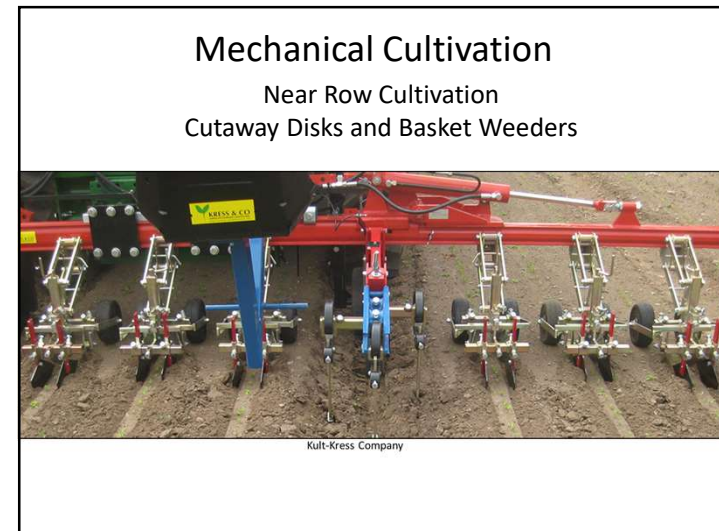
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### Weeds, Site 3, 2016

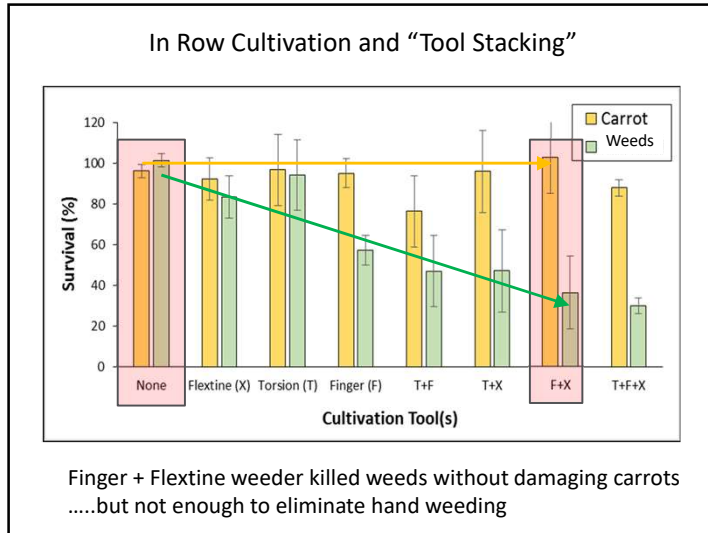
Cover Crop	Weeds		
	Winter annual (% cover)	Powell amaranth (#/m <sup>2</sup> )	Common lambquarters (#/m <sup>2</sup> )
None	55 ab	53 ab	123 ab
Black Oats	28 cd	12 bcd	38 c
Oats	33 cd	3 cd	38 c
Oats + "Defender" OSR	3 e	2 cd	17 c
"Defender" OSR	0 e	3 cd	12 c
Graza Radish	5 e	17 bcd	27 c
Dwarf Essex Rape	15 de	23 bc	14 c

Mustard Family Cover Crops  
Reduced weeds

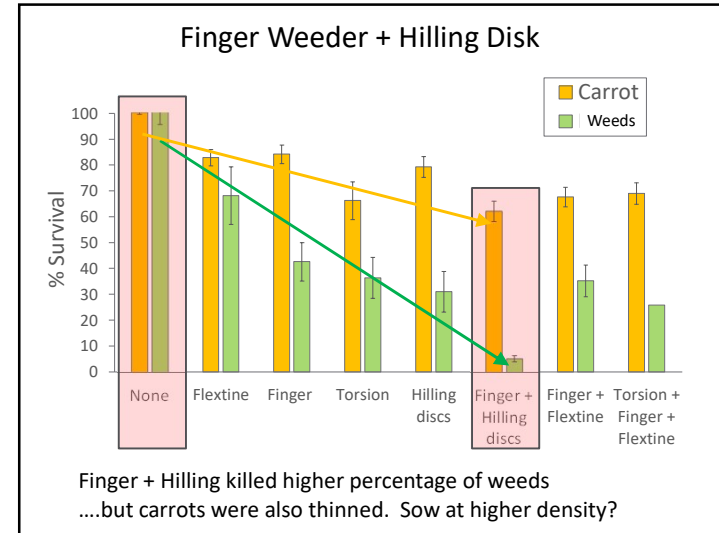
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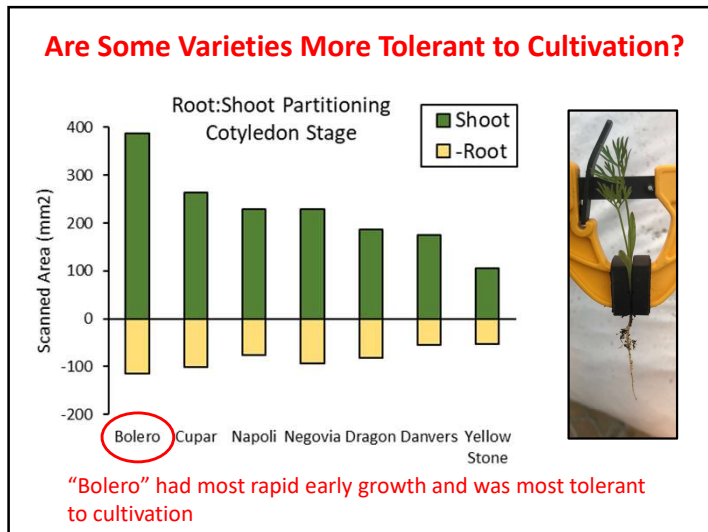
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- ### Summary
- **Cover Crop Effects:**
    - Winter-killed mustard family cover crops like oilseed radish can suppress winter annual weeds and reduce tillage costs
    - Cover crops also reduce number of summer annual weeds (through reductions in seed production)
  - **Mechanical Cultivation:**
    - Prevention, preparation and near-row cultivation are critical for success.
    - Finger weeders are most flexible and forgiving in-row tool
    - "Tool stacking" can improve performance of in-row tools
    - Carrot cultivars with rapid early growth (e.g. Bolero) can improve success with cultivation.

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