## 2016 MCCC Michigan report

### Contact Information
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### RESEARCH - On-going cover crop research (by primary discipline)

<table>
<thead>
<tr>
<th>Name(s)</th>
<th>Project title/objective</th>
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</thead>
<tbody>
<tr>
<td><strong>COMMODITY SPECIFIC</strong></td>
<td></td>
</tr>
<tr>
<td>Baas, D.</td>
<td>Evaluation of oilseed radish added to wheat to increase wheat yields in Michigan</td>
</tr>
<tr>
<td>Baas, D. and P. Gross</td>
<td>Using cover crops with wheat to improve rotational profitability</td>
</tr>
<tr>
<td>Hill, E.</td>
<td>Maximizing the cover crop potential of cereal rye before soybean through alternative termination timings and methods. Michigan Soybean Promotion Committee</td>
</tr>
<tr>
<td>Long, C., L. Tiemann, N. Rosenzweig, and E. Hill</td>
<td>Impact of increased cropping system diversity as measured by improved productivity and sustainability in a Michigan potato production system. Project GREEEN and MI Potato Industry Commission 2016 &amp; 2017</td>
</tr>
<tr>
<td><strong>COVER CROP MANAGEMENT</strong></td>
<td></td>
</tr>
<tr>
<td>Snapp, S., S. Kravchenko, et al. (collaboration with IL, MN, and PE)</td>
<td>Precision Zonal Management, includes a rye cover crop in some treatments. 2016 final year</td>
</tr>
<tr>
<td>Hill, E.</td>
<td>Complimentary seeding ratios to maximize groundcover and biomass production: Oats + radish</td>
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</tbody>
</table>
**FORAGES/FEED**

<table>
<thead>
<tr>
<th>Authors</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilke, B., H. Straub III, S. Utsumi</td>
<td>Intercropping summer annual grazing crops: Alternating legume and grass strips at planting</td>
</tr>
</tbody>
</table>

**PEST/DISEASE MANAGEMENT**

<table>
<thead>
<tr>
<th>Authors</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>Bird, G., J. Shoemaker (M.S. Student), K. Renner, and J. Diel</td>
<td>Accessing the trap crop potential of cover crops for control of Soybean Cyst Nematode</td>
</tr>
<tr>
<td>Chilvers, M. (contributing to Iowa State University)</td>
<td>Sequencing fungal and oomycete pathogens associated with cover crops</td>
</tr>
<tr>
<td>Sprague, C., E. Hill, and K. Renner</td>
<td>Cover crop sensitivity to herbicides</td>
</tr>
<tr>
<td>Sprague, C. K. Rogers (M.S. Student), and K. Renner</td>
<td>Integrating cultural practices to aid in the management of glyphosate-resistant Palmer amaranth (includes cereal rye)</td>
</tr>
</tbody>
</table>

**SOIL FERTILITY**

<table>
<thead>
<tr>
<th>Authors</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steinke, K.</td>
<td>How to cover crops impact nutrient cycling temporally and spatially</td>
</tr>
</tbody>
</table>

**SOIL SCIENCE/HEALTH/BIOLOGY-OTHER**

<table>
<thead>
<tr>
<th>Authors</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kravchenko, S., K. Renner, A. Guber, and M. Thelen (New student coming soon)</td>
<td>Topographically diverse landscape influences on cover crop establishment and ecosystem services in corn and wheat cropping systems. Project GREEEN 2016, CRDF Global 2017-2019, USDA-Org Transition submitted</td>
</tr>
<tr>
<td>Snapp, S. et al.</td>
<td>Long Term Ecological Research with some rotations including cover crops</td>
</tr>
<tr>
<td>Tiemann, L.</td>
<td>Building soil health through rotational diversity and soil microorganisms. Foundation for Food &amp; Agricultural Research 2016</td>
</tr>
</tbody>
</table>

**PUBLICATIONS, EXTENSION/OUTREACH**

*New MI Cover Crop website launched in 2016- [www.covercrops.msu.edu]*

MSU EXTENSION NEWS ARTICLES AVAILABLE @ www.covercrops.msu.edu


PUBLICATIONS, REFEREED


Tumbalam, P., K. Hard, and K. Thelen. 2016. Integrating winter annual cereal rye or triticale into a corn forage biofuel production system, J Crop Improv. 30:526-530. DOI: 10.1080/15427528.2016.1189472.


*Not included on previous 2015 report*


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**PRESENTATIONS, EXTENSION**

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**Grower Field Days**

- Focus On Forages, Multiple locations in MI (D. Baas, C. Curell, and/or P. Gross)
- Bracy Ag Services Field Day, Quincy, MI (D. Baas)
- Bedford Farm Services Grower Meeting, Edmore, MI (D. Baas)
- MSU Agriculture Innovation Day: Focus on Soils, Frankenmuth, MI
  - Healthy soil- Dig a little, lean a lot (L. Tiemann and D. Baas)
  - Successful cover crops- From seed selection to planting techniques (E. Hill, K. Renner, A. Brooker)
  - How do your soils handle rain? Understand the impact of rainfall on various tillage and crops (P. Gross and J. Marshall)
  - Digging into the science of soil compaction: How to prevent, detect and alleviate soil compaction (F. Arriaga and M. Thelen)
- Blueberry Session at SW Hort Days, Benton Harbor, MI (D. Baas)
- 49th Annual Branch County Farmer’s Day, Coldwater, MI (C. Curell)
- Osceola-Lake Soil Health and Cover Crop Field Day, Marion, MI (C. Curell and P. Gross)
- Upper Peninsula Farmer to Farmer Learning Project - U.P. field days (P. Gross)
- Michigan Potato Industry Commision and MSU Field Day- Cover crops for potato rotations
  - Presque Isle Co, Hawks, MI (E. Hill)
  - Upper Peninsula, Rock, MI (E. Hill)
- Zilke Vegetable Farm Twilight Meeting- Cover crops for weed suppression, Milan, MI (D. Brainard, S. Tilton, and D. Noyes)
• Michigan Potato Industry Commision Research Committee Meeting and Montcalm Field Day- Impact of cover crop diversity in potato systems, Lakeview, MI (E. Hill)
• Kellogg Biological Station Grazing Dairy Field Day- Brassicas as a fall/winter feed source, Hickory Corners, MI (B. Wilke)
• Kellogg Biological Station Grazing School, Hickory Corners, MI (B. Wilke)
• MAEOE conference- Cover crop tour, Hickory Corners, MI (B. Wilke)

Grower Meetings
• Michigan Potato Industry Commission Winter Conference -Soil health research, East Lansing, MI (L. Tiemann)
• ADVANCED Master Gardener Training (webinar): The Hidden World of Soils (D. Baas)
• Pesticide Applicator Training, Centreville, MI (D. Baas)
• Focus on Your Crop Rotation-Ag Action Day Program 2016, Oshtemo, MI (D. Baas, and P. Gross)
• 2016 Great Lakes Intertribal Food Summit, Hopkins, MI (D. Baas, C. Curell, and/or P. Gross)
• Bass River Deer Creek Restoration Project - Cover Crops Workshop, Jenison, MI (D. Baas)
• Using Cover Crops for Nutrient Management and Soil Health, Multiple locations in MI (D. Baas, C. Curell, and P. Gross)
• Managing Cover Crops for Water Quality and Cash Crop Success Webinar (D. Baas)
• St. Joseph County IPM Breakfast Meeting Series, Centreville, MI (D. Baas)
• Chestnut Scouting Workshops, Clarksville and Traverse City, MI (D. Baas and C. Curell)
• Farmer Veteran Coalition Stakeholder Meeting, East Lansing, MI (P. Gross, and M. Thelen)
• Great Lakes Fruit, Vegetable, and Farm Market Expo- Asparagus session, Grand Rapids, MI (H. Melakeberhan, B. Werling, Z. Hayden, D. Baas)
• Ontario Fruit and Vegetable Conference, Niagara Falls, ON
  o Maintaining soils in vegetable crops- Soil Health Session (D. Brainard)
  o Reduced tillage and cover cropping in vegetables- Sustainable Horticulture Session (D. Brainard)
  o Cover crop residue management in cucurbits- Vegetable Session (D. Brainard)

Conservation Districts/NRCS/Drain Commission Field Days/Meetings
• Highland Ag and Natural Resources Conference, Cadillac, MI (D. Baas, C. Curell, and P. Gross)
• Missaukee Co. Soil Conservation District Annual Meeting, McBain, MI (P. Gross)
• Lenawee Center for Excellence Field Day, Clayton, MI
  o (C. Curell)
  o Overseeding corn with cover crops (K. Renner and A. Brooker)

Agribusiness Meetings
• DeKalb Seed Corn Growers meeting, Mason, MI (K. Renner and A. Brooker)

Other Tours/Meetings
• MAEAP Training- Sustainable Agriculture/Cover Crop Tour, Hickory Corners, MI (B. Wilke)

PRESENTATIONS, SCIENTIFIC/SOCIETY


### MICHIGAN STATE UNIVERSITY COURSES THAT DISCUSS COVER CROPS

- CSS 101- Introduction to Crop Science
- CSS101L- Introduction to Crop Science Lab
- CSS 201- Forage Crops
- CSS 212- Advanced Crop Production
- CSS 288- Principles of Weed Management
- CSS 360- Soil Biology
- CSS/BSE/FOR 467- BioEnergy Feedstock Production
- CSS480- Soil Fertility and Nutrient Management
- CSS 488- Agricultural Cropping Systems: Integration & Problem Solving
- ENT 205H- Pests Society and the Environment
- ENT 479- Organic Pest Management
- HRT 251- Organic Farming Principles and Practices
- HRT 341- Vegetable Production and Management