



NATIONAL CONFERENCE ON
**COVER CROPS
& SOIL HEALTH**
**HARVESTING
THE POTENTIAL**

DECEMBER 7 – 8 • INDIANAPOLIS, INDIANA

FINAL PROGRAM



THE HOWARD G.
BUFFETT
FOUNDATION


**HARVESTING
THE POTENTIAL**
FARMING TO FEED THE WORLD


SOIL
AND WATER
CONSERVATION
SOCIETY

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Use **#CoverCrops17** when tweeting about the conference and tag **@SWCSNews** so we can hear about your conference experience!

BECOME A MEMBER OF SWCS

The Soil and Water Conservation Society (SWCS) is the premier international organization for professionals who practice and advance the science and art of natural resource conservation. We believe sustainable land and water management is essential to the continued security of the earth and its people. Our goal is to cultivate an organization of informed, dynamic individuals whose contributions create a bright future for agriculture, the environment, and society.

WHAT WE DO

Advance knowledge. SWCS's exceptional publications, projects, and programs advance conservation science and the development of effective and sustainable management practices.

Support learning. SWCS provides high-quality educational opportunities, training, and technical resources that equip conservation professionals to achieve excellence.

Foster communication. SWCS shares important conservation news and research, and empowers conservation professionals to lead the discussion of natural resource conservation.

Advocate. SWCS advocates for conservation professionals and their work, and promotes science-based conservation practices, programs, and policies.

Build community. SWCS connects conservation professionals and partners in an active, supportive, and welcoming community.

SWCS MEMBERSHIP BENEFITS

- **Opportunities to network** with and learn from professionals from many disciplines through local, regional, and international meetings.
- Interaction and education through **local chapter membership** in the United States and Canada.
- Subscription to the ***Journal of Soil and Water Conservation***, a multidisciplinary journal of natural resources conservation research, practice, policy, and perspectives.
- **Effective representation** in policy circles on environmental, agricultural, and conservation issues.
- Subscription to a **monthly newsletter** of Society and chapter news and networking opportunities.
- Subscription to ***Conservation NewsBriefs***, a weekly compilation of the latest media coverage of soil and water conservation research and policy.
- **Member-only savings** on books and conference or workshop registration fees.

We are grateful for the opportunity to share a glimpse of our commitment to the future of conservation. With your help, we can continue to shape the next generation's ability to sustain and improve the quality of life we all enjoy.

Together, we are making a difference for tomorrow. Become a member today!

WWW.SWCS.ORG/JOIN

SWCS Membership Form

Instructions: Please complete, print, and return with payment to SWCS, 945 SW Ankeny Rd, Ankeny, IA 50023.

Name

Company/Organization

Home ☐ Business ☐ Street Address

City State/Province Zip/Postal

Phone

Email



Membership Level

Please select how you would like to receive the *Journal of Soil and Water Conservation*.

- ☐ \$275 President's Club Online ☐ Print* ☐
- ☐ \$180 Leader Online ☐ Print* ☐
- ☐ \$115 Conservationist Online ☐ Print* ☐
- ☐ \$40 Student - Students automatically receive the online version of the *Journal of Soil and Water Conservation*.
Students, please provide your anticipated graduation month and year:

Additional Options:

- ☐ \$40 I would like BOTH the Print and Online access to the *Journal of Soil and Water Conservation*.
- ☐ \$30 *International Postage (if receiving printed Journal outside the United States)

Additional contribution to support program development and advocacy:

- ☐ \$25 ☐ \$50 ☐ \$100 ☐ Other

Total:

Payment Options

- ☐ I want to pay by check. I will include a check for the above amount, payable to SWCS, in US funds on a US Bank.
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Account #: _____ Exp Date _____ Verification number _____

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Return this form with your payment to the address listed above.

Questions about membership? Call membership services 515-289-2331 ext 118 or email memberservices@swcs.org

AGENDA AT A GLANCE

National Conference on Cover Crops and Soil Health

December 7-8, 2017

Sheraton Indianapolis Hotel at Keystone Crossing

Thursday, December 7

7:00 AM – 5:30 PM	Registration Open
7:00 AM – 9:00 AM	Morning Coffee – <i>Plaza Ballroom Foyer</i>
8:15 AM – 9:00 AM	Welcome and Overview of Conference Goals – Iowa Secretary of Agriculture Bill Northey, Iowa Department of Agriculture and Land Stewardship (invited); Acting Chief Leonard Jordan, USDA Natural Resource Conservation Services (invited); Clare Lindahl, Soil and Water Conservation Society (SWCS) – <i>Plaza Ballroom</i>
9:00 AM – 10:00 AM	Keynote: Growing a Revolution – Bringing Our Soil Back to Life – David Montgomery, University of Washington – <i>Plaza Ballroom Foyer</i>
10:00 AM – 10:30 AM	Refreshment/Networking Break with Exhibitors – <i>Clearwater Ballroom and Foyer</i>
10:30 AM – 12:00 PM	Farmer Plenary Panel: Experiences with Cover Crops and Soil Health – Dan DeSutter, Indiana Farmer; Trey Hill, Maryland Farmer; Jimmy Emmons, Oklahoma Farmer – <i>Plaza Ballroom</i>
12:00 PM – 1:30 PM	Lunch with Exhibitors – <i>Clearwater Ballroom and Foyer</i>
1:30 PM – 3:00 PM	Afternoon Breakouts – <i>See Pages 8-9</i>
3:00 PM – 3:30 PM	Refreshment/Networking Break with Exhibitors – <i>Clearwater Ballroom and Foyer</i>
3:30 PM – 5:00 PM	Afternoon Breakouts – <i>See Pages 8-9</i>
5:00 PM – 7:00 PM	Exhibitor Reception – <i>Clearwater Ballroom and Foyer</i>

Friday, December 8

7:30 AM – 12:30 PM	Registration Open
7:30 AM – 9:00 AM	Morning Coffee – <i>Plaza Ballroom Foyer</i>
8:00 AM – 8:20 PM	Opening: Top Ten Ways Cover Crops Build Soil Health – Rob Myers, Sustainable Agriculture Research and Education (SARE) – <i>Plaza Ballroom</i>
8:20 AM – 9:30 AM	Plenary Session: Carbonomics – Keith Berns, Green Cover Seed and Nebraska Farmer – <i>Plaza Ballroom</i>
9:30 AM – 10:00 AM	Refreshment/Networking Break with Exhibitors – <i>Clearwater Ballroom and Foyer</i>
10:00 AM – 11:30 AM	Morning Breakouts – <i>See Pages 8-9</i>
11:45 AM – 12:15 PM	Wrap Up – Indiana State Conservationist Jane Hardisty, USDA-NRCS; Risa DeMasi, Grassland Oregon; Josh Payne, Missouri Farmer Moderator: Clare Lindahl, SWCS – <i>Plaza Ballroom</i>
12:30 PM – 5:00 PM	Optional Tours – <i>Meet in Hotel Lobby</i>

National Conference on Cover Crops and Soil Health

Breakout Schedule

Time	Thursday, December 7, 2017		
	<u>Track A</u> Basics of Cover Cropping <i>Suites 4&5</i>	<u>Track B</u> Advanced Cover Cropping Insights from Farmer Experts <i>Suites 8&9</i>	<u>Track C</u> Digging into Soil Health <i>Plaza A</i>
1:30 PM – 3:00 PM	1A: Introduction to Cover Crops Presenters: Sarah Carlson, Practical Farmers of Iowa; Will Glazik, BCS, LLC and Illinois Farmer Moderator: Sarah Carlson, Practical Farmers of Iowa	1B: Great Plains Perspective Presenter: Keith Berns, Green Cover Seed and Nebraska Farmer Moderator: Paul Jasa, University of Nebraska	1C: Soil Health Principles Presenters: Wayne Honeycutt, Soil Health Institute; Barry Fisher, USDA-NRCS (IN) Moderator: LaKisha Odom, Foundation for Food and Agriculture Research
3:30 PM – 5:00 PM	2A: Selecting and Establishing Cover Crops Presenters: Eileen Kladviko, Purdue University; Rodney Rulon, Indiana Farmer Moderator: Eileen Kladviko, Purdue University	2B: Central Corn Belt Perspective Presenter: Jamie Scott, Indiana Farmer Moderator: Lisa Holscher, National Association of Conservation Districts (IN)	2C: Soil Health Testing and Practices Presenters: Bianca Moebius-Clune, USDA-NRCS (DC); Brandon Smith, USDA-NRCS (NH) Moderator: Nick Goeser, Soil Health Partnership
Time	Friday, December 8, 2017		
	<u>Track A</u> Basics of Cover Cropping <i>Suites 4&5</i>	<u>Track B</u> Advanced Cover Cropping Insights from Farmer Experts <i>Suites 8&9</i>	<u>Track C</u> Digging into Soil Health <i>Plaza A</i>
10:00 AM – 11:30 AM	3A: Terminating Cover Crops Plus Strategies for Planting a Cash Crop Following Cover Crops Presenters: Dan DeSutter, Indiana Farmer; Josh Payne, Missouri Farmer Moderator: Anna Morrow, Midwest Cover Crops Council	3B: Eastern Perspective Presenters: Trey Hill, Maryland Farmer; Steve Groff, Pennsylvania Farmer Moderator: Andy Clark, USDA-SARE (MD)	3C: Soil Biology and Organic Matter Presenters: Jennifer Moore-Kucera, USDA-NRCS (OR); Ray Weil, University of Maryland Moderator: Kristen Veum, USDA-ARS (MO)

National Conference on Cover Crops and Soil Health

Breakout Schedule

Time	Thursday, December 7, 2017		
	<u>Track D</u> Cover Crop Role in the Cropping System <i>Suite 16</i>	<u>Track E</u> Economic and Environmental Aspects of Cover Crops <i>Plaza D&E</i>	<u>Track F</u> Special Topics with Cover Crops and Soil Health <i>Suites 6&7</i>
1:30 PM – 3:00 PM	1D: Cover Crops and Nutrient Management Presenters: Matt Ruark, University of Wisconsin; Shalamar Armstrong, Purdue University; Steven Mirsky, USDA-ARS (MD) Moderator: Jill Sackett Eberhart, Minnesota Board of Soil and Water Resources	1E: Economics of Cover Crops Presenters: Ken Rulon, Indiana Farmer; Alan Weber, MARC-IV and Missouri Farmer Moderator: Allison Thomson, Field to Market	1F: Organic and Specialty Crops Presenters: Danielle Treadwell, University of Florida; Chris Reberg-Horton, North Carolina State University; Erin Silva, University of Wisconsin Moderator: Nick Andrews, Oregon State University
3:30 PM – 5:00 PM	2D: Cover Crop Impacts on Diseases and Insects Presenters: Darin Eastburn, University of Illinois (retired); Eric Lee-Mäder, Xerces Society Moderator: Dean Baas, Michigan State University	2E: Business Opportunities with Cover Crops and Soil Health Presenters: Gary Farrell, Ag Enterprise Supply; Betsy Bower, Ceres Solutions; Risa DeMasi, Grassland Oregon Moderator: Dan Foor, La Crosse Seed	2F: Grazing Cover Crops Presenters: Justin Zahradka, North Dakota Farmer; Jimmy Emmons, Oklahoma Farmer Moderator: Kyle Vickers, Missouri Farmer
Time	Friday, December 8, 2017		
	<u>Track D</u> Cover Crop Role in the Cropping System <i>Suite 16</i>	<u>Track E</u> Economic and Environmental Aspects of Cover Crops <i>Plaza D&E</i>	<u>Track F</u> Special Topics with Cover Crops and Soil Health <i>Suites 6&7</i>
10:00 AM – 11:30 AM	3D: Cover Crops, Herbicides, and Dealing with Herbicide-Resistant Weeds Presenters: Bill Curran, Penn State University; John Wallace, Cornell University; Dan Towery, Ag Conservation Solutions Moderator: Chad Watts, Conservation Technology Information Center	3E: Environmental Impacts of Cover Crop Systems Presenters: Tom Kaspar, USDA-ARS (IA); Jim Hoorman, USDA-NRCS (OH); Sami Tellatin, NCR-SARE (OR) Moderator: Jason Weller, Land O'Lakes, Inc	3F: Soil Health Policy Issues Presenters: Tim Palmer, Iowa Farmer; Jim Moseley, Indiana Farmer; Ryan Stockwell, National Wildlife Federation Moderator: Alyssa Charney, National Sustainable Agriculture Coalition

CONFERENCE REGISTRATION AND FACILITY INFORMATION

The National Conference on Cover Crops and Soil Health registration desk is located on the second floor outside of the Plaza Ballroom. SWCS staff members will be on site to assist you.

REGISTRATION HOURS

Thursday 7:00 AM – 5:30 PM

Friday 7:30 AM – 12:30 PM

All participants are asked to check in at the registration desk to receive conference materials.

NAME BADGES

Your name badge serves as your admission ticket to all conference events and meals. Please wear your badge at all times during conference hours. For your safety, we do not recommend wearing your badge outside of conference hours or outside the conference hotel.

MEAL FUNCTIONS

Registration as a conference participant includes the refreshment breaks, luncheon, and Exhibitor Reception on Thursday. Refreshment breaks are also included on Friday. Additional tickets for guests to attend the luncheon and/or evening Exhibitor Reception on Thursday will be available at the registration desk until 9:00 AM Thursday. Tickets for the luncheon are \$50, and tickets for the Exhibitor Reception are \$40. Tickets are required for admission.

If you plan to attend a tour, there is a box lunch available for \$15. **The lunch must be purchased by 12:00 PM on Thursday.**

BREAKOUT SESSIONS

All participants were required to preregister for breakout sessions. The list of the sessions you selected appears on your name badge. Because space is limited, we are not able to make substitutions, and we ask that you only attend those sessions that appear on your badge. Session attendance will be on the honor system; therefore, if you enter a room that is full, you will need to select another breakout session to attend.

LOST AND FOUND

If you have lost or misplaced an item, please check with the SWCS registration desk or the front desk of the Hilton. Conference organizers and sponsors are not responsible for lost or stolen items.

MEDICAL SERVICES

For medical emergencies, please dial 911. For non-life threatening emergencies, dial “0” from any house phone or room phone.

TOURS

Charter buses will pick up outside the front entrance of the hotel, and signage will be provided to direct you to the appropriate bus. There is a quick turnaround time between the end of the conference and the tour departures, so we ask that you plan accordingly. Shuttles will depart on time, and refunds will not be issued if you miss the shuttle.

THANK YOU

We would like to thank the Howard G. Buffett Foundation for their generous support, which made this conference possible. We would also like to thank the program committee members for the time and energy they contributed to make this conference a success!

Clare Lindahl, Soil and Water Conservation Society – Co-Chair

Rob Myers, SARE/University of Missouri – Co-Chair

Jim Gulliford, Former SWCS CEO – Co-Chair

.....

Dean Baas, Michigan State University

Sarah Carlson, Practical Farmers of Iowa

Dan DeSutter, Indiana Farmer

Nicholas Goeser, National Corn Growers Association/Soil Health Partnership

Lisa Holscher, Indiana Conservation Cropping Systems Initiative

Wayne Honeycutt, Soil Health Institute

Kim Johnson-Smith, Soil and Water Conservation Society

Eileen Kladvko, Purdue University

Bianca Moebius-Clune, USDA National Resources Conservation Service

Anna Morrow, Purdue University

Jamie Scott, Indiana Farmer

Dan Towery, Ag Conservation Solutions

Harold Thompson, Soil and Water Conservation Society Hoosier Chapter

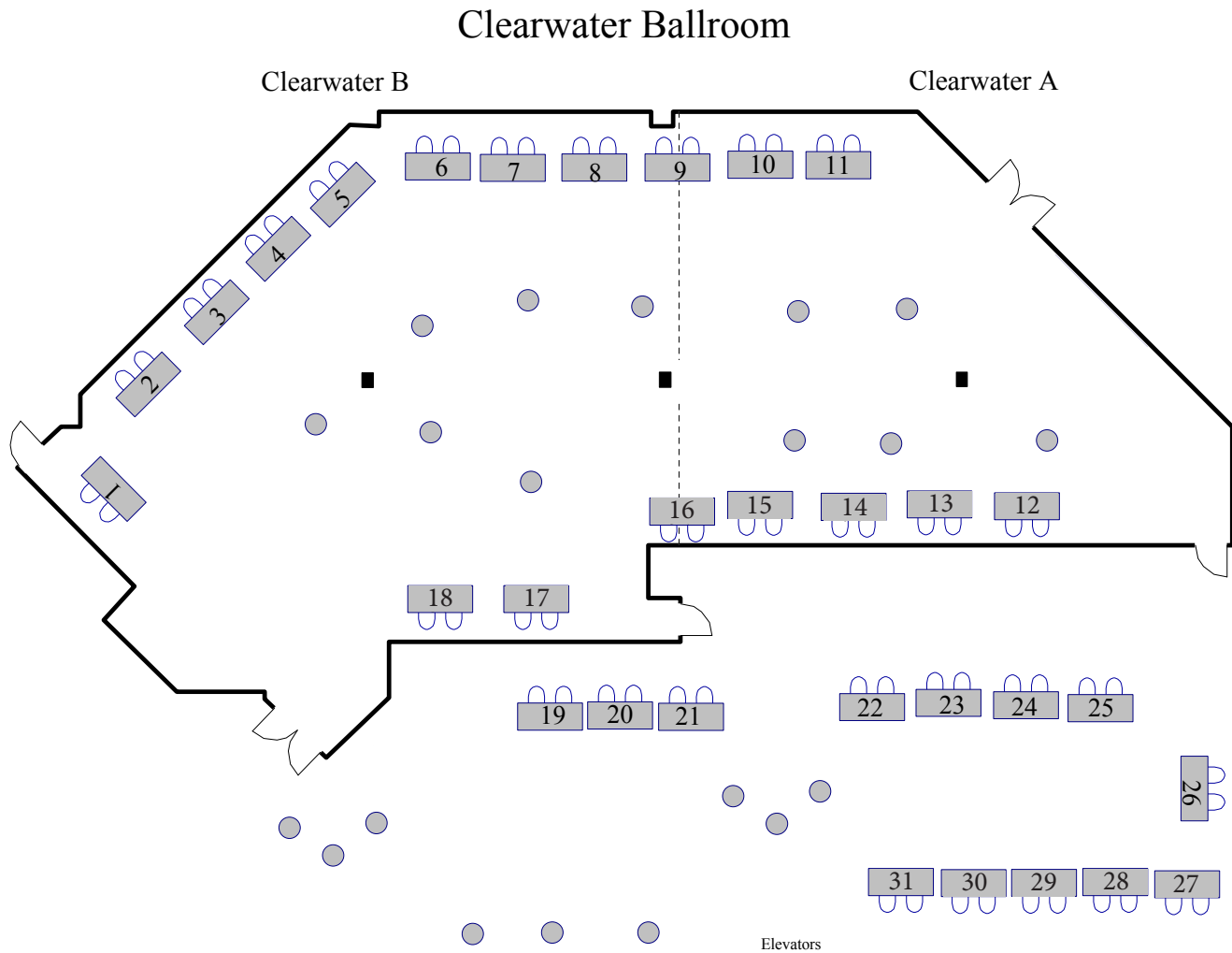
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EXHIBITOR INFORMATION

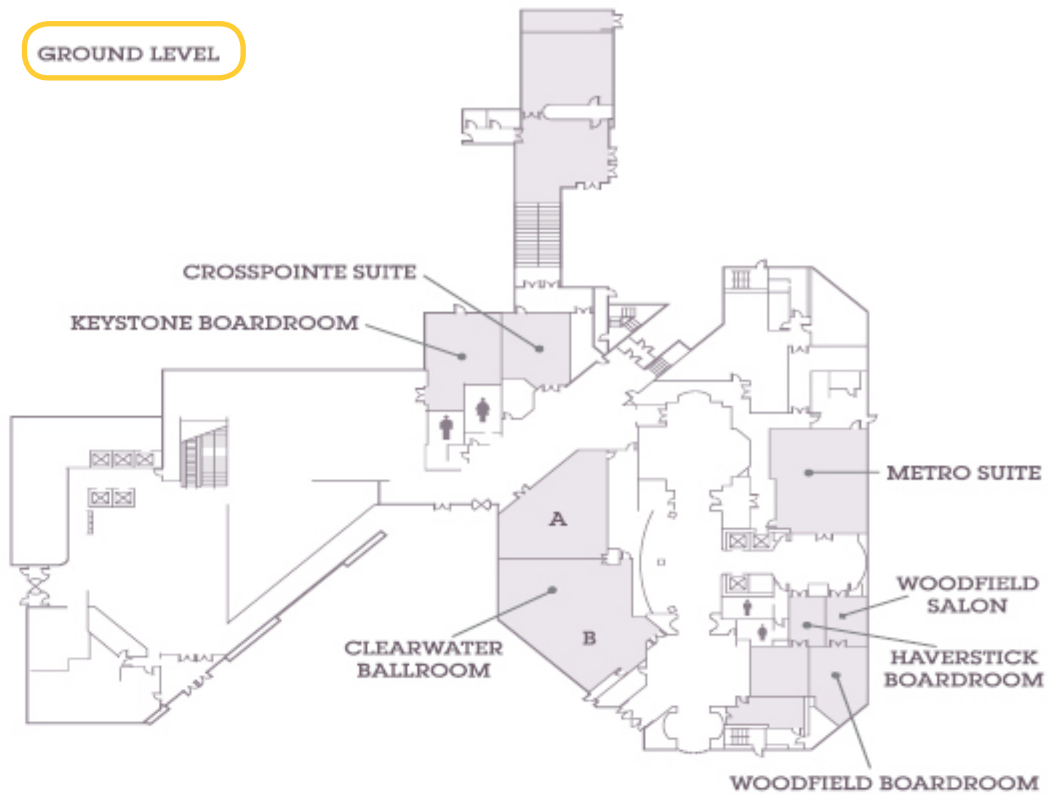
BOOTH	EXHIBITOR	CONTACT
1	Green Cover Seeds – greencoverseed.com	Keith Berns (keith@greencoverseed.com)
2	KB Seeds – KBseed.com	Nick Bowers (info@kbseed.com)
3	The Cisco Companies – ciscoseeds.com	Rachel Corpe (rachaelcorpe@ciscoseeds.com)
4	Midwest Cover Crops Council – mccc.msu.edu	Anna Morrow (annamorrow@purdue.edu)
5	Hershey Farms LLC – bzmanufacturing.com	Jim Hershey (jim.hershey@yahoo.com)
6	Soil Health Institute – soilhealthinstitute.org	Sheldon Jones (sjones@soilhealthinstitute.org)
7	SWCS – swcs.org	Clare Lindahl (clare.lindahl@swcs.org)
8	Truax – truaxcomp.com	MaryAnn Workman (truax3@qwestoffice.net)
9	Practical Farmers of Iowa – practicalfarmers.org	Sarah Carlson (sarah@practicalfarmers.org)
10	USDA-NRCS – nrcs.usda.gov	Becky Fletcher (rebecca.fletcher@in.usda.gov)
11	LaCrosse Seed – laxseed.com	Ben Addington (info@laxseed.com)
12	Natural Resources Defense Fund – nrdc.org	Lara Bryant (lbryant@nrdc.org)
13	USDA-SARE – sare.org	Andy Clark (aclark@sare.org)
14	NACD – nacdn.net	Beth Mason (Beth-Mason@nacdn.net)
15	National Center for Appropriate Technology (NCAT) – atna.ncat.org	Nina Prater (NinaP@NCAT.org)
16	Purdue Extension and Indiana SARE – extension.purdue.edu and northcentralsare.org/state-programs/Indiana	Walt Sell (wsell@purdue.edu)
17	ProHarvest Seeds – proharvestseeds.com	Doug Hansen (dough@proharvestseeds.com)
18	Center Seeds – centerseeds.com	Martin Ford (martin@centerseeds.com)
19	Dawn Biologic – dawnbiologic.com	Jeff Svedson (jsvendsen@dawnequipment.com)
20	Grassland Oregon – grasslandoregon.com	Risa DeMasi (risademasi@grasslandoregon.com)
21	The Nature Conservancy – tnc.org	Pipa Elias (pipa.elias@tnc.org)
22	AgriEnergy – agrienergy.net	Heather Hard (hhard@agrienergy.net)
23	Land O' Lakes SUSTAIN – landolakes.com	Jason Weller (jweller@landolakes.com)
24	Becks Superior Hybrids – beckshybrids.com	Ryan Moore (rmoore@beckshybrids.com)
25	Ward Laboratories – wardlab.com	Chelsie Michalewicz (chelsie@wardlab.com)
26	Saddle Butte Ag Inc – saddlebutte.com	Kathi Jenks (kathi@saddlebutte.com)
27	University of Missouri Soil Health Assessment Center – cafnr.missouri.edu	Donna Brandt (brandtdk@missouri.edu)

EXHIBITOR BOOTH DIAGRAM

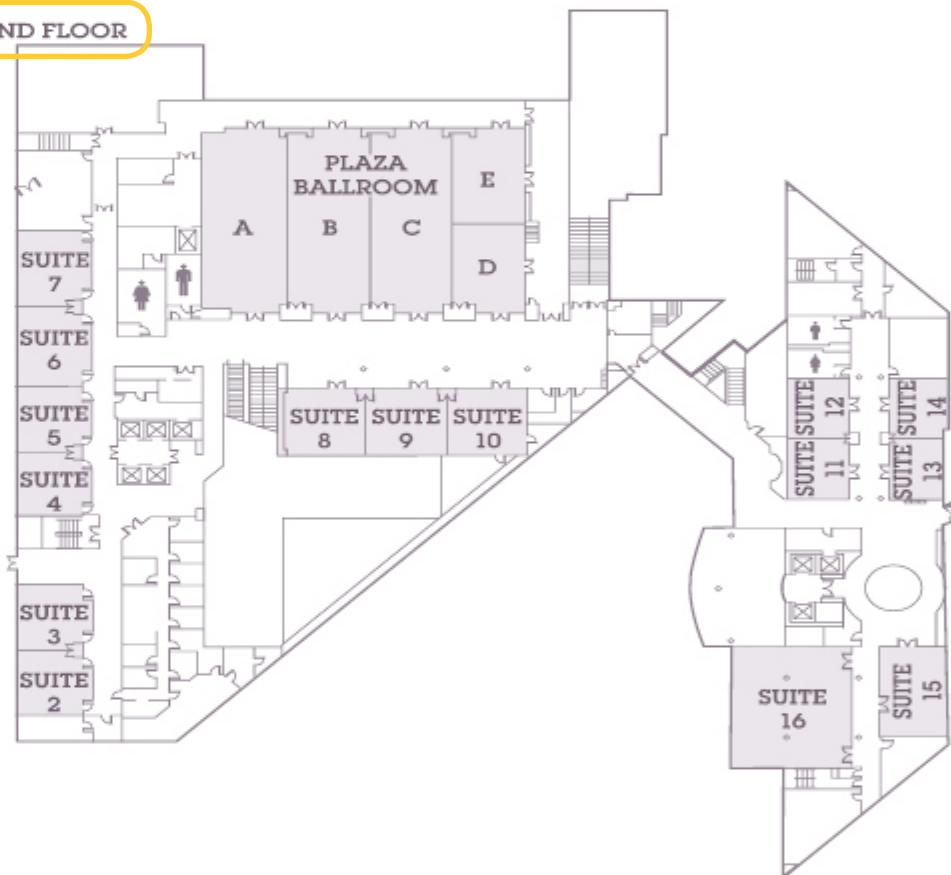


MAP OF HOTEL MEETING SPACE

GROUND LEVEL



SECOND FLOOR



THURSDAY, DECEMBER 7

SCHEDULE

7:00 AM – 9:00 AM	Morning Coffee – <i>Plaza Ballroom Foyer</i>
8:15 AM – 9:00 AM	Welcome and Overview of Conference Goals – Iowa Secretary of Agriculture Bill Northey, Iowa Department of Agriculture and Land Stewardship (invited); Acting Chief Leonard Jordan, USDA Natural Resource Conservation Services (invited); Clare Lindahl, Soil and Water Conservation Society (SWCS) – <i>Plaza Ballroom</i>
9:00 AM – 10:00 AM	Keynote: Growing a Revolution: Bringing Our Soil Back to Life – David Montgomery, University of Washington – <i>Plaza Ballroom</i>
10:00 AM – 10:30 AM	Refreshment/Networking Break with Exhibitors and Meet and Greet Book Signing with David Montgomery – <i>Clearwater Ballroom and Foyer</i>
10:30 AM – 12:00 PM	Farmer Plenary Panel: Experiences with Cover Crops and Soil Health – Dan DeSutter, Indiana Farmer; Trey Hill, Maryland Farmer; Jimmy Emmons, Oklahoma Farmer Moderator: Wayne Honeycutt, Soil Health Institute – <i>Plaza Ballroom</i>
12:00 PM – 1:30 PM	Lunch with Exhibitors – <i>Clearwater Ballroom and Foyer</i>
1:30 PM – 3:00 PM	Afternoon Breakouts – <i>See Pages 8-9</i>
3:00 PM – 3:30 PM	Refreshment/Networking Break with Exhibitors – <i>Clearwater Ballroom and Foyer</i>
3:30 PM – 5:00 PM	Afternoon Breakouts – <i>See Pages 8-9</i>
5:00 PM – 7:00 PM	Exhibitor Reception – <i>Clearwater Ballroom and Foyer</i>

EVENTS

KEYNOTE PRESENTATION

Growing a Revolution: Bringing Our Soil Back to Life

9:00 AM – 10:00 AM, Plaza Ballroom

Presenter: David Montgomery, University of Washington

One of the key lessons of history is as simple as it is stark: where the soil became degraded, communities and even whole countries failed and disappeared. Visits to farmers around the world show how innovative farmers combining farming practices from the past with modern science are at the vanguard of a soil health revolution that could reverse the ancient trend and bring humanity's ailing soil back to life remarkably fast. Combining previously popular practices of cover crops and diversified crop rotations with modern methods of no-till planting cultivates beneficial soil life and allows using less production costs, such as less diesel, fertilizers, or pesticides. These practices are good for farmers and the environment. Regenerative practices that build soil organic matter translate into farms that use less water, have less soil and nutrient loss, and build soil

organic matter while using less fossil fuel to maintain crop yields, build soil health, and improve farmers' bottom lines.

MEET AND GREET BOOK SIGNING WITH DAVID MONTGOMERY

10:00 AM – 10:30 AM, Clearwater Ballroom Foyer

Following David's presentation, participants are invited to visit with him in our exhibit area where he will have several of his award-winning books available for purchase and signing.

FARMER PLENARY PANEL

Experiences with Cover Crops and Soil Health

10:30 AM – 12:00 PM, Plaza Ballroom

Presenters: Dan DeSutter, Indiana Farmer; Jimmy Emmons, Oklahoma Farmer; Trey Hill, Maryland Farmer

Participants will have the opportunity to hear from Dan DeSutter (Indiana Farmer), Trey Hill (Maryland Farmer), and Jimmy Emmons (Oklahoma Farmer), three of the leading innovators in their respective regions on the use of cover crops and soil health practices.

These farmers have been using cover crops and no-till for many years, and they will share some of their experiences in trying new approaches to improving soil health, and the impact these practices have had on their soil and achieving their overall farm goals. Emmons and DeSutter also have livestock and will talk about the integration of cattle into their operations.

LUNCH WITH EXHIBITORS

12:00 PM – 1:30 PM, Clearwater Ballroom and Foyer

Grab a portable lunch from our BBQ buffet and mingle with exhibitors and conference participants. This is an opportunity to visit with farmers, potential business associates, and product suppliers. A ticket to the luncheon is included with your registration. If you wish to bring a guest, please visit the registration desk to purchase a ticket.

EXHIBITOR RECEPTION

5:00 PM – 7:00 PM, Clearwater Ballroom and Foyer

Conference participants are invited to visit vendors showcasing their newest technology, services, and products. Light hors d'oeuvres will be served along with a cash bar. A ticket to this event is included with your registration. If you wish to bring a guest, please stop by the registration desk to purchase a guest ticket.

BREAKOUT SESSIONS

THURSDAY, DECEMBER 7, 1:30 PM – 3:00 PM

Track 1A: Introduction to Cover Crops

Presenters: Sarah Carlson, Practical Farmers of Iowa; Will Glazik, BCS, LLC and Illinois Farmer

Moderator: Sarah Carlson, Practical Farmers of Iowa

Location: Suites 4&5

Are you new to cover crops? Our experts stand ready to answer your questions as a beginner during this session. Start the conference with basic information about cover crops including:

- What is a cover crop?
- What goals can cover crops help farmers meet?
- What problems on the farm and in the community can cover crops solve?
- How are cover crops selected, established, and terminated?

Track 1B: Great Plains Perspective

Presenters: Keith Berns, Green Cover Seed and Nebraska Farmer

Moderators: Paul Jasa, University of Nebraska

Location: Suites 8&9

Hear from a Nebraska farmer who will share his insight and experience integrating cover crops into his 2,500 acre farm. Session highlights include:

- Insights gained in working with thousands of customers across the western Corn Belt and High Plains
- Successes, failures, and emerging trends in cover cropping

Track 1C: Soil Health Principles

Presenters: Wayne Honeycutt, Soil Health Institute; Barry Fisher, USDA-NRCS (Indiana)

Moderator: LaKisha Odom, Foundation for Food and Agriculture Research

Location: Plaza A

Regenerating soil health and critical functions is key to achieving full soil productivity. During this session you will hear about the following soil health principles:

- How soil functions differ under different management practices and how those practices influence the entire ecosystem
- How key management principles can be used to provide a favorable habitat that allows the billions of soil organisms to provide vital services and begin the work of rebuilding soil health
- Outline of practical cropping system strategies to increase food and cover for enhancing soil life

Track 1D: Cover Crops and Nutrient Management

Presenters: Matt Ruark, University of Wisconsin; Shalamar Armstrong, Purdue University; Steven Mirsky, USDA-ARS (Maryland)

Moderator: Jill Sackett Eberhart, Minnesota Board of Soil and Water Resources

Location: Suite 16

The use of cover crops can have a significant impact in reducing nutrient losses in fields and affecting overall nutrient availability in soils. Speakers in this session will share some of the latest research on the impacts of cover crops on soil health including:

- How to fully utilize cover crops for the benefits of cash crop production, nutrient management, and soil health
- How different cover crop species impact soil nutrients under various soil types and management systems
- The impact of cover crops on water quality improvement

Track 1E: Economics of Cover Crops

Presenters: Ken Rulon, Indiana Farmer; Alan Weber, MARC-IV and Missouri Farmer

Moderator: Allison Thomson, Field to Market

Location: Plaza D&E

Speakers will provide a commercial family farm perspective, using real research data to quantify the economic impact of a never-till and cover crop production system. Highlights include:

- The economics of cover crops through the lens of a mid-sized diversified crop and livestock producer
- Economic impact of cover crops on Indiana and Missouri farms

Track 1F: Organic and Specialty Crops

Presenters: Danielle Treadwell, University of Florida; Chris Reberg-Horton, North Carolina State University; Erin Silva, University of Wisconsin

Moderator: Nick Andrews, Oregon State University

Location: Suites 6&7

Weed control in organic soybeans is notoriously difficult. Clean tilled soybeans work in dry years and are a disaster in wet years. Cover crop mulches provide an alternative that is cheaper and provides greater management flexibility. Unfortunately, these successes do not hold for corn and cotton. Come and learn what works with cover crop mulches and the many ways in which you can fail. Additional highlights include:

- Nitrogen rotation through legume cover crops as a key aspect of organic cash grain production
- Innovative strategies such as interseeding and organic no-till as options to expand cover crop opportunities and niches
- Ideas as to how to fit cover crops, particularly legumes, into the farm systems

THURSDAY, DECEMBER 7, 3:30 PM – 5:00 PM

Track 2A: Selecting and Establishing Cover Crops

Presenters: Eileen Kladvko, Purdue University; Rodney Rulon, Indiana Farmer

Moderator: Eileen Kladvko, Purdue University

Location: Suites 4&5

There are many considerations in selecting and establishing cover crops to meet your goals. This session will guide you on selecting cover crop species to meet your goals and address your concerns. Receive information about the different ways to seed cover crops and learn innovative ways farmers are ensuring their establishment.

- Learn to select cover crop species based on meeting your goals and addressing resource concerns
- Hear about less common cover crop species and where they may fit
- Discover the establishment method that best suits your land and operation

Track 2B: Central Corn Belt Perspective

Presenters: Jamie Scott, Indiana Farmer

Moderator: Lisa Holscher, National Association of Conservation Districts (Indiana)

Location: Suites 8&9

Your strategies for planning, implementing, and terminating cover crops depends on your region. The central Corn Belt perspective will provide those in that region tips on the following:

- Species selection based on goals and resource concerns of the central Corn Belt cover cropper
- Species selection, seeding, and terminating tips based on Midwest weather, soil, and conditions
- Resources and rules specific to central Corn Belt states

Track 2C: Soil Health Testing and Practices

Presenters: Bianca Moebius-Clune, USDA-NRCS (Washington, DC); Brandon Smith, USDA-NRCS (New Hampshire)

Moderator: Nick Goeser, Soil Health Partnership

Location: Plaza A

Receive high-quality assistance and soil health management planning from conservation planners with new in-field and laboratory soil health assessments, and obtain standardized, regional appropriate soil health indicators to provide consistency for monitoring the impact of management practices over time. Highlights of this session include:

- Identify soil health constraints that are not discernable by in-field qualitative methods
- Understand the impact of management decisions on soil health
- View updated national template for in-field qualitative soil health assessment
- Integrate soil health assessments into conservation planning

Track 2D: Cover Crops Impacts on Diseases and Insects

Presenters: Darin Eastburn, University of Illinois (retired); Eric Lee-Mäder, Xerces Society

Moderator: Dean Baas, Michigan State University

Location: Suite 16

Cover cropping represents a simple and powerful tool for sustaining pollinator and beneficial insect populations in agroecosystems. Mass pollen and nectar resources from flowering cover crops can fill a critical role in crop systems that may normally be devoid of food for beneficial insects (such as cereal grains). Use of cover crops to support beneficial insects is aligned with the traditional soil health goals of cover cropping. Highlights of this session include:

- Introduction and overview of the latest science and practice of pollinator and beneficial insect conservation using cover crop practices
- Conservation threats to pollinators and real world case studies of natural pest suppression by beneficial insects through the use of cover crops
- Experimental new cover crop species
- Management of cover crops to mitigate beneficial insect harm (such as pesticide risk reduction, termination practices)
- Results from a three-year study in western and east-central Illinois that evaluated the effects of several fall planted cover crops on disease development in following soybean crops

Track 2E: Business Opportunities with Cover Crops and Soil Health

Presenters: Gary Farrell, Ag Enterprise Supply; Betsy Bower, Ceres Solutions; Risa DeMasi, Grassland Oregon

Moderator: Dan Foor, La Crosse Seed

Location: Plaza D&E

What can the retail community do to promote cover crops to customers and find profit opportunities for companies as well? Be proactive in promoting change instead of reacting to it. This session will address cover crop challenges and opportunities from the retail and grower perspectives. Additional highlights include:

- Incorporating the soil health/cover crops discussion into customer discussions on the farm
- Learning from customers that use cover crops and no-till
- Being a partner in the Regional Conservation Partnership Program (RCPP) and learning how to work a host of different partners on a common goal
- How to arm farmers with an understanding that ag retailers can get involved

Track 2F: Grazing Cover Crops

Presenters: Justin Zahradka, North Dakota Farmer; Jimmy Emmons, Oklahoma Farmer

Moderator: Kyle Vickers, Missouri Farmer

Location: Suites 6&7

Early cover crop grazing in the spring combined with late grazing in the fall can reduce livestock feed costs, grow profits, and increase the quality of life for the farmer by reducing the amount of labor needed. Potentially growing two crops in one year on the same piece of land maximizes productivity per acre while building soil health. Highlights of this session include:

- Nutritional value of cover crops for beef and beef weight gain results while grazing cover crops
- Aerial seeding of cover crops into corn, soybean, and wheat, and extending the grazing season with cover crops
- Temporary fence design and monitoring for grazing cover crops
- How to increase cooperation among crop production and livestock production
- Profitability in grazing covers and using animals in covers to help soil biology

FRIDAY, DECEMBER 8

SCHEDULE

7:30 AM – 9:00 AM	Morning Coffee – <i>Plaza Ballroom Foyer</i>
8:00 AM – 8:20 AM	Opening Plenary: Top Ten Ways Cover Crops Build Soil Health – Rob Meyers, Sustainable Agriculture Research and Education (SARE) – <i>Plaza Ballroom</i>
8:20 AM – 9:30 AM	Plenary Session: Carbonomics – Keith Berns, Nebraska Farmer and Green Cover Seed – <i>Plaza Ballroom</i>
9:30 AM – 10:00 AM	Refreshment Break with Exhibitors – <i>Clearwater Ballroom and Foyer</i>
10:00 AM – 11:30 AM	Morning Breakouts – <i>See Pages 8-9</i>
11:45 AM – 12:15 PM	Wrap Up – Indiana State Conservationist Jane Hardisty, USDA-NRCS; Risa DeMasi, Grassland Oregon; Josh Payne, Missouri Farmer Moderator: Clare Lindahl, SWCS – <i>Plaza Ballroom</i>
12:30 PM – 4:30 PM	Optional Tours – <i>Meet in Hotel Lobby</i>

EVENTS

OPENING

Top Ten Ways Cover Crops Build Soil Health

8:00 AM – 8:20 AM

Presenter: Rob Myers, USDA North Central Region Sustainable Agriculture Research and Education (SARE)

This presentation will cover the top 10 ways that cover crops can improve soil health. More specifically, information will be provided on how cover crops affect soil biology, organic matter, physical and chemical properties, and overall health. Examples include the role of cover crops with nutrient dynamics, biodiversity, soil aeration and structure, and soil carbon. Connections between crops, livestock, and soil health will be discussed as well how other management practices relate to cover crops and soil health.

PLENARY SESSION

Carbonomics

8:20 AM – 9:30 AM

Presenter: Keith Berns, Green Cover Seed and Nebraska Farmer

A unique approach to looking at the big picture of soil health by comparing the economy of a country to the underground economy of the soil. The complex relationship between plants, soil, and biology and how they are interconnected and interdependent will

be discussed. Economic fundamentals of supply, demand, currency, capital, energy, resources, infrastructure, and defense will be applied to the bustling subterranean economy of a healthy soil system. The role of carbon as the currency that facilitates interactions between plants, soil, and biology in this system will be discussed.

TOURS

Tour 1: Measuring Water Quality Benefits of Soil Health Management Systems

Little Ireland Farms and M & J Starkey Farms, Brownsburg, Indiana

12:30 PM – 4:30 PM

Meet in lobby of hotel on first floor

Attendees of this tour will see and hear from researchers and conservation professionals comparing the impacts of conventionally tilled farming systems, no-till/cover-crop farming systems, and urban-residential area on water quality in a nine square mile watershed. For over five years, Little Ireland Farms and M & J Starkey Farms have been the sites of extensive water quality research in the School Branch watershed. Nested in the Eagle Creek watershed, School Branch eventually drains into Eagle Creek Reservoir, a primary drinking water source for Indianapolis. The tour will highlight monitoring installations including edge-of-field

monitoring, bioreactors, stream gauges, monitoring wells, soil moisture probes, and weather stations—the combination of which allows for in-depth research on the impacts of soil health practices. A box lunch will be provided on the shuttle for those who purchased one.

Please wear appropriate footwear for in-field walking and clothing appropriate for central Indiana winters. An alternate indoor facility will be used if the weather is inclement.

Tour 2: Economic Opportunities of Soil Health Management Systems

Rulon Enterprises, Arcadia, Indiana

12:30 PM – 4:00 PM

Meet in lobby of hotel on first floor

Participants of this tour will have the opportunity to hear more from Ken and Rodney Rulon on the economic returns of cover crops and their overall strategy to implement a highly sustainable production system that provides excellent yields, minimal environmental impact, and improved resilience in their soils. Attendees will also have the opportunity to tour research plots and hear results of long-term cover crop research on the Rulon farm. Rodney, Ken, and Roy Rulon own the fourth-generation family farming operation. The operation includes more than 6,000 acres of no-till corn and soybeans, a farrow-to-finish hog operation, seed dealership, a subscription-based agriculture discussion group, and a custom drainage design and installation business. A box lunch will be provided on the shuttle for those who purchased one.

The bulk of this tour will be held in a heated farm shop; however, we recommend you wear appropriate footwear for in-field walking and clothing appropriate for Indiana winters.

BREAKOUT SESSIONS

FRIDAY, DECEMBER 8, 10:00 AM – 11:30 AM

Track 3A: Terminating Cover Crops Plus Strategies for Planting Cash Crop Following Cover Crops

Presenters: Dan DeSutter, Indiana Farmer; Josh Payne, Missouri Farmer

Moderator: Anna Morrow, Midwest Cover Crops Council

Location: Suites 4&5

Timing of cover crop termination can determine soil health benefits and ease of establishing a following cash crop. Your termination approach can also affect

the other benefits you get out of your cover crops including weed control in your following cash crop system. This session will delve into:

- Various cover crop termination methods including herbicides, crimping, etc.
- Succeeding cash crop planting strategies for success

Track 3B: Eastern Perspective

Presenters: Trey Hill, Maryland Farmer; Steve Groff, Pennsylvania Farmer

Moderator: Andy Clark, USDA-SARE (Maryland)

Location: Suites 8&9

It takes overcoming a lot of uncomfortableness to cover crop and plant green. This session will discuss planting green and the trials and tribulations over the last 10 years. Session highlights include:

- Tips and tricks for successful termination of cover crops like annual ryegrass, cereal rye, and legumes
- Understanding timing, method, and the current weather situation to maximize cover crop benefits and cash crop establishment
- Finding balance in how green and how much biomass is a good balance to attain high yields
- Developing processes that help the farm system as a whole (i.e. putting rape in the cover crop to help pollinators early in the season)

Track 3C: Soil Biology and Organic Matter

Presenters: Jennifer Moore-Kucera, USDA-NRCS (Oregon); Ray Weil, University of Maryland

Moderator: Kristen Veum, USDA-ARS (Missouri)

Location: Plaza A

Gaining a better understanding of how soil biology and soil organic matter are impacted by management decisions is important for improving soil health. Highlights of this session include:

- Creating a field environment that helps soil organisms thrive
- Understanding the interactions among soil organisms, of which there may be trillions in a single acre
- Building soil organic matter and feeding the food web—how cover crops pay by improving the soil ecosystem in a way that supports cash crops

- Digging into the various forms of soil organic matter, some of which exist short term and some of which benefit the soil and soil biology over the long term

Track 3D: Cover Crops, Herbicides, and Dealing with Herbicide-Resistant Weeds

Presenters: Bill Curran, Penn State University; John Wallace, Cornell University; Dan Towery, Ag Conservation Solutions

Moderator: Chad Watts, Conservation Technology Information Center

Location: Suite 16

Though delaying cover crop termination shows potential for improving weed management, there are several factors (e.g., equipment limitations, growing season windows, and pest management) that may prevent adoption of this practice. What is the most important limiting factor? You will leave this presentation with a better understanding of how herbicide selection can influence cover crop success. Highlights include:

- How environmental conditions and soil type influence herbicide dissipation
- How integrating cover crops into annual grain rotations can help diversify weed management and preserve the use of effective herbicides in conservation tillage systems
- How new cover cropping strategies that allow for delayed cover crop termination and greater cover crop biomass accumulation can improve weed suppression and herbicide management in annual grain systems
- Outline of potential agronomic tradeoffs that might limit the adoption of these new strategies

Track 3E: Environmental Impacts of Cover Crop Systems

Presenters: Tom Kaspar, USDA-ARS (Iowa); Jim Hoorman, USDA-NRCS (Ohio); Sami Tellatin, NCR-SARE (Oregon)

Moderator: Jason Weller, Land O' Lakes, Inc.

Location: Plaza D&E

This presentation will discuss how farmers from across the United States manage cover crops on their farms to achieve their soil loss prevention and water infiltration goals, as well as address misconceptions

on nitrate losses to surface and ground water.

Highlights include:

- Why improving nitrogen fertilizer management is a good first step, but why it won't stop nitrate leaching losses
- Utilizing grass cover crops to improve soil structure, increase water infiltration, and reduce water and phosphorus runoff
- Phosphorus soil dynamics
- How cover crops can decrease soil losses from erosion by up to 100% and increase infiltration six-fold in some systems
- How to manage cover crops to produce the same results on your own

Track 3F: Soil Health Policy Issues

Presenters: Tim Palmer, Iowa Farmer; Jim Moseley, Indiana Farmer; Ryan Stockwell, National Wildlife Federation

Moderator: Alyssa Charney, National Sustainable Agriculture Coalition

Location: Suites 6&7

This session will provide remarks from each of the presenters on both current and needed approaches to federal and state policy as it pertains to soil health. This will include discussion of the connection between conservation and crop insurance, existing Natural Resources Conservation Service programs such as the Environmental Quality Incentives Program (EQIP) and Conservation Stewardship Program (CSP), and state-level opportunities. There will be opportunity for audience questions and discussion with the panel after their remarks. Highlights of this session include:

- The effect of soil health on general environmental and ag economic health
- Roadblocks to adoption, including farmer criticism and national policy
- Challenges over the next three decades to provide food/fiber/fuel while improving global soil health productivity
- Breaking adherence of cultural norms of present farming standards and looking at the economic impact of well-accomplished soil improvement

SPEAKERS

PLENARY PRESENTERS



Secretary Bill Northey is a fourth generation farmer from Spirit Lake, Iowa, who grows corn and soybeans. He returned to Spirit Lake to farm with his grandfather after graduating from Iowa State University in 1981. Northey, who ran on a platform of expanding opportunities in renewable energy, promoting science and technology to better conserve our air, soil, and water, and telling the story of Iowa agriculture, was elected into office as Iowa Secretary of Agriculture in 2006 and reelected 2010 and again in 2016. As Secretary, Northey has committed to traveling to each of Iowa's 99 counties every year to hear from farmers and rural residents with a stake in the future of agriculture. These meetings allow him to listen to their needs and better lead the Iowa Department of Agriculture and Land Stewardship as it seeks to serve the people of the state. Northey has been a leader in a variety of farm groups and was named a "Friend of Agriculture" by the Iowa Farm Bureau Political Action Committee in 2006 and 2010.



Acting Chief Leonard Jordan has been with the Natural Resources Conservation Service for over 37 years. Prior to being named Acting Chief, he served as the NRCS' Associate Chief for Conservation. In this role, Leonard led the agency's conservation mission area, including all of NRCS' conservation programs. Prior to serving in this position, Leonard served as the Regional Conservationist for the Southeast where he provided direction on NRCS programs and activities in the Southeast region. During his distinguished career with NRCS, Leonard has worked in a variety of positions across the agency's disciplines. Before becoming Regional Conservationist, Leonard was Deputy Chief for Strategic Planning and Accountability. He has also served as Division Director of Conservation Planning and Technical Assistance, Director of the Conservation Easement Programs Division, and was State Conservationist for both Georgia and Washington State.



Clare Lindahl became the CEO of the Soil and Water Conservation Society in August of 2017. In her role, Clare leads the international organization's efforts to advance science-based conservation practice, programs, and policy. She previously served as the Executive Director for Conservation Districts of Iowa and as Natural Resources Program Manager with River Action, a not-for-profit organization dedicated to fostering the environmental, economic, and cultural vitality of the Mississippi River and its riverfront in the Quad Cities. Clare has worked with communities and farmers through the Scott County Soil and Water Conservation District and Partners of Scott County Watersheds in Davenport to improve water quality in Duck Creek and other local streams that flow into the Mississippi River. She holds a degree in landscape architecture from Iowa State and received her post-baccalaureate certificate in environmental geographic systems from Western Illinois University.



Jane Hardisty has served as the State Conservationist of the Natural Resources Conservation Service (NRCS) in Indiana for over 17 years where she oversees the agency's technical assistance and programs available to private landowners that help protect the environment and conserve our natural resources through voluntary, private lands conservation. Jane's career with NRCS began at the field level where she served in various conservation positions. Because of her experience and expertise, Jane is often sought by national leaders to lead a special taskforce or take on national assignments. Jane was appointed to coordinate the agency's soil health effort in 2011, and she continues to stay involved in the State Conservationist's Advisory Board on Soil Health. She is a graduate of Ball State University where she studied natural resources, geography, and biology. Jane lives on the family farm in Hancock County, Indiana, near her parents.



David Montgomery is a MacArthur Fellow and professor of geomorphology at the University of Washington. He is an internationally recognized geologist who studies landscape evolution and the effects of geological processes on ecological systems and human societies. An author of award-winning popular-science books (*Dirt: The Erosion of Civilizations*, *The Rocks Don't Lie*, and *The Hidden Half of Nature*), he has been featured in documentary films, network and cable news, and on a wide variety of TV and radio programs, including NOVA, PBS NewsHour, Fox and Friends, and All Things Considered. When not writing or doing geology, he plays in the band Big Dirt. He lives in Seattle with his wife Anne Biklé and their black lab guide-dog dropout Loki.



Dan DeSutter farms 4,500 acres in west-central Indiana with his wife and three sons. Formerly a financial analyst and commodity broker, Dan uses no-till, cover crops, and manure to improve soil quality while maintaining high levels of crop production. In 2013, he was selected National No-Till Innovator of the year. A partner in Hoosier Grassfed Beef, Dan is active in his community and has served as president of the Attica School Board and the Attica Community Foundation. He is also an avid pilot and skier.



Jimmy Emmons is a third generation family farmer and rancher. He and his wife Ginger operate 2,000 acres of farmland and about 7,000 acres of rangeland. They have been no-tilling since 1995 and cover cropping with a soil health system for the last six years. The system includes a diverse rotation of crops as well as Adaptive Multi-Paddock (AMP) grazing of covers and native range management. The range management includes rotational grazing as well as intensive grazing or AMP grazing on target areas or paddocks.



Trey Hill is a fourth generation grain farmer from Rock Hall, Maryland, who tills corn, wheat, and soybeans. Trey holds a degree in farm management and economics from Purdue University. He currently sits on the board of the Sassafras River Association and the Hughes Center for Agroecology. Trey has been committed to improving agriculture sustainability and is leading the way in responsible agriculture and bridging the gap between environmentalists and agriculturalists. He believes that with the right farming practices, farmers can improve the quality of life, land, and waterways.



Rob Myers is Regional Director of Extension Programs for the USDA North Central Region Sustainable Agriculture Research and Education (SARE) program. He oversees a number of projects related to cover crops and soil health both regionally and nationally for the SARE program. He also holds an appointment as an adjunct faculty member in the Plant Sciences Division at University of Missouri. His professional expertise encompasses sustainable agriculture, conservation, cover crops, and soil health. He has done field research on cover crops and is a frequent speaker on topics related to cover crops and soil health. He recently served as co-chair of the National Working Group on Cover Crops and Soil Health. His PhD in agronomy is from University of Minnesota, and he grew up on a family farm in central Illinois.

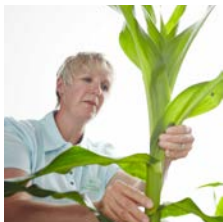


Keith Berns combines over 20 years of no-till farming with 10 years of teaching agriculture and computers. In addition to no-tilling 2,500 acres of irrigated and dryland corn, soybeans, rye, triticale, peas, sunflowers, and buckwheat in south-central Nebraska, he also co-owns and operates Green Cover Seed, one of the major cover crop seed providers and educators in the United States. Through Green Cover Seed, Keith has experimented with over 100 different cover crop types and hundreds of mixes and has learned a great deal about cover crop growth, nitrogen fixation, moisture usage, and grazing utilization of cover crops. Keith also developed the SmartMix Calculator, one of the most widely used cover crop selection tools on the Internet.

BREAKOUT PRESENTERS



Shalamar Armstrong is an assistant professor of agronomy with a focus area of soil conservation and management at Purdue University. Currently, he is the director of the Soil Ecosystem and Nutrient Dynamics Laboratory at Purdue University and the Nitrogen Management Research Field Station in Lexington, Illinois. The overarching goal of his research program is to determine the agronomic, environmental, and economic benefits of cover crop inclusion within conventional and alternative cropping and nutrient management systems. Within the last seven years, the impact of Shalamar's research program has been recognized on a national level by several awards and numerous invited presentations to share his research findings with farmers, agricultural commodity groups, extension agents, and state/government soil conservation agents.



Betsy Bower has been a trusted agronomic voice for over 25 years in the Indiana agriculture community. Betsy works as a professional certified crop adviser for Ceres Solutions Cooperative, a large retailer operating more than 40 agronomy service locations across Indiana and into Michigan. Betsy's areas of expertise include working with no-till and conventional customers on improving their cropping system regarding nutrient management and pest control. Betsy holds a degree in agronomy from Purdue University and a master's degree in agronomy from the University of Nebraska. For almost 10 years, she has been instrumental in developing success strategies for farmers in the areas of conservation agronomy and resource management. Betsy is trusted to help develop programs for nitrogen management, cover crops, and soil moisture management.



Sarah Carlson is the Midwest Cover Crop Director for Practical Farmers of Iowa. She helps transfer agronomic research about cover crops and small grains through supply chain projects, articles, blogs, and presentation materials, while working to improve the support for cover crop and small grains research. She also serves as the staff agronomist transferring ideas for solutions to integrated crop and livestock concerns from farmers' stories, results from on-farm research projects, as well as her own knowledge as a trained agronomist. Sarah has a degree in biology and geography from Augustana College. Following her Peace Corps service as an ag-business and ag extension volunteer in Ecuador, Sarah returned to the Midwest and completed her master's degree in sustainable agriculture and crop production/physiology at Iowa State University.



Bill Curran is a professor in the Penn State Department of Plant Science. Bill has an extension-research split and has statewide responsibilities for weed management education in agronomic crops. His extension program focuses on providing his agriculture constituents with the latest weed management information and his extension program is very much tied to his applied research program. He regularly develops outreach information that includes annual production of the *Mid-Atlantic Weed Management Guide*, targeted factsheets on problem weeds, and timely newsletter articles. Bill conducts research on weed biology and ecology, integrated weed management, and weed management in conservation tillage systems; and has a long history of conducting research focused on cover crop management.



Risa DeMasi grew up on a beef farm in Oregon, learning the value of hard work and the volatility of agriculture. She began her seed career at Olsen-Fennell Seeds and held numerous positions in the company. In 2000, she co-founded Grassland Oregon, which functions as a breeder, producer, and provider of a wide range of seed products and knowledge, including a focus on cover crops. At Grassland Oregon, Risa oversees marketing, sales, education, and government affairs. In 2013, Risa became the first woman to serve as an officer of the American Seed Trade Association (ASTA) in its 130-year history and served as chairman of the Board in 2015-2016. She remains on ASTA's Board and has helped to create and develop the Cover Crop Working Group, which continues to advance the industry's interests through national and international policy debates.



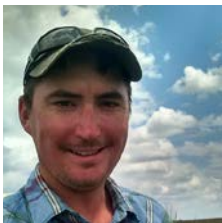
Darin Eastburn is an emeritus professor of plant pathology in the Department of Crop Sciences at the University of Illinois at Urbana-Champaign. He received his bachelor's degree in botany from Humboldt State University in California, and his master's and PhD degrees in plant pathology from the University of California, Davis. He joined the faculty at the University of Illinois as an extension specialist, working with the commercial vegetable production industry. He later transitioned to a research/teaching position, and his research focused on soilborne fungi, the effects of environment on disease development, and on alternative plant disease management strategies. Recent projects included studies on disease aspects during the transition to organic production, on the effects of climate change on corn and soybean diseases, and on effects of cover crops on diseases in soybeans.



Gary Farrell grew up on a dryland farm in northwestern Idaho. After school he went to work in the retail fertilizer and agriculture chemical business, where he has spent the last 42 years. For the last 31 years Gary has owned and operated his own company, serving the crop production needs of his customers in the eastern Washington dryland market. He is the past chairman of the Ag Retailers Association, a member of the National Cover Crop Committee, and currently serves as co-chairman of the Washington State Soil Health Committee.



Barry Fisher, the Central Region Leader for the Soil Health Division of USDA-NRCS, provides soil health management systems technical leadership, training, and assistance to NRCS, farmers, and partners throughout the Corn Belt and Northern Plains. He assists with state and regional conservation cropping systems initiatives, serves on the National Soil Health Training Cadre for NRCS, and represents NRCS on the Midwest Cover Crops Council and North Central SARE Advisory Council. Barry was recently recognized as one of the 25 Living Legends of No-Till and was given the Conservation Legacy Award from NRCS for his contribution to the "Unlock the Secrets of the Soil" campaign. Barry is also a certified crop advisor, and he and his wife operate a cash grain and livestock farm in west-central Indiana.



Will Glazik is a graduate of the University of Illinois in crop sciences, where he specialized in soils and fertility. After graduation he started working in retail fertilizer and has continued to use cover crops as a way to maximize nutrient cycles, weed control, and slow erosion. Will also farms and utilizes cover crops on every acre each year, which gives him the opportunity to experiment with new cover crops and cover crop mixes.



Steve Groff and his family farm 265 acres of cash grain crops, pumpkins, and heirloom tomatoes in Lancaster County, Pennsylvania. For the past 22 years, his Cedar Meadow Farm has conducted thousands of cover crop research trials, out of which he developed the well-known Tillage Radish. Steve founded Cover Crop Coaching, a business that "trains the trainers" on how to talk to farmers about effective cover crop use.



Wayne Honeycutt is the president and CEO of the Soil Health Institute, where he leads the Institute's programs to safeguard and enhance the vitality and productivity of soils. He previously served for 5 years as the Deputy Chief for Science and Technology with USDA-NRCS in Washington, DC; and for 10 years as a Research Leader and 14 years as a Research Soil Scientist with the USDA-ARS New England Plant, Soil, and Water Laboratory. Wayne's commitment to agriculture is rooted in his experiences with raising tobacco, corn, and other crops on his family's 120-acre farm in Metcalfe County, Kentucky. He holds a bachelor's degree in forestry and master's degree in soil science from the University of Kentucky, and a PhD in soil genesis from Colorado State University.



Jim Hoorman is the new NRCS Northeast Soil Health Specialist for Ohio and Michigan. He was an assistant professor and extension educator for Ohio State University Extension for 25 years specializing in soil health, cover crops, nutrient recycling, and water quality. Jim has worked with cover crops and no-till for over 15 years promoting soil health principles throughout the United States and the world.



Tom Kaspar is a plant physiologist at the USDA-ARS National Laboratory for Agriculture and the Environment in Ames, Iowa, and has been with ARS since 1981. Over his career, his research has focused on crop and soil management to improve water quality and soil productivity. Since 1990, he has worked on the benefits and management of winter rye as a cover crop in corn and soybean rotations in Iowa.



Eileen J. Kladvik is professor of agronomy at Purdue University, where she teaches and does research and extension work in soil physics, soil biology, and soil management. Her research studies have included cover crops, soil health, earthworms, no-till, drainage, and water quality over the past 35 years. She is a founding member of the Midwest Cover Crops Council.



Eric Lee-Mäder is the Pollinator Conservation and Agricultural Biodiversity Co-Director at the Xerces Society for Invertebrate Conservation. In this role, Eric works across the world with farmers, major food companies, and agencies such as the USDA-NRCS and the United Nations Food and Agriculture Organization to enhance biodiversity in agricultural lands. Since 2008, Eric and his team have supported large-scale habitat restoration for pollinators across more than 400,000 acres throughout the United States. Eric's professional background includes previous work as an extension farm educator, commercial beekeeper, and crop consultant for the seed industry. Eric is the author of several books, including the best-selling *Attracting Native Pollinators* and *Farming with Beneficial Insects: Strategies for Ecological Pest Management*.



Steven Mirsky is a research ecologist for the USDA-ARS in the Sustainable Agricultural Systems Laboratory located in Beltsville, Maryland. His formal training includes an MS in soil science/fertility and PhD in agronomy. Steven conducts research on the multifunctional role of cover crops and the extent to which they influence field crop production including crop productivity, weed suppression, nitrogen and water use efficiency, and carbon and nitrogen cycling. His program focuses heavily on how cash and cover crop management, soil, and climate influence cover crop performance and the services provided. Steven serves as project director for the National Legume Cover Crop Breeding program, partners with The Noble Research Institute on cereal and brassica cover crop breeding, and is chair of the Northeast Cover Crop Council.



Bianca Moebius-Clune directs the USDA-NRCS Soil Health Division in Washington, DC, and has led the deployment of its staff of regional and national specialists who provide training, technical assistance, science and technology acquisition, and leadership to the soil health movement across the country. Bianca came to the agency from Cornell University, where she was a Senior Extension Associate and Lecturer with research and extension responsibilities in soil health assessment and management and in weather-based precision nitrogen management. She has authored numerous peer-reviewed and extension publications and has provided workshops and trainings nationally and internationally. Bianca has conducted research on agricultural management impacts on soil health and nitrogen dynamics in the Northeast and Midwest, as well as in Kenya, and developed a framework for soil health management planning. She holds PhD and MS degrees from Cornell University and a BS from University of New Hampshire, all in soil science.



Jennifer Moore Kucera is the West Regional Soil Health Team Leader for the NRCS Soil Health Division, where she leads a team to support the agency's soil health activities in 13 western states and the Pacific Islands. Jennifer holds a PhD in soil science with an emphasis on soil microbial ecology. Prior to joining NRCS, she was an associate professor at Texas Tech University. Her research involved a multidisciplinary approach to answer field to landscape level questions about soil management and impacts on air and water quality and soil health. She continues this approach in her role with NRCS and strives to help translate current research on soil health to the landscape and develops training materials and curricula on soil health topics to help build capacity within the agency.



Jim Moseley has been farming for 47 years and has two tenures at USDA as Undersecretary for Natural Resources and the Environment and Deputy Secretary. He has also served as Agricultural Adviser to the Administrator of EPA and Director of Agriculture for the State of Indiana. Jim is currently the co-chair of AGree and has worked extensively in natural resource and environmental issues at the national level. He applies current conservation technology to his own farm as well.



Tim Palmer is first vice president of the National Association of Conservation Districts and a farmer from Madison County, Iowa. Tim farms with his wife Shelly and sons Geoff and Greg. He raises corn, soybeans, and hay, and has 120 head of cattle. The calves are fed to finish. Tim uses cover crops to protect soil from eroding, build organic matter, and to provide late fall and spring grazing for the cows.



Josh Payne is a retired high school English teacher, corn/soybean/wheat farmer, agroforestry enthusiast, and part-time pastor. Joining his story is his wife, Larin, and their three young children—Reina, Ella, and Jacob. Currently, Josh is enrolled at Central Baptist Theological Seminary, where he is working on a MDiv in theology. Along with his 89-year-old grandfather, Josh farms 600 acres in Missouri, most of which has continuous living cover, and stubbornly refuses to pick up more.



Chris Reberg-Horton received his BS at the University of North Carolina at Chapel Hill in environmental science and his MS from the University of California at Davis where he worked on crop modeling. After working with cooperative extension in California and North Carolina, he returned to graduate school at North Carolina State where he worked on his PhD. After graduation, he took a position with the University of Maine as assistant professor of sustainable agriculture where he worked with organic dairy farmers on grain and forage production. Currently, Chris researches weed management in organic soybeans, reducing tillage in organic systems, and collaborating with plant breeders on developing better cover crop cultivars. He is the SARE professional development coordinator for North Carolina State and is Assistant Director of Collaborative Research at the Center for Environmental Farming Systems.



Matt Ruark is the lead scientist in the Nutrient Cycling and Agroecosystems Laboratory at University of Wisconsin-Madison. His research and extension program focuses primarily on nitrogen, phosphorous, and carbon management across grain, dairy, and vegetable production systems. Matt has a BS and MS from the University of Minnesota and PhD from Purdue.



Ken Rulon earned a BS degree from Purdue University. After college, he spent 10 years off the farm, ending his non-farm career as a marketing manager for GE Plastics. Ken purchased a share of the family partnership and returned to the farm in 1991. He was named *Top Producer* magazine's Best Farm Marketer in 1993 and has given numerous presentations over the years concerning marketing, risk management, and the economics of soil health.



Rodney Rulon, a member of Rulon Enterprises, LLC, has been farming full time since graduating from Purdue University with an MS in Agricultural Systems Management. Rulon Enterprises is a fourth-generation family farming operation that includes over 6,000 acres of no-till corn and soybeans in central Indiana as well as a farrow-to-finish hog operation (Bryant Premium Pork LLC), a Beck's Hybrids seed dealership, The Peer Network (a subscription-based ag discussion group), custom drainage design and installation business, and several other custom services. Rulon Enterprises received the *No-Till Farmer Magazine*/Syngenta's National No-Till Innovator Award in 2011 and received the ASA Regional and National Conservation Legacy Award in 2012.



Jamie Scott of Kosciusko County, Indiana, farms 2,000 acres as part of a family operation. He also provides sales and service for cover crop seeding in northern Indiana, southern Michigan, and northwestern Ohio. The service includes a "turn-key" aerial seeding operation. The operation was an early adopter of conservation tillage. Now all tillable acres are no-tilled and have had cover crops planted for the past nine years. He had been a supervisor and chairman for the Kosciusko County SWCD and currently serves as chairman of the Indiana Association of Soil and Water Conservation Districts (IASWCD). The family has implemented many conservation practices and earned recognition as the IASWCD Conservation Farmer of the Year and both regional and national Conservationist of the Year awards from the American Soybean Association. A spring workshop and field demonstration on cover crops has been held for the last three years.



Erin Silva is an assistant professor in the Plant Pathology Department at the University of Wisconsin-Madison. Her research and extension program focuses on sustainable and organic cropping systems, including cover crops and cover crop-based no-till production, and the impact of organic management on soil biological and physical properties. Her teaching responsibilities include, "Food, Sustainability, and Climate Change" and "Organic System Health." With Anders Gurda, Erin has launched a comprehensive organic grain training program for farmers in the upper Midwest called "OGRAIN." Erin works closely with organic farmers and industry members both in Wisconsin and throughout the United States and serves as co-facilitator of the Wisconsin Organic Advisory Council.



Brandon Smith is the Northeast Region Team Leader for the national USDA-NRCS Soil Health Division. He provides technical assistance and training on soil health management planning to Northeast NRCS staff and external partners in the region's varied production systems. He earned his PhD from Cornell and a MS and BS from the University of New Hampshire. He has extensive experience with cover cropping, conservation tillage, mineral nutrition, root micronutrient uptake mechanisms, and organic production systems.



Ryan Stockwell is the Director of Sustainable Agriculture for the National Wildlife Federation, where he leads the cover crops program including policy development, research coordination, and farmer champion communication training. Ryan has a PhD in history from the University of Missouri, a master's in history from Miami University, and a bachelor's degree in social change and development from the University of Wisconsin-Green Bay. In his spare time he farms near Medford, Wisconsin, using no-till cover crop methods. He serves on the North Central SARE (Sustainable Agriculture Research and Education) Administrative Council and is also a board member for the Midwest Cover Crops Council.



Sami Tellatin is a project manager with the Sustainable Agriculture Research and Education Program (SARE) and University of Missouri Extension. She works to review and synthesize existing data documenting the impacts of cover crops on soil loss, nutrient loss, infiltration, and soil organic matter in agricultural production systems, and uses the data to create educational resources for the general public. Sami is also working to organize SARE's national "Our Farms, Our Future" conference to be held in April of 2018. She has her BS in biological engineering from the University of Missouri-Columbia and has experience working on organic and biodynamic farms in Missouri and Costa Rica. Sami currently works remotely in Oregon.



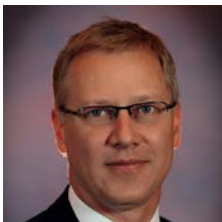
Dan Towery is field manager for the Soil Health Partnership and operates Ag Conservation Solutions in Lafayette, Indiana, which specializes in continuous no-till, cover crops, and soil health. He focuses on the "how and why" a healthy soil becomes more resilient and can be the most profitable production system, which also enables growers to improve the environment. Dan served on the Soil and Water Conservation Society's Board of Directors for six years and was president from 2012 to 2014. He spent 25 years with the USDA-NRCS, which included positions as the Illinois state agronomist, and was also a staff agronomist at the Conservation Technology Information Center. Dan is from Illinois and has a BS from Western Illinois University.



Danielle Treadwell fell in love with cover crops as an undergraduate intern at North Carolina State. She earned her graduate degrees there, researching living mulches and rotational cover crops in organic vegetable systems. Her research program is focused on conservation tillage strategies in organic vegetable systems, and she continues that work today as an associate professor and state extension specialist at the University of Florida in Gainesville. She provides statewide leadership for resource conservation in vegetable systems of all sizes and production approaches, as well as farm food safety and food system development. She is an active member of the Southern Region Cover Crop Council and dreams about a world where every farmer uses cover crops.



John Wallace is a new Assistant Professor of Specialty Crop Systems at Cornell University. His program will broadly focus on weed ecology and management in conventional and organic cropping systems that utilize cover cropping and reduced-tillage practices, with particular interest in the design of integrated weed management strategies that are compatible with soil-building and soil-conserving practices.



Alan Weber is a founding partner of MARC-IV, a consulting company that fosters the development of biobased innovations that benefit agricultural and enhance our environment. In addition to his activity with MARC-IV, Alan is actively engaged with the management and operation of his family's farm in central Missouri, which includes the use of cover crops.



Ray Weil is professor of soil science at the University of Maryland and a Fellow of both the Soil Science Society of America and the American Society of Agronomy. He has twice been awarded Fulbright Fellowships to support his work in Africa. He is known for his ecological approach to soil science as coauthor of the 11th-15th editions of the textbook, *The Nature and Properties of Soils*. His research focuses on soil organic matter management for enhanced soil ecosystem functions and nutrient cycling for water quality and agricultural sustainability. The analytical methods that his lab developed for soil microbial biomass and active soil C (POXC) are used in ecosystem studies and soil health assessment worldwide. He is an expert at diagnosing soil-related problems in the field and has worked with the Ag Center at Columbia University to develop the SoilDoc, a portable lab for on-the-spot soil analysis to assist in field diagnosis.



Justin Zahradka graduated from North Dakota State University (NDSU) with a BS in crop and weed science and a minor in soil science. Justin grew a 40-acre cover crop demonstration trial in Walsh County, North Dakota, in cooperation with NDSU Extension, North Dakota SARE, and Walsh County Three Rivers Soil Conservation District to determine average daily gains of beef cattle while grazing cover crop. Since then, he has grown different cover crop mixtures each year to extend the grazing season, track nitrogen fixation, and measure soil quality indicators. He was named the Future Farmers of America (FFA) American Star in Agriscience and was recently awarded the 2017 Soil and Water Conservation Society Honor Award for his conservation efforts. Justin now farms growing wheat, canola, field peas, and cover crops while expanding his cow/calf and custom grazing operations.



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MODERATORS



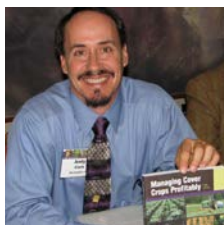
Nick Andrews is a member of Oregon State University's (OSU) Center for Small Farms and Community Food Systems. As a member of the program, Nick serves Multnomah, Washington, and Clackamas counties. His work focuses on organic vegetable production and beginning farmer training, and he is starting a state-wide organic Extension program within the Center for Small Farms. The initial focus in that program is annual organic crops throughout Oregon. Nick developed the Organic Fertilizer and Cover Crop Calculator in collaboration with Dan Sullivan and others at OSU. He is also collaborating with OSU colleagues to develop Croptime, a degree-day modeling website for vegetable growers.



Dean Baas is an educator in sustainable agriculture for Michigan State University (MSU) Extension. Dean is involved in cover crop, soil health, and organic agriculture research and education. Farmers and commodity groups are an integral part of his projects and programs. He is a member of the Midwest Cover Crops Council Executive Committee, and he is the Michigan Sustainable Agriculture Research and Education (SARE) coordinator. He has a PhD in environmental geosciences and biosystems and agricultural engineering and a BS in agricultural engineering from MSU. Prior to returning to MSU for graduate study, he had a 20-year career with the Kellogg Company.



Alyssa Charney is a policy specialist at the National Sustainable Agriculture Coalition (NSAC) in Washington, DC, where she leads the coalition's work on conservation, energy, and environment. At NSAC she also works on organic agriculture, climate change, and the annual appropriations process. She holds an MS in agriculture and food policy and an MPH from Tufts University. Alyssa has worked on food and agriculture policy at the Center for Rural Affairs, New England Farmers Union, and the National Farm to School Network.



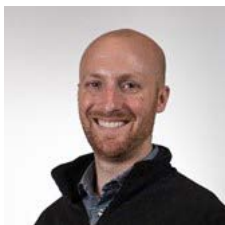
Andy Clark is the national communications director for the USDA National Institute of Food and Agriculture Sustainable Agriculture Research and Education (SARE) program. He oversees the SARE Outreach office, which extracts field-ready information from SARE grant projects and publishes books, brochures, bulletins, and video about sustainable agriculture. Andy's doctoral research was on cereal rye-hairy vetch mixtures for no-till corn. He is the editor of *Managing Cover Crops Profitably*, 2nd Edition, 1998, and 3rd Edition, 2007.



Jill Sackett Eberhart has been a board conservationist for the Minnesota Board of Water and Soil Resources (BWSR) since 2016. She assists organizations in south central Minnesota with grant management for structural and nonstructural land management practices geared toward protecting and restoring water and soil quality. From 2008 to 2016 Jill was a University of Minnesota Extension educator and North Central Region Sustainable Agriculture Research and Education state coordinator that worked extensively with soil health, cover crops, and alternative crops programming.



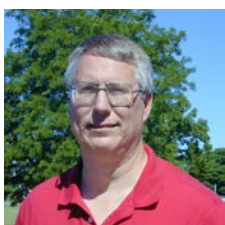
Dan Foor, CEO of La Crosse Seed, is responsible for directing the business activities of the organization while continuing to refine and execute the company's long range growth plans. Prior to joining La Crosse Seed in 2011, Dan held various leadership roles at Monsanto Company, including two international assignments in Latin America. Before joining Monsanto, he spent five years with Becker-Underwood in various market development and sales roles. He earned his executive master's in international business from Saint Louis University in 2008 and bachelor's of science in agricultural economics from Iowa State University in 1990.



Nicholas Goeser directs the Soil Health Partnership and soil health and sustainability for the National Corn Growers Association. In this role, Nick focuses on the construction of Soil Health Partnership research and innovation farm network across 12 states predominantly in the upper Midwest. The goal is to connect soil health with on-farm management, crop productivity, profitability, and environmental responses through data collection, analysis, and communications. Nick's prior research background includes over a decade of research in the areas of crop production, nutrient cycling and management, and environmental quality.



Lisa Holscher is the director of Indiana's Conservation Cropping Systems Initiative (CCSI). With a mission of "improving soil health on Indiana cropland," CCSI is farmer-driven, farmer-focused, and values the strength of grassroots leadership. Lisa, other CCSI staff, and a broad network of collaborators work extensively with farmers and local level partnerships to better understand and to promote the adoption of practices and systems that can lead to improved soil health. At over one million acres of cover crops, the efforts of these partnerships are paying off.



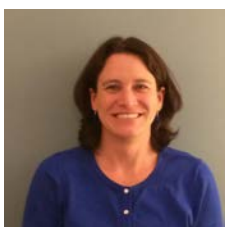
Paul Jasa serves as an Extension engineer at the University of Nebraska-Lincoln where he develops and conducts educational programs related to crop production that improve profitability, build soil health, and reduce risks to the environment. He has worked with planting equipment and tillage system evaluation at the university since 1978, gaining valuable information about the "dos and don'ts" of no-till along the way in a number of crop rotations and soil types. He is happy to share information about the systems approach to long-term benefits of continuous no-till.



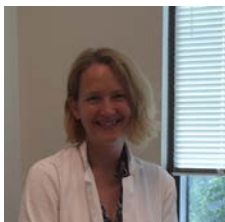
Anna Morrow has served as the program manager for the Midwest Cover Crops Council for the past year. She was previously the agriculture and natural resource Purdue Extension educator in Franklin County, Indiana, for three years. She has a master's degree in agronomy from Purdue University with a background in soil and pasture management.



LaKisha Odom joined the Foundation for Food and Agriculture (FFAR) in 2016 as a scientific program director to pursue her commitment to promoting the use of innovative science and interdisciplinary thinking to tackle today's complex challenges in food and agriculture. She is also extremely committed to cultivating increased diversity in a new generation of food and agriculture scientists. LaKisha received her BS in environmental science from Tuskegee University, her MA in environmental resource policy from The George Washington University and her PhD in integrative biosciences from Tuskegee University.



Allison Thomson, science and research director for Field to Market, works with stakeholders from across the agricultural supply chain to develop and apply sustainability metrics and programs and incorporate scientific advances to provide improved guidance for farmers. She brings over 15 years of experience in crop and environmental research and modeling into advancement of a science-based approach for sustainable agriculture. She holds a BA from Carleton College and master's in environmental management from Duke University.



Kristen Veum is a research soil scientist with the USDA Agricultural Research Service. Her soil health research focuses on the effects of agricultural management systems on soil function and provisioning of ecosystem services (e.g., water quality, crop productivity, nutrient cycling, and environmental protection). Her current research focuses on development of biological, physical, and chemical indicators of soil health, and documenting the soil health benefits of perennial vegetation, reduced soil disturbance, and increased rotation diversity at the plot and field scale. In addition, she studies proximal soil sensing and sensor data fusion technology for rapid, high-resolution assessment of soil health.



Kyle Vickers is a farmer in Vernon County, Missouri, the host of Show-Me Ag on KMOS-TV, and a lifelong advocate for sustainable farming. His farm near Walker, Missouri, is a diversified grain and livestock family operation. He received a BS in agricultural economics from the University of Missouri-Columbia, helped organize the Missouri Farmers Union, served as chairman of the Missouri Agricultural Stabilization and Conservation Service Committee, and went on to serve eight years as deputy director of the Missouri Department of Agriculture.



Chad Watts has worked in conservation agriculture and watersheds for over 20 years, with the Indiana Department of Natural Resources, The Nature Conservancy, and for the Conservation Technology Information Center (CTIC). Chad has been with CTIC as both a project director and now serves as the executive director. Chad manages programs at CTIC that encourage conservation on agricultural lands and work to bring information and technology to farmers to help them achieve conservation and sustainability objectives on their farms while maintaining productivity and profitability.



Jason Weller joined Land O'Lakes, Inc., in 2017, where he leads the team providing conservation solutions for the farm cooperative's members and owners. He previously served as chief of USDA's Natural Resources Conservation Service, the nation's largest working lands conservation organization, where he led a staff of 10,500 employees that partner with farmers and ranchers to deliver assistance to protect and improve the quality of their operations' natural resources. Prior to serving as chief, Jason served on the US House Appropriations Subcommittee on Agriculture, the US House Budget Committee, and in the White House Office of Management and Budget.



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NOTES

*Remember to take down the information of your new conservation contacts
before leaving the conference!*

NAME	EMAIL	PHONE #