

# December 7<sup>th</sup> and 8<sup>th</sup> Program Overview



**WWASH**  
Wisconsin Water  
and Soil Health  
CONFERENCE

9:00 – 9:30 REGISTRATION FOR CONFERENCE ATTENDEES

9:30 – 9:40 **Wisconsin Water and Soil Health Conference Welcome**  
Conference Co-Chairs: Chelsea Zegler & Daniel H. Smith

9:40 – 10:30 **Eric Cooley Tribute** Amber Radatz  
**KEYNOTE 1: Phosphorus losses in cold agricultural regions & the importance of targeting conservation practices**  
Keynote speaker: **Dr. Merrin Macrae**

10:30 – 11:15 **FARMER PANEL: Managing cover crops in extreme conditions**  
Panelists: **Brent Petersen** (Brown County LCWD), **Andy Bensed** (Dallas, WI), **Brad Clark** (Clarkview Farms)  
Moderators: **Whitney Prestby & Barry Bubolz**

11:15 – 11:30 BREAK AND NETWORKING

11:30 – 12:30 **KEYNOTE 2: Using cover crops on the offense**  
Keynote speaker: **Mitchell Hora**

12:30 – 1:15 LUNCH AND TIME TO VISIT WITH EXHIBITORS

Concurrent sessions			
1:15 – 2:30	<b>Breakout room C</b> <b>Maximizing water quality in soil health systems</b> Speakers: <b>Amber Radatz</b> (Extension), <b>Matt Komisky</b> (USGS), <b>John Koepke</b> (Farmer) Moderator: <b>Laura Paletta</b>	<b>Breakout room F</b> <b>Getting seeds off to the right start in high residue systems</b> Speakers: <b>Derek Ducat</b> (Farmer), <b>Jake Kaderly</b> (Farmer/Agronomist), <b>Randy Bump</b> (Farmer/Agronomist) Moderator: <b>Kolby Grint</b>	<b>Breakout room D</b> <b>Wisconsin Cover Crop Survey: Balancing biomass goals &amp; geography</b> Speakers: <b>Dr. Gregg Sanford</b> (UW-Madison), <b>Dale Macheel</b> (Farmer), <b>Josh Hiemstra</b> (Farmer) Moderator: <b>Mrill Ingram</b>

2:30 – 3:00 BREAK AND NETWORKING

3:00 – 4:15	<b>Breakout room C</b> <b>Innovative practices for ecosystem services</b> Speakers: <b>Marty Weiss</b> (Farmer), <b>Dr. Jose Franco</b> (USDA), <b>Greg Olson</b> (Sand County Foundation) Moderator: <b>Will Fulwider</b>	<b>Breakout room F</b> <b>How do cover crops affect nutrient cycling, fixation and availability?</b> Speakers: <b>Dr. Matt Ruark</b> (UW-Madison), <b>Dan Marzu</b> (NPM), <b>Jeff Gaska</b> (Farmer) Moderator: <b>Kevin Shelley</b>	<b>Breakout room D</b> <b>On-farm data collection for agronomic and water quality trials</b> Speakers: <b>Dr. John Jones</b> (UW-Madison), <b>Matt Hintz</b> (Farmer), <b>Dr. Steven Hall</b> (UW-Madison), <b>Monica Schauer</b> (UW-Madison) Moderator: <b>Ken Schroeder</b>
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4:30 – 6:30 **ROUNDTABLE DISCUSSIONS with dinner to follow** (See page 5 for details and map)

7:30 – 8:45 DAY 2: WISCONSIN AGRICULTURE BREAKFAST

9:00 – 10:15 **KEYNOTE 3: Fighting weeds with covers! Lessons from 5 years of cereal rye cover crop management for weed suppression research in Wisconsin**  
Keynote speaker: **Dr. Rodrigo Werle**

Open to all attendees. Presentations start at 7:45, if arriving later please minimize the disturbance.

10:15 – 10:45 BREAK AND NETWORKING

Concurrent sessions			
10:45 – noon	<b>Breakout room C</b> <b>How to manage dairy manure in sustainable intensification systems</b> Speakers: <b>Lindsey Hartfiel</b> (Discovery Farms), <b>Nick Guilette</b> (Agronomist) Farmers: <b>Jeff Endres, Gary Ripp, Jake Ripp</b> Moderator: <b>Kim Meyer</b>	<b>Breakout room F</b> <b>Managing nutrients in sandy soils for vegetable production</b> Speakers: <b>Dr. Jed Colquhoun</b> (UW-Madison), <b>Dan Walsch</b> (Agronomist), <b>Kelly Verhaalen</b> (Agronomist) Moderator: <b>Guolong Liang</b>	<b>Breakout room D</b> <b>Reintegrating livestock into your crop rotation</b> Speakers: <b>Marie Raboin</b> (Dane County LCD), <b>Derrick Raspor</b> (NRCS), <b>Matt Oehmichen</b> (Agronomist) Farmers: <b>Kelby Lechleitner, Ben Grove, Karl Sime</b> Moderator: <b>Rachel Bouressa</b>

noon – 1:00 LUNCH AND TIME TO VISIT WITH EXHIBITORS

1:00 – 2:30 **SUMMARY PANEL: Harvesting innovation and making forward progress** Moderator: **Amber Radatz**

**2023**  
**Kalahari Resort, Wisconsin Dells**

All talks are in the Grand Ballroom unless otherwise noted.

# THANK YOU TO OUR SPONSORS!

## Thursday, December 7<sup>th</sup>

### SIGNATURE

**MICHAEL FIELDS**  
AGRICULTURAL INSTITUTE



Extension  
UNIVERSITY OF WISCONSIN-MADISON

### PLATINUM



### GOLD



### SILVER



### FRIEND



9:40 – 10:30 am

### Eric Cooley Tribute

The water quality keynote is dedicated to our colleague and friend, Eric Cooley. Eric worked with Discovery Farms for nearly 20 years, with an extreme dedication to relationships with Wisconsin's farmers and advisors, accuracy of the water quality data that were collected from sites all over the state, and communication of those data in order to contribute to science-based policy, practice implementation and improvement, and protection of water quality resources.



Amber Radatz

### Phosphorus losses in cold agricultural regions and the importance of targeting conservation practices (1 SW CEU)

Dr. Merrin Macrae is a professor in the Department of Geography and Environmental Management at the University of Waterloo. She specializes in hydrological controls on biogeochemical processes. Her research interests center around nutrient (nitrogen, phosphorus) dynamics and water quality in agricultural landscapes and wetlands. Dr. Macrae studies water quality at both watershed and field scales, with an emphasis on understanding the impacts of assisted or modified land drainage. Her work also emphasizes the winter and snowmelt periods, characterizing the efficacy of conservation practices during these critical times. Her research is largely field-based science, focused in Southern Ontario and Manitoba, Canada. She is also a frequent speaker to the farming community, industry and government, often serving as a keynote speaker or panelist at meetings. Her work is also frequently featured in the agricultural media (magazines, podcasts, newspapers).

Keynote speaker: **Dr. Merrin Macrae**

10:30 – 11:15 am

### Farmer Panel: Managing cover crops in extreme conditions (1 CM CEU)

2023 was another year for the weather record books! From May to August, we experienced the driest conditions we've seen in Wisconsin in almost 50 years and the fifth driest in the state's history. While recent trends and future modeling suggest that Wisconsin is headed towards wetter conditions, we want farmers to be prepared to deal with extreme conditions on both ends of the spectrum. This panel will dive into lessons from the field this past growing season and focus on cover crop management considerations and recommendations for the upcoming year.

Panelists: **Brent Petersen** (Brown County LCWD), **Andy Bensed** (Dallas, WI), **Brad Clark** (Clarkview Farms)

Moderators: **Whitney Prestby** and **Barry Bubolz**

11:30 am – 12:30 pm

## Using cover crops on the offense: Experiences from Iowa (1 SW CEU)

Mitchell Hora is a 7<sup>th</sup> generation SE Iowa Farmer and the Founder/CEO of Continuum Ag — a soil health data intelligence company and the creators of the TopSoil Tool, an online platform designed to help farmers document, improve, and monetize their soil health and environmental outcomes. The company has amassed a footprint of 43 states and 20 countries and keeps focused on bringing global farmers value. The Horas have used no-till since 1978 and cover crops since 2013 on their 700 acre row crop operation. For their efforts, Mitchell and his father, Brian, have been named Soil Health Champions by the National Association of Conservation Districts and Mitchell has been named to the Forbes Under 30 list and the AgGrad 30 Under 30 list. Mitchell and his wife, Tympest, are proud parents of the 8<sup>th</sup> generation of Hora farmers, Celeste and Hollis.

**Keynote speaker: Mitchell Hora**

## BREAKOUT SESSION 1 (concurrent talks)

1:15 – 2:30 pm

### ----- Breakout room C -----

#### Maximizing water quality in soil health systems (1 SW CEU)

Attendees will learn about what time of year nitrogen and phosphorus tend to leave a field and how cover crops and other conservation practices can be used to mitigate loss mechanisms. The impact of soil health practices like cover crops and no-till have on water quality, and what might be the next pieces to consider to maximize water quality in our soil health systems will be discussed.

**Speakers: Amber Radatz** (Extension),  
**Matt Komisky** (USGS), **John Koepke** (Farmer)

**Moderator: Laura Paletta**

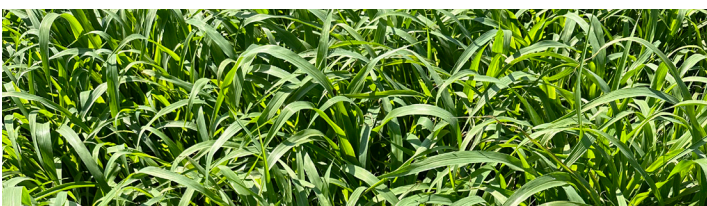
### ----- Breakout room F -----

#### Getting seeds off to the right start in high residue systems (1 CM CEU)

No-till and cover cropped systems can often create a high residue environment requiring tweaks to planting equipment, seed and seed treatment selection, and herbicide and nutrient management strategies to ensure early season success. Join us to hear from experienced agronomists and farmers from across the state on their successes and challenges planting into high residue environments and how soil health management systems can work in Wisconsin's diverse soils and climates.

**Speakers: Derek Ducat** (Farmer),  
**Jake Kaderly** (Farmer/Agronomist),  
**Randy Bump** (Farmer/Agronomist)

**Moderator: Kolby Grint**



### ----- Breakout room D -----

#### Wisconsin Cover Crop Survey: Balancing biomass goals & geography (1 CM CEU))

Cover crops are considered a key piece of any soil health or regenerative agriculture “tool kit” but farmers in Wisconsin need more information about how covers perform under diverse soil and climate conditions on “real world” farms. In an effort to address this knowledge gap a group of farmers, extension agents, and scientists initiated the Wisconsin Citizen Science Cover Crop project in 2020. The project combines online surveys about farmer practices, preferences, and experiences, with on-farm data collection of fall and spring cover crop establishment success (% cover) and biomass production (ton/ac). This growing network of farms around Wisconsin is also linked to long-term experimental sites like the Wisconsin Integrated Cropping Systems Trial (WICST), enhancing the breadth and longevity of data available to understand trends of cover crop performance in the state. We just launched a publicly available interactive online dashboard enabling interactive exploration of the citizen science generated data from the project.

--What are we learning from cover cropping farmers around the state?

--What surprising trends are we seeing?

--What knowledge gaps have emerged?

--Where do we go next?

Join us as we hear more about this exciting project from participating farmers Dale Macheel (2800-acre grain farm in Dodge County) and Josh Hiemstra (3rd generation cow dairy farmer from Fond Du Lac County), and from project scientists Mrill Ingram (Geographer, Michael Fields Ag Institute) and Gregg Sanford (UW-Madison Agroecologist).

**Speakers: Dr. Gregg Sanford** (UW-Madison),  
**Dale Macheel** (Farmer), **Josh Hiemstra** (Farmer)

**Moderator: Mrill Ingram**

## BREAKOUT SESSION 2 (concurrent talks)

3:00 – 4:15 pm

### ----- Breakout room C -----

#### Innovative practices for ecosystem services (1 CM CEU)

During this panel session and following conversation, the panel and audience will discuss innovative practices, such as prairie strips, interseeding, and multi-species cover crops among others, and their multiple agronomic, economic, and ecosystem benefits. Panelists Marty Weiss, a farmer near Beaver Dam, Dr. Jose Franco, Research Agronomist/Agroecologist with the USDA Dairy Forage Research Center, and Greg Olson, Field Projects Director with the Sand County Foundation will draw on personal experience and on-farm and controlled research trials to discuss these practices.

**Speakers:** Marty Weiss (Farmer), Dr. Jose Franco (USDA),  
Greg Olson (Sand County Foundation)

**Moderator:** Will Fulwider

### ----- Breakout room F -----

#### How do cover crops affect nutrient cycling, fixation and availability? (1 NM CEU)

Basic concepts in soil nutrient availability, results from recent research trials with cereal, legume and brassica cover crops and insights from the field will be offered to help build an understanding of how and when cover crops might provide nutrient credits or reduce nutrient availability. Tools for measuring nutrient availability will be considered as well as short-term vs. long-term impacts on soil health and nutrient cycling.

**Speakers:** Dr. Matt Ruark (UW-Madison), Dan Marzu (NPM),  
Jeff Gaska (Farmer)

**Moderator:** Kevin Shelley

### ----- Breakout room D -----

#### On-farm data collection for agronomic and water quality trials (1 SW CEU)

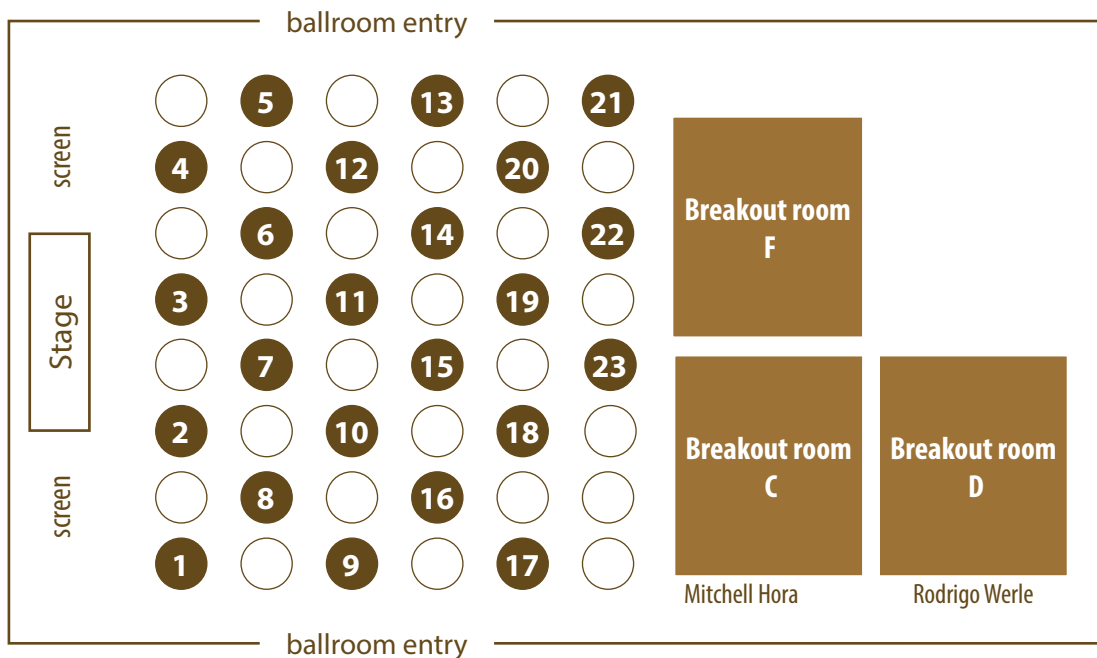
Hear from farmers and research professionals on the importance of on-farm research and how to best translate on-farm research to useful management decisions. This session will cover everything from design strategies, low tech nitrate leaching monitoring methods, and results interpretation. Come meet new researchers to the Agronomy and Soil Science Department, as well as hear an update on the Nitrogen Optimization Pilot Program.

**Speakers:** Dr. John Jones (UW-Madison), Matt Hintz (Farmer),  
Dr. Steven Hall (UW-Madison), Monica Schauer (UW-Madison)

**Moderator:** Ken Schroeder

## ROUNDTABLES

Rotate through tables featuring farmers and industry experts to workshop solutions to challenges, ask questions and engage in conversation about topics including manure composting, innovative seeding equipment, and the economics of soil health practices. You have the option to attend three roundtables.



### Roundtable topics and table numbers

- |   |   |
|---|---|
| <b>1</b> Innovative seeding equipment (Tony Peirick)  | <b>13</b> Agriculture and Water Quality (Steven Hall)   |
| <b>2</b> Seeding Cover Crops with UAVs and Robots (Jose Franco)                                 | <b>14</b> Nitrogen and Manure (Matt Ruark/ Xia Zhu-Barker)                                    |
| <b>3</b> Planting Green (Marie Raboin)  | <b>15</b> How and when is data useful to farmers? Agricultural citizen science (Mrill Ingram) |
| <b>4</b> Planter Attachments/General Planter Set Up (Brent Peterson)                            | <b>16</b> Land Conservation Professionals Role & Innovative Projects (Tonya Gratz)            |
| <b>5</b> Ramifications of Interseeding (Marty Weiss)  | <b>17</b> Community Led Conservation (Ron Schoepp)  |
| <b>6</b> Cover Crop Mixes (Matt Oehmichen)  | <b>18</b> Extended Crop Rotations (Sam Bibby)   |
| <b>7</b> Cover Crops as Forage (Jason Cavadini)   | <b>19</b> Planting Alfalfa Green (Josh Kamps)   |
| <b>8</b> Brainstorming Innovative Projects for Surface Water Quality Challenges (Kelsey Hyland) | <b>20</b> Exploring Changes in Management Benefits in SnapPlus (Laura Ward Good/Hava Blair)   |
| <b>9</b> Growing Your Network with Producer-led Groups (Jordan Schuler)                         | <b>21</b> Turning Organic Waste Into Gold (Dan Marzu)   |
| <b>10</b> On-farm Research Ideas (Kevin Shelley)  | <b>22</b> Grazing (Rachel Bouressa)   |
| <b>11</b> Nitrogen Optimization Pilot Program (Lindsey Rushford/Monica Schauer)                 | <b>23</b> Direct Markets/Diversified Marketing (Will Fulwider)                                |
| <b>12</b> Soil Health and Water Quality Economics (Jeff Hadachek)                               | <b>Breakout room C</b> (Mitchell Hora)  |
|   | <b>Breakout room D</b> (Rodrigo Werle)  |

7:30 – 8:45 am

### Wisconsin Agriculture Breakfast

The goal of this session is to discuss the agriculture and environmental topics that we are jointly working on and concerned about. Farmers are the first people that can witness the environment and natural resources shifting and changing. This is exactly why farmers and agricultural partners are well poised to adapt to protect our resources. During this session, hear from representatives of several Wisconsin agriculture organizations on their perspectives related to agriculture, water quality, climate change and more.

**Moderator: Sara Walling**, Water and Agriculture Program Director, Clean Wisconsin

9:00 – 10:15 am

### Fighting weeds with covers! Lessons from 5 years of cereal rye cover crop management for weed suppression research in Wisconsin (1 PM CEU)

Dr. Rodrigo Werle is an Associate Professor and Extension Cropping Systems Weed Scientist at the University of Wisconsin-Madison. His research and Extension program (aka WiscWeeds) focuses on integrated approaches to weed management in corn, soybean, and small grains in Wisconsin farm systems. Dr. Werle received his BS in Agronomy from São Paulo State University in Brazil, and his MS and PhD degrees in Agronomy with Specialization in Weed Science from the University of Nebraska-Lincoln.

**Keynote speaker: Dr. Rodrigo Werle**



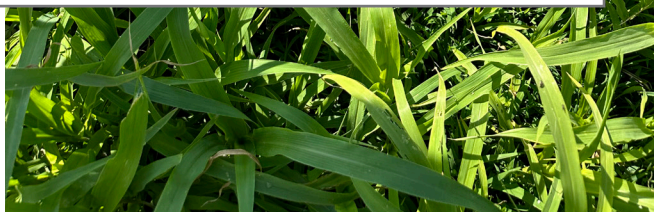
**WWASH**  
Wisconsin Water  
and Soil Health  
CONFERENCE

#### WWASH Conference Planning Committee:

Co-chairs Chelsea Zegler (Agriculture Water Quality Program) and Daniel H. Smith

(Nutrient and Pest Management Program); Amber Radatz (Agriculture Water Quality Program) University of Wisconsin-Madison, Division of Extension and CALS Conference Moderators

The Conference Planning Committee would like to sincerely thank the WWASH Conference Partner committee members whom met this past summer to select topics they would like to see covered at the 2023 conference based on professional experiences, past evaluation data, and the 2023 growing season conditions. This committee consists of farmers, agronomists, and conservation professionals.



## BREAKOUT SESSION 3 (concurrent talks)

10:45 – noon

### ----- Breakout room C -----

#### How to manage dairy manure in sustainable intensification systems (1 NM CEU)

In this session you will hear from three dairy farms on their manure application systems, and take in some edge of field data from Discovery Farms focused on manure application and timing. Farmers and agronomists included in this session utilize a variety of application equipment to not only strive for best utilization of their manure but also maintain maximum soil cover during or immediately following application. The types of manures represented range from digestate to liquid manure, solids, and compost. Farms utilize a wide variety of applicators, including a dribble bar, low disturbance injection and application, and solid spreaders. Come ready to have your manure application questions answered.

**Speakers:** Lindsey Hartfiel (Discovery Farms), Nick Guilette (Agronomist)

**Farmers:** Jeff Endres, Gary Ripp, Jake Ripp

**Moderator:** Kim Meyer

### ----- Breakout room D -----

#### Managing nutrients in sandy soils for vegetable production (1 CM CEU)

Water quality goals are challenging to achieve, especially growing vegetables in sandy soils. However, many people in the region are trying their best to mitigate nutrient loss, especially nitrogen through leaching. In this session, you are going to learn from experienced researchers and practitioners about interseeding cover crops in multiple vegetable cropping systems and insights on nitrogen rate management in sandy soils here in Wisconsin.

**Speakers:** Dr. Jed Colquhoun (UW-Madison), Dan Walsch (Agronomist),

Kelly Verhaalen (Agronomist)

**Moderator:** Guolong Liang

### ----- Breakout room F -----

#### Reintegrating livestock into your crop rotation (1 CM CEU)

In annual cropping systems, no-till and cover crops help address the soil health principles of armoring the soil, minimizing physical and chemical disturbance, increasing biodiversity and providing living roots for as much of the year as possible. But many farmers have begun to express interest and develop ways that allow them to integrate livestock into their cropping system (the fifth soil health principle). A practice that completes the cycle and can accelerate improvements in ecosystem health. This session will give an introduction and overview of the benefits and opportunities to integrate livestock into your operation, and ideas on how to partner and work with neighboring farms. A farmer panel will discuss how they incorporate livestock into their cropping systems, the economics of integrating livestock, how simply it can be done, and situations to avoid.

Topics covered include: Entry pathways and benefits of grazing cover crops, economics of grazing, grazing cover crops, benefits of winter management, harvesting/grazing, herd management, custom heifer grazing, water and soil quality improvements, and winter management considerations.

**Speakers:** Derrick Raspor (NRCS), Marie Raboin (Dane County LCD),

Matt Oehmichen (Agronomist)

**Farmers:** Kelby Lechleitner, Ben Grove, Karl Sime

**Moderator:** Rachel Bouressa

