

Western SARE Professional Development Program Workshop
Best Western Plus Heritage Inn, Great Falls
March 1-2, 2016

Biological Control in the Northern Plains – Providing Tools for Agriculture Professionals

Aim/Goals: The purpose of this project/workshop is to build agricultural professional understanding of biocontrol techniques in order to incorporate them into current integrated pest management programs.

Tuesday March 1st, 2016

First Day

10:00AM – **Registration and Refreshments**

10:20AM – **Welcome:** Dr. Charles Boyer, VP for Agriculture, Dean and Director, MSU, Bozeman, MT

10:30AM – **Linking Research and Extension:** Dr. Jeff Bader, Extension Director, MSU, Bozeman, MT

10:40AM – **Importance of Biological Control:** Dr. Barry J. Jacobsen, Associate Director, Montana Agricultural Experiment Station and Head Department of Research Centers, MSU, Bozeman, MT

11:00AM – 11:15AM: **Overview of SARE-PDP:** Jim W. Freeburn, Western SARE Professional Development Coordinator, Torrington, WY

11:15AM – 12:15AM: **Entomopathogens (Insect Pathogens)**
Dr. Stefan T. Jaronski, USDA-ARS- NPARL, Sidney, MT

12:15noon – 1:00PM: Lunch Provided

1:00PM – 2:00PM: **Increasing the Efficacy of Biocontrol Agents**
Dr. Jeff Littlefield, MSU-LRES, Bozeman, MT

2:00PM – 2:45PM: **Biological Control based Research on Wireworms**
Dr. Kevin Wanner, MSU-PSPP, Bozeman, MT

2:45PM – 3:00PM: Coffee Break and Refreshments

Department
of
Research Centers

Western Triangle
Agricultural
Research Center

9546 Old Shelby Rd
P.O. Box 656
Conrad, MT 59425

Tel (406) 278-7707
Fax (406) 278-7797
<http://aq.montana.edu/wtarc>

3:00PM – 3:45PM: **Biological Control of Alfalfa Weevil**

Dr. Tatyana Rand, USDA-ARS- NPARL, Sidney, MT

3:45PM – 4:00PM: **Biological Control of Orange Wheat Blossom Midge**

Dan Picard, WTARC Special Projects Coordinator, MSU-WTARC, Conrad, MT

Dr. Gadi V.P. Reddy, MSU-WTARC, Conrad, MT

4:00PM – 5:00PM: **Biological Control of Cereal Leaf Beetle, Pea Leaf Weevil, Lygus Bug**

Dr. Héctor A. Cárcamo, Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada

5:45 – 8:00PM: **Hosted Social Hour and Dinner**

Wednesday March 2nd, 2016

Second Day

6:30AM – 8:00AM: **Breakfast Provided**

8:00AM – 9:00AM: **Insect Monitoring Tools and Techniques**

Dr. Michael A. Ivie, MSU-PSPP, Bozeman, MT

9:00AM – 10:00AM: **Biological Control of Wheat Stem Sawfly**

Dr. David K. Weaver, MSU-LRES, Bozeman, MT

10:00AM – 10:15AM **Coffee Break and Refreshments**

10:15AM – 11:15AM: **Biological Control of Invasive Weeds**

Dr. Sharlene Sing, USDA-USFS-RMRS, Bozeman, MT

11:15AM – 12:15AM: **Insect Predatory Nematodes**

Dr. Scott L. Portman, MSU-WTARC, Conrad, MT

12:15noon – 1:15PM: **Lunch Provided**

1:15PM – 2:00PM: **Wrap up and Evaluation**

Adjourned

MDA CE credits approved-day one-6 credits and day two-4 credits in categories 30, 10 and 39.

Dr. Gadi V.P. Reddy, Project Coordinator, Western SARE-PDP and Superintendent & Associate Professor of Entomology/Insect Ecology, Montana State University, Western Triangle Ag Research Center, 9546 Old Shelby Rd., P. O. Box 656, Conrad, MT 59425, USA; Phone: office: 406-278-7707; cell: 406-450-0375, Fax: 406-278-7797; Email: reddy@montana.edu

Registration Form

We thank you for your interest in participating at our Western SARE Workshop on Biological Control! Please fill in our Workshop Registration Form below to receive your name tag and the schedule of the entire event. We would like your pre-registration by Friday, February 19th to help in planning for meals in handouts.

Attendee's Name

Will appear on Name Tag

Company/ Organization

Will appear on Name Tag

Phone

Email:

Mailing Address

Street Address

Street Address Line 2

City

Region

Zip Code

Workshop Participation (Registration fee is waived)

Attending

First day Sessions Second day Sessions All sessions Dinner Banquet

Do you require accommodations? (Rooms are blocked in Best Western Plus Heritage Inn, Great Falls)

Yes No

Please email the registration form to Daniel E. Picard, WTARC Special Projects

Coordinator at daniel.picard@montana.edu

Phone: (406) 231-8993

FAX: (406) 278-7797



Certificate of Participation



This Certificate is awarded to

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FOR PARTICIPATING IN THE

**Western SARE Professional Development Program Workshop
Biological Control in Northern Plains – Providing Tools for Agricultural Professionals**

March 1-2, 2016

Organized by
Western Triangle Agricultural Research Center
and
Western Sustainable Agricultural Research & Education

James W. Freeburn
Western SARE PDP Coordinator
2753, State Highway 157
Lingle, WY 82223

Gadi V.P. Reddy
Western SARE PDP Project Coordinator
Superintendent and Associate Professor
Western Triangle Ag Research Center
Conrad, MT 59425

Thursday June 23, 2016

7:30am - 8:30am: Breakfast with Dr. Waded Cruzado, MSU President

8:30am: Welcome Address, Dr. Gadi V.P. Reddy, Superintendent, WTARC

8:35am-8:45am: Dr. Charles Boyer, VP for Agriculture, Dean and Director, MSU

8:45am - 8:55am: Dr. Waded Cruzado, MSU President

9:00am - 12:00pm: Field Tours

9:00am – 9:15am: Presentation of Agronomy/Nutrient Management Research Projects

Dr. Roger Ondoua, Assistant Professor of Agronomy and Nutrient Management, MSU Western Triangle Ag Research Center, Conrad, MT

9:15am – 9:30am: Orange Wheat Blossom Midge and Alfalfa Weevil

Dan Picard/Dr. Gadi V.P. Reddy, MSU Western Triangle Ag Research Center, Conrad, MT

9:30am – 9:45am: Developing Alternative Economic Streams While Implementing Cover Crops

Dr. Darrin L. Boss, Superintendent, MSU Northern Agricultural Research Center, Havre, MT

9:45am – 10:00am: Herbicide Resistance in Montana: New Cases and Management Strategies

Dr. Prashant Jha, Associate Professor-Weed Science, MSU Southern Agricultural Research Center, Huntley, MT

10:00am – 10:15am: Winter Wheat Cultivars for North Central Montana

Dr. Phil L. Bruckner, Professor/Winter Wheat Breeder, Plant Sciences and Plant Pathology, Department, MSU, Bozeman, MT

10:15am – 10:30am: Improving Barley for Montana

Dr. Jaime Sherman, Barley Breeder, Plant Sciences and Plant Pathology Department, MSU, Bozeman, MT

10:30am – 10:45am: New Developments in Spring Wheat Breeding

Dr. Luther Talbert, Professor/Spring wheat Breeder, Plant Sciences and Plant Pathology Department, MSU, Bozeman, MT

10:45am – 11:00am: The Good Life Needs Good Plants: New Technologies to Improve Wheat and Barley in Montana

Dr. Hikmet Budak, Professor and Montana Plant Sciences Endowed Chair, Plant Sciences and Plant Pathology Department, MSU, Bozeman, MT

11:00am – 11:15am: Managing Wheat Stem Sawfly: Best Practices

Dr. David K. Weaver, Professor, Department of Land Resources & Environmental Sciences, MSU, Bozeman, MT

11:15am – 11:30am: Plant Disease in Field Crops

Dr. Mary E. Burrows, Extension Plant Pathologist, Plant Sciences and Plant Pathology Department, MSU, Bozeman, MT

11:30am – 11:45am: Pulse and Canola Insect Pest Management

Dr. Héctor A. Cárcamo, Research Scientist, Agriculture and Agri-Food Canada, CANADA

11:45am – 12:00pm: Canola Varieties

Mr. John H. Miller, Research Associate, MSU Western Triangle Ag Research Center, Conrad, MT

12:00pm: Lunch provided by Stockman Bank

12:15pm: Remarks from Dr. Barry J. Jacobsen, Associate Director, Montana Agricultural Experiment Station and Head, Department of Research Centers, Bozeman, MT

1:00pm: Field Day Adjourned

2 Private Applicator and 2 Commercial CE Credits Available-sign in forms are at registration table

THANK YOU FOR COMING!

Lunch Courtesy of:



Tent Courtesy of:



Breakfast Courtesy of:

Ben Taylor, Inc, Centrol Crop Consulting, CG Ag Consulting, Custom Crop Care, DryFork Ag, Judisch Spraying Service, Mountain View Co-op, Performance Ag Services and So-Lo Air.

Friday July 17, 2015

| Time | Content | Speaker | Affiliation |
|-----------------|--|-----------------------------|---|
| 8:00am - 8:30am | <i>Registration and Refreshment; Courtesy of Centrol LLC, Brady; Jeff & Joel Farkell</i> | | |
| 8:30am - 8:45am | <i>Welcome and Announcements</i> | <i>Dr. Gadi V.P. Reddy</i> | <i>Superintendent, WTARC, Conrad, MT</i> |
| 9:00am-9:15am | <i>Pulse Crop Variety Adaptation and Quality for End Users</i> | <i>Dr. Chengci Chen</i> | <i>Superintendent, Eastern Agricultural Research Center MSU, Sidney, MT</i> |
| 9:15am-9:30am | <i>Improve Your In-season Nitrogen Management in Wheat; Protect Your Investment</i> | <i>Dr. Kefyalew Desta</i> | <i>Assistant Professor of Cropping Systems, Northern Agricultural Research Center, MSU, Havre, MT</i> |
| 9:30am - 9:45am | <i>Winter Wheat Varieties for North Central Montana</i> | <i>Dr. Phil L. Bruckner</i> | <i>Wheat Breeder, Dept. of Plant Sciences & Plant Pathology, MSU, Bozeman, MT</i> |
| 9:45am-10:00am | <i>Updates on Durum Wheat</i> | <i>Mr. John H. Miller</i> | <i>Research Associate, Western Triangle Ag Research Center, MSU, Conrad, MT</i> |
| 10:00am-10:15am | <i>Spring Wheat Variety Evaluations and New Variety Development</i> | <i>Dr. Luther Talbert</i> | <i>Spring Wheat Breeder, Dept. of PSPP, MSU, Bozeman, MT</i> |
| 10:15am-10:30am | <i>Barley Improvement for Montana</i> | <i>Dr. Jamie Sherman</i> | <i>Barley Breeder, Dept. of PSPP, MSU, Bozeman, MT</i> |
| 10:30am-10:45am | <i>Update on the Management of Wheat Stem Sawfly</i> | <i>Dr. David K. Weaver</i> | <i>Professor of Entomology, LRES, MSU, Bozeman, MT</i> |
| 10:45am-11:00am | <i>Update on IPM of pea and canola insects</i> | <i>Dr. Héctor Cárcamo</i> | <i>Research Scientist, Agriculture and Agri-Food Canada, Lethbridge.</i> |
| 11:00am-11:15am | <i>Orange Wheat Blossom Midge Monitoring and Biocontrol</i> | <i>Dr. Brian Thompson</i> | <i>Entomologist, Western Triangle Ag Research Center, MSU, Conrad, MT</i> |
| 11:15am-11:30am | <i>Insect Pathogens – Where Are We For Managing Wheat Pests?</i> | <i>Dr. Stefan Jaronski</i> | <i>Research Entomologist, USDA-ARS-NPARL, Sidney, MT</i> |
| 11:30am-11:45am | <i>Management of Glyphosate-Resistant Kochia in Golden Triangle Wheat-Fallow Cropping System</i> | <i>Dr. Prashant Jha</i> | <i>Weed Scientist, Southern Agricultural Research Center, MSU, Huntley, MT</i> |
| 11:45am-12:00pm | <i>Disease Management for Cereals and Pulse Crops</i> | <i>Dr. Mary Burrows</i> | <i>Extension Plant Pathologist, PSPP, MSU, Bozeman, MT</i> |
| 12:00noon | <i>Lunch; Courtesy of Stockman Bank, Conrad, MT; Dan Majerus, President</i> | | |

Remarks from Head Department of Research Centers
Remarks from Ag Vice President and Dean/Director

Dr. Barry Jacobsen
Dr. Charles Boyer



1:30 pm **FIELD DAY PROGRAM ADJOURNED**

Lunch Courtesy of:



Tent Courtesy of:



Refreshments Courtesy of:



**Pesticide Applicator Points Applied For!
THANK YOU FOR COMING!**

Dawn H. Gouge Ph.D.
University of Arizona
DHGouge@ag.arizona.edu
July 28, 2014



Re. International IPM Symposium letter of invitation
IPM: Solutions for a Changing World
<http://www.ipmcenters.org/ipmsymposium15/index.html>

Dear **Dr. Reddy**,

Thank you for submitting your program proposal for inclusion in the 8th International IPM Symposium. The program committee accepts your session “**Application of Entomopathogenic Nematodes in Integrated Pest Management**” as a concurrent session during the symposium. Your total time allocated is currently **three hours**. The sessions are scheduled in 1-hour blocks; please note the timing of breaks in the daily schedule. The interest in our conference was high, with 61 excellent proposals submitted for consideration. Please confirm your continued intent to participate by sending an email to Elaine Wolff at wolff1@illinois.edu by August 25, 2014.

Please note that approval of your session does not imply that program enhancement funds will be available for your session. You will need to apply for funds. Attached is a copy of our program enhancement fund policy, and an application. Please review the policy. If you wish to apply for program enhancement funds, please complete the application and submit it directly to Elaine Wolff via email by August 25, 2014.

If your acceptance depends on the availability of funding, please mention that in your correspondence with Elaine. More information about your session, including speaker names, contact information, sequence of presentations, time allocations for each speaker, and abstracts for each presentation will be requested by Elaine in September, to be submitted in November.

Follow us on Twitter@IPMSymposium, like our Facebook page <https://www.facebook.com/IPM.Symposium>, and connect to LinkedIn <https://www.linkedin.com/groups/International-IPM-Symposium-4107744> to stay informed as the Symposium draws closer.

We look forward to your participation in the symposium. Should you have questions or require additional information please email Elaine Wolff at wolff1@illinois.edu.

Sincerely,



Dawn H. Gouge
International IPM Symposium Program Committee Co-Chair



Certificate of Training



This Certificate is awarded to

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FOR PARTICIPATING IN THE

Agronomy College- basic entomology course

February 04, 2015

Organized by

Western Triangle Agricultural Research Center

and

Department of Plant Science & Plant Pathology

Gadi V.P. Reddy, Ph.D.

Superintendent and Associate Professor of
Entomology/Insect Ecology, Montana State
University Western Triangle Ag Research Center
Conrad, MT 59425

Mike Ivie, Ph.D.

Associate Professor of Entomology
Montana Entomology Collection
Department of Plant Science & Plant Pathology
Montana State University, Bozeman, MT 59717

Kevin Wanner, Ph.D.

Associate Professor of Entomology
Extension Specialist, Cropland Entomology
Department of Plant Science & Plant Pathology
Montana State University, Bozeman, MT 59717

Agronomy Course-101 Basic Entomology-Tentative Agenda-Feb. 4th, 2015-WTARC

9:00 **Introductions and Agenda**-Reddy and Dan

9:10 **What the Heck is This Bug?** An introduction to Insect Classification, Structure, and Development- Basic information and resources available that will lay the groundwork to help you ID common crop insects and understand how they affect crops- Brian, Sindhu and Mike Ivie

10:10 **Break-Refreshments, snacks, fruit and other good stuff**

10:20 **What the Heck continues**- Hands on with lab and micro scope to ID various characteristics of crops pests in Montana. Prizes here for winners.

11:00-**Catch and Keep**-How to field sample with a sweep net. Also how to collect and ship live and dead insects for identification. How to start and maintain your own office collection-including a hands on pinning project. Sindhu and Brian

11:45 **What is all the Buzz About?**-Brief Intro to the Honey Bee and Leaf Cutter Bees-Brian

12:00 **Lunch**

12:45 **Good Bugs vs Bad Bugs**-An Introduction to the most common beneficial insects found in Montana and how to identify and manage them in a cropping situation.—Ruth O’Neal, MSU

1:15 **What May Be Bugging You in 2015?** How identify in the various stages (life cycle), typical crop damage, scouting techniques, economic thresholds, key identifiers to determine disease damage vs insect damage and current recommended Montana treatment options on the insects pests listed below. Kevin, Reddy, Brian, Tyler, and others.

Common small grain pests: Grass hoppers, Pale Western and Army Cutworms, Wheat Stem Maggot, Wireworms, Wheat stem sawfly, wheat head army worm, OWBM, Brown Wheat mite, Leaf Curl mite, aphids, thrips, RWA.

Major insect pest found in pulse crops-including cutworms, Lygus bug, pea leaf weevil, pea aphid, wireworm, and pea weevil.

Major insect pests in oil seed crops-including cabbage pod weevil, flea beetle, etc.

Forages-Alfalfa weevil, etc.

2:45 **High Plains IPM Guide**-An introduction to this guide and threshold information-Kevin

3:05 **Break**-

3:15 **Update on Insect Crop Pest Research at WTARC and OWBM Project**-Reddy and Staff

4:00 **Evaluation and Adjourn**