

Department of Research Centers/MAES

MAY 2013 Newsletter

Greetings!

Thank you for taking the time to read our Department's newly created newsletter. I would greatly appreciate feedback, comments and ideas from all.

Thank you, Krisi
(email: krisi.steinmetz@montana.edu)

A Message from Barry

Welcome to the inaugural issue of the Department of Research Centers Newsletter. I want to thank each member of the Department for the warm welcome they have extended to me in this interim role. Also thank you for your patience as I get up to speed on the many issues involved with administering this very complex department. I view my job as to facilitate things to make you more productive in each of your jobs and to support MAES goals and objectives. I will work hard to represent you and your needs with Dean and Director Jacobsen, other administrators, advisory committees and others. Let me know how I can best help you.

I am impressed with the quality of faculty and staff in the Department and the "can do attitude" displayed by each of you. This department has a significant and growing competitive funded research portfolio. Part of the reason for this newsletter is to let people on campus get to know you better and have you in their thoughts as they develop grant proposals, student thesis projects, guest lecturers in class, etc.

Congratulations are in order for three of our faculty. Dr. Chengci Chen has been promoted to Professor, Dr. Ken McVay has been promoted to Associate Professor and Dr. Prashant Jha has successfully passed his three year review. Congratulations all!

In the next year we will have three new faculty joining our ranks. This includes a Plant Pathologist at EARC, a Research Extension Horticulturalist at WARC and a Crop Physiologist at NWARC. The position of Superintendent and Associate Professor at EARC has been verbally offered and accepted with written confirmation expected soon with a starting date of mid July. The position at WARC will be, Superintendent and Associate Professor of Horticulture and Extension Specialist with 75% MAES and 25% ES funding. The position will focus on the development of a field-oriented research/extension program with emphasis on cultivar selection and optimal cultural practices for tree fruits, small fruits, and vegetables appropriate to western MT conditions. The position at NWRAC will be Assistant Professor of Crop Physiology and this position will focus on developing a nationally recognized field oriented research program in crop physiology to address those abiotic factors that limit the economic potential and environmental sustainability of crop production systems in northwestern Montana. Potential research could include investigating methods to improve nutrient and water use efficiency, determining the traits and/or mechanisms associated with abiotic stress tolerance, or improving crop nutritional content and end use quality. Job announcement and search committee membership should be available soon. When the official announcements come out, please make these positions known to people you think will fit these positions. —Barry Jacobsen, Interim Department Head

DRC 2013 Field Days

Northern Agriculture Research Center- Havre, MT.

Wednesday, June 26, 2013

3:00-4:00 pm-Registration

4:00-5:30 pm-Tours of field plots

5:30-7:00 pm-Dinner with Speakers

7:00-8:00 pm-Tours

Central Agriculture Research Center- Moccasin, MT.

Tuesday, July 9, 2013

Times TBA

Western Triangle Agriculture Research Center- Conrad, MT.

Wednesday, July 10, 2013

8:00 am-Registration and Refreshments

8:45 am-Welcome and Announcements

9:00 am-On-Station Research Tours/Discussions

12:30 pm-Lunch

Eastern Agriculture Research Center- Sidney, MT.

Thursday, July 18, 2013

8:30 am-Coffee and Rolls

9:00 am-Greetings from Jeff Jacobsen and Barry Jacobsen

9:20 am-Tours of plots begins

12:00 pm-Lunch provided

DRC/MAES Summer Conference at EARC

Thursday, July 18th 1:30 pm-5:00 pm

Friday, July 19th 8:30 am-12:00 pm

(includes lunch)

Northwestern Agriculture Research Center- Kalispell, MT.

To Be Announced



DRC Employee Spotlight

Lorrie Linhart CARC

Lorrie Linhart is the Administrative Associate III at the Central Ag Research Center, located in Moccasin, Montana. Lorrie joined MSU and the Department of Research Centers/CARC in November 1996. Yes folks, she has been a long standing member of the DRC for 16 1/2 years. Way to go Lorrie! Before Lorrie's tenure with MSU, she attended grade and high school in Hobson, then continued her education at MSU-Northern in Havre. After completing college, Lorrie returned to her home town to marry her high school sweetheart and move to the Linhart family farm, which was established in 1907. Her and her husband have raised three children, who also grew up and attended schools in Hobson.



I asked Lorrie what she liked best about her position and she stated that she has always enjoyed working with all of the great employees at the different research centers and within the College of Agriculture. When she's not busy helping out the staff at CARC, Lorrie enjoys being with her family either doing farm/ranch work, or camping and boating. She really enjoys cooking and working around her yard. Her proudest accomplishments...her three children. She is proud of them and the quality of lives they are living now. Other highlights of Lorrie's accomplishments include celebrating 30 1/2 years of marriage with her husband, Rod, being able to watch her three beautiful children as they begin their lives as adults and being cancer free for 4 years now. Congratulations Lorrie!

Not only do I enjoy hearing Lorrie's pleasant voice when she answers the phone, but her outgoing and willingness to help me out with anything and everything, including this article, is greatly appreciated. Thank you Lorrie for your long and continued contributions to CARC and the DRC! You are greatly appreciated by the DRC!

Dove Carlin NWARC

DRC New Employee Spotlight

Dove Carlin joined the Northwestern Agriculture Research Center on August 16, 2012 as their Administrative Associate III. Prior to joining NWARC and MSU, she was the high school secretary at Stillwater Christian School located in Kalispell. After her last child graduated from SCS, she decided it was time for a change. Because she enjoys bookkeeping and office work, Dove decided to apply for the AA III position at NWARC. Best thing about her new job, the location. NWARC is only 3 miles away from her home.



Dove and her husband have four children. Outside of work, she enjoys gardening, sewing and visiting Glacier National Park. Some surprising things that you might not know about Dove is that her youngest children are twins-a boy and a girl. She loves the smell of freshly cut alfalfa and her favorite sport is volleyball. Dove has been a great addition to NWARC and the DRC and fits perfectly into her new position. Thanks Dove for all of your hard work!

What's Happening in the DRC

Spring has sprung across the state and at the NARC in Havre, their calving season was off to a great start. This is the year for twins. NARC has had three live sets born over the past few weeks. One black (Angus), one red (Hereford) and one white (Angus x Charolais cross). As of press time, they have seen a total of 356 calves born this year. Julia Dafoe, Research Associate,



states that most of the calves born were Angus and Angus cross and all are branded are making their way to the ranch for the summer. The Hereford calves will be branded next week. Could this be why the NARC livestock crew looks so haggard this time of year?



Pictured to the right is NARC student worker, James Chandless. James attends and plays football at MSU-Northern. When James is not on the field or in class, he spends his time helping out the livestock crew. He has obviously mastered the art of getting two bum calves fed at the same time.



Darrin Boss (Superintendent and Research Professor at NARC), Glenn Duff, Perry Miller, Jeff Jacobsen and Lance Juedeman (MAES CARET representative) met with Montana's Congressional Delegation during their most recent visit to Washington D.C. Darrin, Glenn and Perry were in DC participating in the LEAD21 program. LEAD 21 is intended to meet the future needs for leadership development of faculty, specialists, program and team leaders, research station and center directors, district and regional directors, department heads and chairs, and others in land grant universities' colleges of agricultural, environmental and human sciences and USDA/NIFA. The primary purpose of LEAD 21 is to develop leaders in land grant institutions and their strategic partners who link research, academics and extension in order to lead more effectively in an increasingly complex environment, either in their current position or as they aspire to obtain other positions.



Pictured left to right are U.S. Senator Max Baucus, Lance Juedeman, US Representative Steve Daines, Dean/Director Jeff Jacobsen, Glenn Duff, Darrin Boss, Perry Miller and US Senator Jon Tester.

MSU Extension and MAES/NARC

Collaborators Win Awards for Mortality Composting Project

Julia Dafoe, NARC Research Associate, Tommy Bass, MSU Extension Livestock Environment Associate Specialist, Darrin Boss and their multi-state collaborators, were honored this past winter for their efforts and productivity on a three-year Livestock Mortality Composting Demonstration and Education Project. The American Society of Agronomy conferred a Certificate of Excellence in recognition of “outstanding educational materials” and Colorado State University Extension presented the multi-state Mortality Management Team with its 2012 Extension Team Award. Darrin Boss states that “This is a perfect example of collaborations amongst MSU Departments. Tommy and Julia really carried the weight on this; I simply just got the game going and they handled it. Great example of multiple institutions and departments moving in a common direction.”

Proper management of animal mortality on livestock operations has important implications in nutrient management, herd and flock health, as well as farm family and public health. For this reason, it is imperative to be familiar with the best management practices for dealing with dead animals. It is also important to understand that most states have laws related to proper disposal or processing of mortalities.

The purpose of proper mortality disposal is to prevent the spread of infectious, contagious and communicable diseases and to protect air, water and soil quality. Also there are legal issues and requirements related to nutrient management and the permitting of animal feeding operations. In the nutrient management plan for permitted animal feeding operations, disposal of routine operational mortalities and catastrophic mortalities must be defined.

Mortality Composting is an often preferable practice to other methods of large carcass disposal. Composting large carcasses can save labor and land. This practice allows a dedicated area to be used and reused for carcass management; it is done above ground, thereby reducing the number of labor-intensive burial pits created as well as minimizing the number of buried carcasses on the property. Many livestock operations across the United States and Canada have demonstrated success in managing operational and catastrophic mortalities by composting. However, there is still value in discussing this practice in order to assist more producers in adopting it, and in sharing information to improve success where mortality composting is already in use.

To this end, Montana State University Extension and the Montana Agricultural Experiment Station-Northern Ag Research Center participated in a four-state Western SARE funded project to validate recommendations, and to produce tools that assist agricultural advisors and producers in adopting large carcass composting. This was also part of ongoing compost research and demonstration at MAES-NARC. Led by Colorado State University, the mortality project also included the University of Wyoming, and New Mexico State University, in addition to MSU. MSU took the lead on publishing a manual and companion PowerPoint, which can be found at <http://www.msuextension.org/store/>. Article literature by T.M. Bass, MSU Extension



Pictured above is Tommy Bass, MSU Extension Livestock Specialist, standing in front of an example of Mortality Composting. Pictured below, are Julia Dafoe and Steve Lairy, NARC Livestock Research Technician discussing composting.



Collaborating Research Efforts at NARC

Darrin Boss, Julia Dafoe, Joyce Eckhoff (Superintendent and Professor at the Eastern Ag Research Center, Sidney, MT., and Pat Hensleigh (Montana NRCS, State Agronomist, Bozeman) are working on a two year project funded by the NRCS about Cover Crops. On trial is a variety trial determining what will grow in Northern Montana both at NARC and EARC and a termination of cover crop cocktails in large plot trials (24 x 132). Three termination steps include glyphosate, mowing/baling and grazing with cattle. Long term soil measurements and subsequent small grain yields will be determined. The picture above is during cattle grazing. The mowed treatment is illustrated on the right in the picture and the cattle are in the grazing treatment with the far left most portion of the picture being the chemical termination treatment.



Welcome Angela Sebelius and Emi Smith

NARC recently hired a new Administrative Associate III, Emi Smith. Emi comes to NARC after the retirement of Cathy Jamruszka. Emi joined NARC on April 8th. We are so glad that Emi has joined NARC-MSU! You'll get to know more about Emi when she is featured in next's months New Employee Spotlight article.

Angela Sebelius began working at the Northern Ag Research Center in March 2013 as a Research Associate. Angela will be helping out the Agronomy crew and Research Scientist, Peggy Lamb. She comes to NARC, and Montana, from North Dakota State University, where she was employed as a Research Specialist since 2007 at the North Central Research and Extension Center in Minot. While at NDSU, she worked on oilseed and cereal grain research. Angela received her Bachelor's of Science degree from Minot State University and her Master's of Science degree from NDSU. NARC is very excited to welcome Ms. Sebelius to Havre and Montana's highline. Please help us make Angela feel like a part of the Department of Research Centers/MAES. Welcome Angela!



Like the Northern Ag Research Center on Facebook

In Creston, the staff is gearing up and getting ready for planting season. The weather has been nice and they have been able to get started on their spring cultivating in the last week of March. The sun is shining and winter wheat has been growing like crazy in the 60 degree temperatures they've been having. The alfalfa and gophers are also doing well.

Staff at NWARC have been attending several trainings over the past few months. Bob Stougaard, Superintendent and Professor, traveled to San Diego to attend the Western Society of Weed Science meeting in March. John Josephsen, Program Manager, and Jordan Penney, Farm Mechanic, traveled to Lethbridge, Alberta in January for the 2013 Agronomy Update Conference. The topics included weed and herbicide management, agronomy/fertility, product label updates, insect management, field crop diseases, and marketing and soil management. Jordan also traveled to Helena in February to take the pesticide applicator training and came back with his Pesticide Applicator License. Brooke Bohannon, Research Associate, traveled to Saskatoon, SK at the end of March to attend the CanoLAB 3D interactive workshop. Topics included fertility, disease, diagnostics, insects, weeds and herbicides. The NWARC group also attended a meeting sponsored by the Kalispell Chamber of Commerce that discussed the topic of "Farm to Table", that is a not-for-profit organization that promotes local based agriculture through education, community outreach and networking. For more information regarding this program in your area, please visit their website at <http://www.farmtotablenm.org/>.

NWARC would like to welcome their 2013 summer crew, which includes Carmen Tikka, Danielle Ruonavaara, Kelsey Ovik and Austin Jones. These four have a very busy summer ahead of them. They will be helping out with farm chores and assisting with the numerous research projects that are currently being conducted at NWARC.

Speaking of those research projects, canola is one research area that will be receiving increased attention this year. On the canola side of things, NWARC will be conducting a seeding rate and date and variety study. NWARC will also be collaborating with Pacific Coast Canola in conducting a field demonstration of Clearfield Canola, a non-GM type. NWARC will continue to participate in the Montana Statewide Canola Variety Trial.



Pictured above is the ongoing planting efforts at the Northwestern Agriculture Research Center, located in Creston, MT in the beautiful Flathead Valley.



Like the Northwestern Ag Research Center on Facebook

Eastern Agriculture Research Center

Sidney, Montana



Our friends over on the far east side of the state, have begun their spring planting efforts. Pictured to the left, is Dr. Joyce Eckhoff, Interim Superintendent and Professor, showing what they had for snow cover back in March.

The search continues for a Superintendent and Associate Professor of Plant Pathology at EARC. The search committee, which consists of Dr. Eckhoff, Dr. Barry Jacobsen (Interim Department Head of the Department of Research Centers), Dr. Chengci Chen (Professor at the Central Ag Research Center), and Robert Smith (EARC Advisory Board member), have identified two qualified candidates. One candidate, Dr. Oliver Neher, interviewed in late March. Dr. Hans Schneider interviewed for the position April 29th thru May 2nd. The committee hopes to have a new Superintendent beginning this Summer.

Corvallis, Montana

Western Agriculture Research Center

The folks at the Western Agriculture Research Center in Corvallis, shared a few pictures of this season's ongoing planting efforts. Pictured to the right is a current study, in Cooperation with Dr. Olga Walsh, Assistant Professor of Soil Nutrient Management at the Western Triangle Ag Research Center, located in Conrad, Montana. The study focuses on sensor-based nitrogen fertilization algorithm for winter wheat varieties.



The study is part of the Montana Wheat and Barley Committee Project.



Pictured to the left is Marty Knox, Research Specialist. She is taking soil samples to be tested. The plot she is working on is Dr. Chengci Chen's, Professor at the Central Ag Research Center, located in Moccasin, Montana. His study focuses on variety trials.

Picture below is of winter wheat growing as a cover crop in WARC's newest and largest high tunnel. Dimensions of the structure are 30' x 60'. Soon there will be many, many wonderful things growing in there. WARC's



high tunnel research is a huge interest to people in the Bitterroot Valley and surrounding counties.

Pictured to the right, is Bill Fleming, WARC Ag Research Assistant. He is field leveling for a spring wheat plot. He is using a 2010 tractor with a 1947 harrow.



Southern Agriculture Research Center Huntley, Montana

Planting season began at the Southern Agriculture Research Center, located in Huntley, MT., in mid April. Pictured to the right and below is our own Interim Department Head, Dr. Barry Jacobsen, assisting in the sugar beet planting efforts, along with SARC Superintendent and Professor, Dr. Ken Kephart.



SARC recently hired two new employees. Kelli Maxwell, has been hired as a Research Associate under the direction of Dr. Kephart and Janna Kransky, was hired as a Research Assistant III to assist Farm Foreman, Tom Fischer. Both Kelli and Janna have backgrounds in agriculture. Pictured to the right, Kelli and Janna getting ready to seed a few plots.



Pictured above are Tom Fischer and Janna Kransky, preparing equipment for planting.

A \$9.6 million grant proposal entitled “Field to Fly” was submitted in early April to USDA/NIFA in the program area of Agriculture and Food Research Initiative Sustainable Bioenergy for FY 2013. The lead institution is the University of Idaho under the leadership of Dr. Matthew Morra, and includes scientists from Montana State, Oregon State, and Washington State Universities. Kent McVay, Associate Professor of Cropping Systems at SARC and Peggy Lamb, Research Scientist at NARC, are the Montana State scientists on this project. If funded research will begin on various oilseed crops such as winter and spring canola, spring mustards, carinata, and camelina. Variety and germplasm evaluations as well as rotational aspects of oilseeds in dryland wheat production systems will be a focus. A significant portion of the budget is dedicated to an Extension program to help build an oilseed industry in the Pacific Northwest and Northern Great Plains targeted toward biofuels for jet fuel and other transportation uses. This is a 5-year grant project. –Kent McVay



You can find more information about SARC, along with research results, events and an online Agronomy Decision Tool online at <http://www.sarc.montana.edu>

Ongoing Research Efforts at SARC

Dr. Prashant Jha, Assistant Professor of Weed Science at SARC, is currently focused on developing cost-effective and sustainable technologies for management of herbicide resistant weeds, especially kochia in dryland and irrigated cropping systems of Montana. Currently Dr. Jha's program consists of one graduate student, one research associate (Program Manager), and an incoming post-doctoral researcher. Recently, they have confirmed occurrence of glyphosate-resistant kochia biotypes in northern MT. We are investigating molecular mechanism of resistance to glyphosate in those kochia biotypes in collaboration with other researchers in the northwestern region. We are also screening those biotypes for possible occurrence of multiple resistance. Collaborative research to understand the evolutionary mechanism(s) and population genetics of herbicide resistance is another aspect of Dr. Jha's research program. We are involved in a multi-state project on assessment of kochia biology, with emphasis on emergence patterns, seed bank studies, growth characterization, and fitness differences between different accessions across the north central and western U.S., including Montana. Also, his program conducts almost 50 trials each year on evaluating new products, tank-mixes, and application timings for improved weed control in diverse crops including wheat, barley, corn, sugar beet, dry beans, peas, and lentils grown in Montana. A major emphasis recently is on development of alternative herbicide tools for growers to control glyphosate, ALS, and auxinic herbicide-resistant kochia in wheat-fallow systems and proactive resistance management programs in Roundup Ready sugar beet production in Montana. The ultimate aim is to provide research-based information and education to Montana growers to fight with the never-ending battle against weeds in their farm fields.



Kochia trials being grown in the on-site greenhouse at SARC.



Pictured here is Dr. Jha, standing in front of one of his research plots at SARC.

Western Triangle Agriculture Research Center Conrad, Montana

Western Triangle Agriculture Research Center (WTARC) has been a place of many changes. Starting in the fall of 2012 renovations started on the office building with new siding and windows and continued on to new interior paint, carpet and some furnishing updates. With new projects and programs in the works new equipment for the lab and the field, was ordered and continues arriving. WTARC is growing and expanding areas of research every day and so with the expansion new staff members continue to be hired. Thus, the Research Centers fulfill the agricultural research component of Montana State University's federal Land Grant University mission of teaching, research and extension.



Dr. Olga S. Walsh, Assistant Professor of Soil Nutrient Management and Research Associate, Robin Christiaens are working on soil fertility studies. Their research focus is precision nutrient management for improved nutrient use efficiency in wheat production. Dr. Walsh's new graduate student, Mr. Arjun Pandey, is beginning his Ph.D. program in Ecology and Environmental Sciences in May 2013. He will coordinate new project titled "Reference strips and precision sensors for increased nitrogen use efficiency in wheat production" selected for funding by Western SARE. Several projects including Sensor-Based Nitrogen Fertilization Algorithm for Spring and Winter Wheat Varieties (two state-wide projects) and Light-Activated Sensor Controlled (LASC) Sprayer Technology for Reduced Herbicide Use in No-Till Fallow Systems (in cooperation with Dr. Prashant Jha, Weed Science Specialist, SARC) are currently pending funding. Dr. Walsh and Mr. Pandey have also submitted a proposal titled "Potassium Management for Improved Dryland Spring Wheat Grain Yield and Quality" for Potassium Fellowship established by International Plant Nutrition Institute. The most recent publications by Dr. Walsh include: 1) O. S. Walsh, J.B. Solie, and W.R. Raun. Can Oklahoma Mesonet Cumulative Evapotranspiration Data Be Accurately Predicted Using Three Interpolation Methods? (2013; Communications in Soil Science and plant Analysis), 2) Walsh, O., A.R. Klatt, J.B. Solie, C.B. Godsey, and W.R. Raun. Use of Real-Time Soil Moisture Data for Refined Greenseeker™ Sensor Based N Recommendations in Winter Wheat (2012; Precision Agriculture), and 3) Walsh, O., A.R. Klatt, J.B. Solie, and W.R. Raun. Effect of delayed N fertilization on corn grain yields (2012; Journal of Plant Nutrition). Dr. Walsh recently travelled to Reno, ND, to attend Western Nutrient Management Conference (March 5-8, 2013) to deliver a talk related to the results from the "Foliar Nitrogen Fertilizers in Wheat Production" project. Pictured to the above right are Dr. Walsh, Robin Christiaens, Research Associate, and Jeff Jerome. They are applying foliar fertilizers to spring wheat.



Dr. Olga Walsh, Assistant Professor of Soil Nutrient Management, presenting research results at the International ASA-CSSA-SSSA meeting. Dr. Walsh has also developed and maintained the Soil Nutrient Management Blog ("Precision Agriculture-MSU"). It can be accessed online at <http://precision-ag-montana.blogspot.com>.

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Western Triangle Agriculture Research Center Conrad, Montana

Dr. G.V.P. Reddy is the Superintendent and Associate Professor of Entomology and Ecology at the Western Triangle Ag Research Center. Dr. Reddy and Dr. Khanobporn “Kim” Tangtrakulwanich, Postdoctoral Research Associate, with the assistance of Vickie Ophus, Research Assistant, are working on studies to control pests such as the wireworm-Click Beetles (Coleoptera:Elateridae), wheat stem sawflies (Cephus cinctus), Orange blossom wheat midge (Sitodiplosis mosellana), flea beetles (Chrysomelidae), and Diamondback moth (Plutella xylostella). Dr. Reddy will be studying to see which traps are most effective using different types, colors and lures. Dr. Reddy will be testing pheromones to isolate the compound from the dominant species in the Western Triangle. During this process he will evaluate threshold levels and test integrated management practices, using neem, petroleum spray oils, trap crop and biological control agents.

John Miller, Research Associate, continues to test different varieties along with the assistance of Julie Prewett, Research Assistant. John will have approximately 25 to 30 different varieties both on and off station. John and Julie will also be conducting the agronomy side of all entomology/ecology experiments.

Leanne Curry, Administrative Associate, assists the Superintendent and helps keep the station running. Not only administrative duties fill her time, but she also assists in the entomology program.

If you stop into the WTARC, the hustle and bustle of the spring work is upon us but we are happy to show you around and answer any questions that you might have. As educators, WTARC staff have hosted field trips for youth and recently had Conrad’s Prairie View 4th grade class tour the station. More information about WTARC, along with reports on past studies, is available online at <http://ag.montana.edu/wtarc/>.



Fourth graders from Conrad Prairie View Elementary school, recently toured WTARC. Pictured here, they are watching wheat stem sawfly larvae under a digital microscope.



Dr. Reddy is developing a collaborative research program with the Guangdong Academy of Agricultural Sciences, China on bioattractants. Pictured above and below, is Dr. Reddy on his most recent trip to China.



Picture to Right: WTARC conducted a Field Day on January 29, 2013.

