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Department of Research Centers



Research Center News

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Message from Barry

The Montana Research and Economic Development Initiative (MREDI) agriculture grant entitled, "Increasing Profitability by Improving Efficiency of Montana's Farm and Ranch Lands" tops the departmental news this fall and is discussed more on page 4. Several pieces of this grant directly impact the Research Centers, including 1) identification of pea and lentil varieties with optimal yield and protein and allow for recrop (lead by Chengci Chen), 2) development of cover crop mixes that are suitable for feed and forage and that work in recrop situations (lead by Darin Boss), and 3) development of durum varieties for Montana. All the centers are involved in the pea, lentil and cover crop testing. Cover crop forage yield, quality and nitrate testing will be done on samples grown at CARC, WTRAC, SARC, EARC, WARC, NWARC and NARC and direct feeding to beef and sheep will be done at NARC and Bozeman respectively. The development of durum varieties for Montana will be done in a partnership with Northern Seeds, LLC, who will be doing the breeding. Several Centers will do the variety testing and Mike Giroux's lab will do the quality testing. Three Research Centers (yet to be finalized) will provide support for the On Farm Precision Agriculture Experiments coordinated by Bruce Maxwell in Rapelje, Ft. Benton, Sun River, Manhattan and Conrad, MT. In FY 17, MAES will hire a pulse crop breeder; the pulse variety development will rely heavily on the Research Center System. The ability the Department of Research Centers has to provide statewide research was a key factor in getting this grant.

The 2018-2019 Long Range Building Program (LRBP) requests from MAES have been submitted in draft form to the MSU System, in which the Greenhouse/Head Houses for SARC, WTRAC, CARC and NARC are the #2 system priority, the Chemistry and Instrumentation Research Labs at WTRAC, NARC, NWARC and CARC are the #8 system priority, and the WARC - Horticulture Research and Education Building is the #12 priority. Unheated storage facilities for EARC, SARC, CARC and the Post Farm and the roof for the Grow Safe feeding facility at NARC did not make the priority listing. The next steps are to receive final approval by the MSU system, the MUS system, the Board of Regents, the Governor and the 2017 State legislature. It is critical that we not only work with our constituencies to support the MAES requests, but also the MSU system requests. Romney Hall renovation to serve student needs and classrooms remains the #1 MSU system priority and is in desperate need as student numbers have increased >25% since 2008. The LRBP process for the 2016-2017 biennium provided MAES-DRC funding for Pesticide Handling and Storage facilities at WARC, NWARC, NARC and WTRAC, new shop facilities for CARC and NWARC, and drainage and irrigation work at NWARC.

One faculty position is currently open in the DRC - the Assistant Professor of Plant Pathology at EARC. The search committee plans on bringing in at least 2 candidates in November/December. Additionally, we will be opening a Cropping Systems search at NARC to fill Dr. Desta's position, hopefully before the end of FY16, as well as a new Horticulturalist position at WARC, to be filled in FY17. We will be consulting with the NARC Advisory Committee early next month regarding the job description for the cropping systems position, but the WARC horticulture position will be in the area of tree and small fruit production and IPM. If you know of potential candidates for these positions, please send me their names so we can contact them directly; they are often excellent candidates!

Sincerely,

Save the date!

Planning Conference
in Bozeman
February 22-24, 2016!



News from Central



Dr. Patrick Carr, new Associate Professor of Cropping Systems

Dr. Patrick Carr, currently a Research Professor at North Dakota State University - Dickinson Research and Extension Center will join the faculty at MSU's Central Ag Research Center in Moccasin, MT as an Associate Professor of Cropping Systems February 2016. Dr. Carr is well known both regionally and nationally for his work on tillage in cropping systems, integration of peas and annual forage crops into cereal crop rota-

tions, documentation of economic and environmental effects of reduced tillage and crop rotations in dryland agriculture and on addressing barriers to organic crop production in dryland agriculture. In 2015, he was named Fellow of the American Society of

Agronomy. We are very excited & fortunate to recruit a scientist with national recognition like Dr. Carr for this position since his experience and expertise fits so well with our research needs and initiatives in developing cropping systems for dryland agriculture.

Pat and his wife Patricia are currently looking for real estate in the Moccasin area. Pat is a 1989 MSU PhD graduate and did much of his research at NARC. His committee was Jerry Neilsen, Jeff Jacobsen, Earl Scogley and Steve Stauber. He has been in the NDSU Research and Extension Center System since leaving MSU, first at the Carrington Center from 1989 -1992 then at the Dickenson Center 1992 - present. His current email is: patrick.carr.1@ndsu.edu if you would like to contact him.

Welcome to our Department, Pat!

News from Eastern

EARC started harvesting sugarbeets on September 21st using the harvester that was purchased a year ago with funds from an equipment award the center received last year. This is the first beet harvest since Dr. Chen stepped into the Superintendent role. The harvest yielded 33 tons with a 16.5% sugar content, which was quite good considering that the crop was hit by hail three times in June and July.

EARC also welcomes Dr. Jinwen Huang, a visiting scientist from China, Dr. Reza Keshavarz Afshar, who is Dr. Chen's post doctoral research associate from CARC, and Yesuf Mohammed, who is Dr. Chen's research associate, also from CARC.



Sugarbeet harvest at EARC, September 2015

News from Northwestern

A season of dignitaries and drought!

The 2015 growing season started like a lamb and progressed into a fierce and fiery lion. From April – August, they received a mere 2.6 inches of precipitation compared to the 30 year average of 10.2 inches. However challenging drought conditions were for agriculture, it provided ideal conditions for Dr. Jessica Torrior's research in water-use efficiency. We all look forward to her preliminary results this winter.

Field Day 2015, held on June 24, was a huge success with approximately 135 attendees. It was an honor to host MSU President Waded Cruzado and the "Follow the Tourism Bus Tour." This allowed Department Heads, Deans, Directors, Provosts and Vice Presidents from MSU time to visit with the local producers to discuss local challenges, as well as an opportunity to learn about the breadth of research conducted at NWARC.

On June 30, Bob and Jessica hosted the FFA State Tour including State FFA officers and 25 students. The students showed interest in our field research, including the marketing and the economic sides of crop production.



The FFA State Tour visited NWARC June 30th

Research continues on the orange wheat blossom midge (OWBM). Pestweb has proven to be a very successful and useful real-time monitoring tool for the entire state and North

Dakota. This year, 271 volunteers participated in the statewide monitoring. Volunteer monitors were comprised of county agents, research center staff & private industry. A huge thank you goes to Dan Piccard and Brooke Bohannon for facilitating the process and mentoring volunteers. John Sully, the man behind the website, also deserves everyone's gratitude for keeping the site up and running.

As harvest wound down and the smoke cleared, Governor Steve Bullock visited on September 10 to meet NWARC staff, Advisory Committee members and local farmers. Topics of conversation ranged from new and on-going research at NWARC to future facility needs. Governor Bullock was excited about the research being



Governor Bullock visited NWARC September 10th

conducted in regards to Egan, an MSU spring wheat variety that is resistant to the OWBM and the water use efficiency work. He stated, "This is critical. This is something that will solve the problems on the ground and it could also have the potential for commercialization that could help the entire state. "

A few noteworthy employee events also occurred this summer; research assistant John Garner was married to Becca Lawrence and program manager Jordan Penney and his wife, Ashly, became parents to a beautiful little girl. **Congratulations to all!**

News from Western Triangle

The WTARC Field Day, held on July 17th, was well received despite the overcast day. Dr. Charlie Boyer, VP of Ag and MAES Director, and his wife were able to attend in addition to area grower's and MSU faculty and staff. Weather held until the field tours were complete, then the sky opened up and rain fell steady through lunch. Luckily the shop area was large enough to hold the hungry crowd!



In project news, Dr. Reddy received a USDA Specialty Crop Block grant for 'Development of Pheromone Based Monitoring and Mass Trapping for Pea Leaf Weevil in Pulse Crops and a Western Region SARE grant towards 'Conservation and Augmentative Biological Control in the Northern Plains-Providing Tools for Ag Professionals'. Dr. Roger Ondoua also assumed a Western SARE grant on Sustainable Cropping Systems for Dual-Purpose Biennial Canola .



Julie Orcutt, WTARC
Admin Associate III

The center was excited to announce that Julie Orcutt was hired as the new Administrative Associate. Julie, a native to the area, hit the ground running on October 5th having traveled that day to Bozeman to attend the annual Admin Retreat. Julie is catching on to processes quickly and is busy organizing the office area. She is also quite a lucky person having made it on-stage at the Price is Right stage show in Great Falls on October 7th where she won \$200! Congratulations, Julie, and welcome aboard!

Ag MREDI Grant

Barry Jacobsen and Bruce Maxwell are the lead PIs for the State of Montana Ag MREDI Grant, which has brought \$2.276 million to Montana State University and \$258,000 directly to the Research Centers. The proposal 'Increasing profitability by Improving Efficiency of Montana's Farm and Ranch Lands' will mesh three interrelated goals over the course of 18-months.

- 1) Intensify pulse and cover crop production of 4.6 million acres of land left fallow each year
- 2) Develop new, improved or quality differentiated products, crops or farm practices
- 3) Increase adoption of precision agriculture technologies through **On-Farm Precision Experimentation** and optical based sensors for weed control

Potential Outcomes from the MREDI grant include:

- 1) Seeing farm incomes from pulse crops and livestock feed/forage increase \$15-20 million in 18-months
- 2) Seeing farm incomes increase \$100s of millions in 5-10 years through:
 - a) Optimized land use
 - b) Improved pulse crop, cover crop mixes and durum wheat varieties adapted to Montana
- 3) New jobs for Montana workers
 - a) Production of sensors, software, etc. for precision agriculture
 - b) Processing facilities for pea protein
 - c) Crop Consultants and Data Management Consultants
 - d) On-farm jobs
- 4) Increased tax revenues for better Montana schools, infrastructure and communities

Center Co-PIs

Darrin Boss - NARC

Chengci Chen - EARC

Prashant Jha - SARC

Roger Ondoua - WTARC

Faculty Corner

MAES released the FY16 Equipment and Research Initiative Awards on October 13, 2015. Congratulations to the following faculty member in the Department of Research Centers for receiving an award this year!

| Name | Center | Amount | Award Type | Award Detail |
|-----------------|--------|----------|---------------------|---|
| Dave Wichman | CARC | \$3,900 | Equipment | Tilt-bed trailer |
| Chengci Chen | EARC | \$30,000 | Equipment | Integral rigid sugarbeet planter |
| Darrin Boss | NARC | \$20,000 | Equipment | Calan Broadbent feeding system |
| Ligia Prezotto | NARC | \$33,264 | Equipment | Automated upright microscope system |
| Bob Stougaard | NWARC | \$27,500 | Equipment | Tractor and sprayer |
| Jessica Torrion | NWARC | \$50,000 | Research Initiative | Lon-term quantification & documentation of crop coefficients for efficient irrigation water use |
| Prashant Jha | SARC | \$13,000 | Equipment | Multi-mode microplate reader |
| Zach Miller | WARC | \$6,300 | Equipment | Potato digger and washer |

Staff Corner

The 2nd Annual Milestone’s in Service Ceremony was held on Tuesday, October 27th. The Department and MAES are very fortunate to have many hard-working, dedicated staff members on our team. Below is a listing of the Dept. of Research Center employees who were recognized for their service to the University. Congrats to all!



| Name | Center | Years of Service |
|------------------|--------|------------------|
| Tammy Balzer | SARC | 15 Years |
| Sally Dahlhausen | CARC | 5 Years |
| Les Gray | NARC | 5 Years |
| Shana Wold | DRC | 10 Years |

The University has additional programs to recognize faculty and staff for their outstanding service. If you would like to recognize someone for a job well done, we encourage you to utilize one or more of the following programs:



www.montana.edu/puregold



[www.montana.edu/serviceexcellence/
appreciation-form](http://www.montana.edu/serviceexcellence/appreciation-form)



[www.montana.edu/employeerecognition/
documents/excellenceinservice](http://www.montana.edu/employeerecognition/documents/excellenceinservice)