## PRSRT STD U.S. **July 2023** POSTAGE PAID The Roundup ECRWSS Postal Customer ROUND Inside This Issues EARC & **WREC Field Days Special** Edition

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## Agricultural Research Centers In Sidney & Williston Preparing For Annual Field Days

#### By Katelyn Sponheim

The 2023 MSU-EARC Field Day, Sidney, 1501 N Central Ave., will start at 9 a.m. on July 11. They have an agenda packed with speakers who will be covering their current research projects, all of which affect our local farmers and crop choices.

Marie Dorval, MSU Ph.D. student, will be discussing intercropping chickpea and flax for Ascochyta disease management.

Followed by, Dr. Frankie Crutcher, MSU-EARC plant pathologist, will speaking on cover crops affecting pulse crop root diseases.

Dr. Chengci Chen, EARC superintendent and agronomist, will share his findings especially interesting to local growers looking for alternatives to sugar beets. His studies of mung bean, adzuki bean, and dry beans as potential rotation crops for the region include variety selection, planting, harvesting, and weed management. Dr. Chen will present with Dr. Maral Etesami, research professional, their study of camelina and canola as potential rotation crops for dryland and irrigated production systems.

Dr. Gautum Pradhan, NDSU Research Agronomist, will cover black gram and soybean variety performance; followed by Drs. Jason Cook and Mike Giroux, and several other plant breeders, discussing cereal crop breeding and new released varieties.

Lunch will be served at the EARC building, 1501 N. Central Ave., Sidney.

Dr. Gautum Pradhan, NDSU research agronomist, will cover black gram and soybean variety performance at the EARC Field Day July 11. (File photo)

Williston's NDSU-REC 2023 Field Day will begin July 12, and plans to run from 4-8 p.m., at the Research Extension Center, 14120 Hwy 2, Williston.

Registration begins at 3 p.m. CT for those wishing to attend, with NDSU Vice President Greg Lardy and NDSU President David Cook welcoming attendees before loading the wagon to begin the tour. Speakers and talk titles are tentative currently, and subject to change before June 15.

There are three divisions of the Willistion-REC; Agronomy/Dryland, Horticulture, and the Irrigated Tour.

The Irrigated tour will be held separately on July 13, from 8:30 a.m.-12 p.m. at the Nesson Valley Irrigation Research and Development Farm, located 23 miles east of Williston on Hwy 1804.

Meals will be served at both, with the dryland and horticulture tour serving a steak and lamb dinner afterwards, and the Irrigation tour plans on offering hamburgers for lunch.

The agronomy, or dryland, section of the tour will host Hannah Worral, Minot Research Center, speaking on pulse breeding and upcoming releases, and Kyle Dragseth, WREC, will share their foundation seedstock pulse varieties at stop 1. At stop 2, Clair Keene will discuss Kernza perennial grain, also considered a sugar beet

alternative. Lindsay Malone and Kelsey Griesheim are two planned speakers at this stop, along with Audrey Kalil, NDSU-REC plant pathologist. Kalil will speak on the impact of planting date on root rot of peas.

In fields 3 and 4, the third stop of the tour, they plan five speakers and an optional seed plant tour for those interested. Plotted speakers and topics include Elias Elias on durum varieties and breeding update; Andrew Friskop with a scab update; Charlie Lim with a weed management update; and Gautam Pradhan with guar and black gram trial results. James Rogers is a hopeful, discussing forage grass species selection and production.

The horticulture section of the tour was not able to share their plans at this time, but Tyler Tjelde, Nesson Valley Irrigation Research Farm plans to cover diseases in corn and small grains during their tour. Andrew Friskop, NDSU plant pathologist, will discuss weeds and weed management, especially in resistant varieties. Again, that tour will take place July 13, from 8:30 a.m.-noon., at the Nesson Valley Research Farm.

For producers, the field days provide priceless research updates and information valuable to their daily and future operations. They represent not only the last year's research findings and progress, but decades of scientists and agriculture professionals' labors to better our farming techniques and ultimately, results.

# Be Sure To Attend The Area Field Days



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## Dr. Chen Will Present "Alternatives To Sugar Beets" During Upcoming Field Day, July 11

#### By Meagan Dotson

Professor of Agronomy and Montana State University Eastern Agricultural Research Center (MSU-EARC) superintendent, Dr. Chengci Chen will be presenting "Alternatives to Sugar Beets" during the 2023 Field Day, July 11.

"Several crops have a potential as alternatives to sugar beets, including soybean, dry bean, and oilseed crops. Currently, we are studying mung bean, adzuki bean, soybean, and dry bean," Chen commented.

While dry beans have adapted to the soil and climate in the surrounding area and have been grown by local farmers in previous years, mung beans and adzuki beans are new to the area. Like soybeans, dry beans, mung beans and adzuki beans are all appropriate for irrigated farmland and can be planted and harvested using the same equipment that's used to plant soybeans or small grains. Mung beans and adzuki beans have a higher price than other dry beans, which would bring in more money for local farmers. Both mung and adzuki beans are widely consumed in Asian countries, which is the same region the United States already exports wheat to.

"These crops can do well in this area. However, mung beans and adzuki beans are warm season crops. Like other dry beans, or soybeans, they might run into the first frost in the fall, or encounter wet weather at crop maturity. They might not dry down on time or dry down evenly for combining. In the past, growers used under cutters prior to combining. We are currently studying the harvestability of these crops," Chen explained.

The research conducted on a small plot scale allows scientists to figure out what cultivators can and can't grow in this environment. It also allows them to develop agronomic strategies for these new alternative crops such as planting date, rate, fertility need, weed control, irrigation management, and harvesting method, all of which is essential



Dr. Chengci Chen will present alternatives to sugarbeets, including soybeans, and new to the area mung and adzuki beans during the 2023 MSU-EARC Field Day July 11.

knowledge to have before farmers began planting them on a large scale.

The 2023 MSU-EARC Field Day will start at 9 a.m. at 1501 N. Central Ave.,

Sidney. Chen will be one of several experts who will be presenting their research findings on topics affecting local farmers. For more information, contact MSU-EARC at 406-433-2208.

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# Williston REC To Host Dryland **Agronomy Field Day in July**





**Clair Keene** 





**Kelsey Griesheim** 



Audrey Kalil



Hannah Worral



Kyle Dragseth



**Elias Elias** 



**Andrew Friskop** 



NDSU will be holding the Annual Dryland Agronomy Field Day at the Williston Dryland Research Farm on Wednesday, July 12, located 4.5 miles west of Williston on U.S. Highway 2.

The Annual Dryland Agronomy Field Day begins with registration at 3 p.m. followed by dryland crops tour at 4 p.m.

NDSU research scientists will highlight their work. Greg Lardy, NDSU agricultural affairs vice president, will be in attendance for the Dryland Agronomy Field Day.

Clair Keene, assistant professor and extension agronomist, specializing in cereal crops and field corn, will talk about the perennial intermediate wheat, Kernza. Assistant professors of soil science Dr Lindsay Malone and Dr. Kelsey Griesheim will speak on soil health potential of introducing perennials into crop rotations to benefit the soil.

Plant Pathologist Audrey Kalil, will be speaking about the impact planting date has on the root rot of peas.

Hannah Worral, North Central Research Extension Center research specialist, will talk about pulse breeding and upcoming releases. She will also be talking a bit about some of the newer technologies Williston Dryland Research Farm has been incorporating into its breeding program.









**James Rogers** 

**Gautam Pradhan** 

Kyle Dragseth, Extension Center farm manager and foundation seedstocks manager, will be talking about WREC Foundation Seedstocks Pulse Varieties.

Elias Elias, a university distinguished professor, will be giving a durum wheat breeding update.

Andrew Friskop, associate professor and plant pathologist, will be giving a scab update.

Charlie Lim, extension weed specialist, will be giving the weed control update. James Rogers, extension specialist in forage crops production, will be giving the forage update.

Gautam Pradhan, dryland research agronomist, will be presenting the Guar & Black Gram trial results.

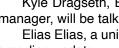
There may also be a talk on climate smart approaches in agriculture.

A free steak and lamb dinner for attendees will follow the completion of the tours.

NDSU Field Days provide an opportunity for farmers, ranchers, and others to hear about the latest research and practices in forage production, agronomy, and horticulture.

To learn more contact Violeta Hobbs at violeta.hobbs@ndsu.edu or by phone at 701-774-4315.

**Charlie Lim** 



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## WE HAVE THE TRUCK FOR THE TOUGH JOBS!



## Chen & Etesami To Discuss Camelina & Canola As Alternative Crops To Sugar Beets at MSU-EARC Field Day



#### By Meagan Dotson

The 2023 Montana State University Eastern Agricultural Research Center's (MSU-EARC) Field Day will be held Tuesday, July 11 at the Eastern Agricultural Research Center, 1501 N. Central Ave., Sidney. The day starts with registration and coffee and donuts from 8-8:40 a.m., and crop tour starts at 9 a.m. MT and several speakers will be presenting their research on agricultural topics relevant to area growers.

Dr. Chengci Chen, MSU-EARC professor of agronomy and superintendent, in conjunction with research professional Maral Etesami will be presenting their study of camelina and canola as potential rotational crops for dryland and irrigated production systems.

"Demands for oilseeds has increased in recent years; canola and camelina could be profitable alternatives to sugar beets, especially because the demand for camelina for biofuel production is surging," said Chen, adding that several companies are seeking millions of acres for camelina production.

Camelina is a new crop to this area and both canola and camelina are suitable in rotation with crops such as wheat and barley and could potentially make a more profitable and resilient crop system. They are suitable for dryland and irrigated farming, though they have a higher yield under irrigation but plant disease is a

concern. Research at EARC also aims at selecting cultivars that can produce higher yield with less input, especially nitrogen input.

Chen and Etesami's research will offer vital information including cultivar adaptability and yield potential and agronomic management strategies for these alternative crops including fertility needs, planting time and rate, irrigation management, weed control, harvesting method, and disease management.

"Agriculture is very important to our community. With sugar beets out, and a lot of uncertainty, we want to find alternatives for growers that are profitable," Chen explained. He went on to add of their research, "We don't want farmers to fail on a large scale. Our research in small plot-scale allows us to figure out what cultivators can and what can't grow in this environment and the agronomic strategies for these new crops before farmers take these crops to their farms for large-scale production." Dr. Chen welcomes farmers and the general public to attend the field to learn the work the scientists are doing at EARC and see the crop performance. Dr. Chen also wants to thank local businesses for sponsoring the luncheon at the field day.

For more information about the MSU-EARC Field Day, please contact them at 406-433-2208.

## NDSU Will Hold Nesson Valley Irrigated Research Farm Field Day July 13

#### By Jaymi Mozeak

NDSU will be holding a field day at the Nesson Valley Irrigation Research and Development farm, 23 miles east of Williston on Hwy. 1804 from 9 a.m.-noon CT, Thursday, July 13. Registration begins at 8:30 a.m.

Justin Jacobs, Williston Research Extension Center irrigation research specialist, will talk about some of the new varieties being tested as well as some of the results from last season. If there is an opportunity, he might briefly highlight some of his work with intercropping.

Dr. Gautam Pradhan, NDSU, Williston REC dryland research agronomist, and Tyler Tjelde, NDSU, Williston REC irrigation research agronomist, will talk about soil moisture management in soybeans and its impact on growth and yield. Pradhan will also discuss his research on two new pulse crops, guar, and blackgram, for MonDak region under irrigated conditions.

Andrew Friskop, NDSU Plant College of Agriculture associate professor and extension plant pathologist, will discuss plant disease in corn and small grains.

Charlie Lim, NDSU, Williston REC Extension weed specialist, will be speaking on the weed control update and management of resistant weeds.

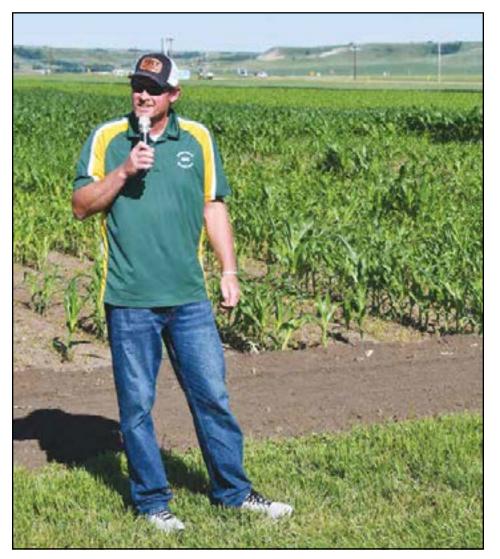
Dr. Rob Proulx, Agricultural and Biosystems Engineering Division Extension technology systems specialist, will be talking about Spray Quality and Delta T.

There will also be a discussion on the market outlook for fall 2023.

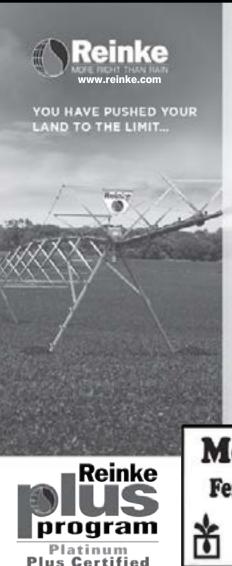
The day will conclude with a noon luncheon sponsored by Agri-Industries.

NDSU Field Days will sprovide an opportunity for farmers, ranchers, and others to hear about the latest research and practices in forage production, agronomy, and horticulture.

For more information contact Violeta Hobbs at violeta.hobbs@ndsu.edu or by phone at 701-774-4315.



Tyler Tjelde, NDSU, Williston REC irrigation research agronomist, will talk about soil moisture management in soybeans and its impact on growth and yield.





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# MSU-EARC FIELD DAY M TUESDAY, JULY 11, 2023

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- 8:00–8:40 Morning refreshments & registration
- 8:40 Welcome by Dr. Chengci Chen, MSU/MAES EARC Superintendent
- **9:00** Tour begins
- **12:00** Sponsored lunch at EARC
- 1:00 Update from Darrin Boss, Department Head of Research Centers1:30 Adjourn



# Williston Research Extension Center Field Days Set for July 12 and 13

Field day topics will include upcoming pulse breeding releases, trial results, weed control updates, and variety of horticulture and irrigation topics.



The WREC field days will offer opportunities to learn about the latest research in dryland agronomy, horticulture and irrigation topics. (NDSU photo)

#### By NDSU Agriculture Communica- leases

tion

Field days at North Dakota State University's (NDSU) Williston Research Extension Center (WREC) are set for July 12 and 13. NDSU research scientists will highlight their work. Greg Lardy, NDSU vice president for agricultural affairs, will attend the field day.

The annual dryland agronomy and horticulture field day will be held Wednesday, July 12, at the WREC, 4.5 miles west of Williston on U.S. Highway 2. The event begins with registration at 3 p.m. Central time.

The dryland crops tour starts at 4 p.m. Topics include:

- Pulse breeding, upcoming re-

S

- WREC Foundation Seedstocks
- pulse varieties - Kernza perennial grain
  - Climate Smart Approaches in
- Agriculture

- Durum wheat varieties, acreages and performance

- Scab update
- Weed control update
- Livestock update
- Guar and Black Gram trial results

A concurrent horticulture program starts at 4 p.m. in the Ernie French Center for those interested in flowers, gardening and fruit/vegetable production. Program topics include:

Weed identification and pesti-

cides

- Conifer trees
- Raspberries and strawberries
- All America Selections flowers

and pollinator garden A free steak and lamb dinner for

attendees will follow the completion of the tours.

The irrigation field day will be held on Thursday, July 13, at the WREC Nesson Valley Irrigation Research and Development Farm, 23 miles east of Williston on North Dakota Highway 1804. Topics include:

- Plant disease in corn and small grains

- Weed control update and managing resistant weeds

- Variety trial update
- Soil moisture monitoring
- Market outlook for fall 2023

- Managing soil moisture in soybeans and its impact on growth and yield

Registration will begin at 8:30 a.m. and the irrigated crop tour will begin at 9 a.m. The day will conclude with a noon luncheon sponsored by Agri-Industries.

For more information, visit the WREC events webpage at ndsu.ag/ wrecevents or contact Violeta Hobbs at 701-774-4315 or violeta.hobbs@ndsu.edu.



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# Williston Horticulture Field Day To Be Held Wednesday, July 12

#### By Jaymi Mozeak

NDSU will be holding a Horticulture Field Day and Tour at the Ernie French Center, 14120 US-2, Williston, on Wednesday, July 12 at 4 p.m. The presentations are for those interested in flowers, gardening, fruit and vegetable production.

Rojee Chipalu-Pradhan, NDSU Williston Research Extension Center horticulture research specialist, will lead the tour of the horticulture program.

There are four speakers in total, including Chipalu-Pradhan, who will showcase a garden tour and will speak about keeping a pollinator garden as well as All-America selections of flowers and vegetables.

Kelly Leo, NDSU Agriculture extension agent, specializing in agriculture and natural resources, will do a talk on weed identification and pesticides.

Dr. Joe Zeleznik, a forester, will do a talk on conifer trees. Horticulturist Dr. Tom Kalb, will be speaking on raspberries and strawberries.

A free steak and lamb dinner for attendees will follow the completion of the tours.

NDSU Field Days will provide an opportunity for farmers, ranchers, and others to hear about the latest research and practices in forage production, agronomy, and horticulture.

To learn more contact Violeta Hobbs at violeta.hobbs@ndsu.edu or by phone at 701-774-4315.



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## Pulse Crop Root Disease Will Be Presented By Crutcher During 2023 Field Day

#### By Meagan Dotson

The Montana State University Eastern Agricultural Research Center (MSU-EARC) is holding their annual Field Day, July 11. The day will begin at 9 a.m. with several speakers presenting their research on topics which impact area farmers.

Dr. Frankie Crutcher, who is an associate professor and plant pathologist at MSU-EARC, will discuss pulse crop root disease, and how it can be best prevented.

"The longer you grow pulse crops and the tighter the rotations, the more likely you will develop yield limiting root rot," Crutcher stated. "A farmer is more likely to get root rot if they have been growing pulse crops for many years, if they neglect to use a seed treatment, and if they are doing two-year rotations between peas and lentils."

Crutcher has been studying pulse root rot since she began her position at MSU-EARC in 2016. In addition to rotting roots, signs and effects of root rot include poor yield, yellowing, poor nodulation and stunting.

As pulse crops gain popularity with consumers across North America, Europe,

### Dorval To Discuss Ascochyta Disease Management At MSU-EARC Field Day, July 11

#### By Meagan Dotson

Graduate student Marie Dorval, under advisor and plant pathologist Dr. Frankie Crutcher, will be presenting Intercropping Chickpea and Flax for Ascochyta Disease Management at Montana State University Eastern Agricultural Research Center's (MSU-EARC) Field Day July 11.

Intercropping involves planting one crop between rows of another, in this case planting flax between rows of chickpeas. It is being studied as a way to deter Ascochyta blight, which is a foliar disease that destroys leaf tissue, causes poor pod fill, and contaminates seeds allowing the disease to spread to other chickpea plants.

"Our study is trying to determine the mechanism for this disease control. We are looking at whether the flax slows down long distance and in-field movement of the pathogen and if the flax changes the microclimate in the plant canopy," said Crutcher, who has been studying Ascochyta blight since she started at MSU-EARC in 2016.

Ascochyta blight can become extremely serious, requiring multiple fungicide applications. Unfortunately, this has caused a widespread resistance to the fungicide group containing Headline, which makes alternate disease management all the more important.

The 2023 MSU-EARC Field Day will start at 9 a.m. MT at 1501 N. Central Ave., Sidney, and lunch will be served later that day. The Field Day is an opportunity for growers to get insight about the latest findings on crops that are being grown or could potentially be grown in the area.

Dorval is working towards her Ph.D. in plant sciences and plant pathology. To hear her and Crutcher's findings on Intercropping Chickpea and Flax for Ascochyta Disease Management or any of the other pertinent agricultural information that will be presented by several speakers throughout the Field Day, contact MSU-EARC at 406-433-2208.

the United Kingdom and Japan, they are also an appealing crop for farmers as they fit well into crop rotation, increase soil available nitrogen and increase overall soil health. With pulses making up about 10% of the total protein consumed world-wide, addressing root rot in order to increase yield is a priority for anyone who currently grows or is thinking of incorporating pulses into their rotation.

"In many areas in northeast Montana, root rot is limiting pulse production and at the same time producers want to grow cover crops that contain peas and lentils for their improvement of feed mixes," Crutcher explained.

The 2023 MSU-EARC Field Day will be held at 1501 N. Central Ave., Sidney. For anyone interested in the plethora of valuable agriculture information that will be discussed that day, please contact MSU-EARC at 406-433-2208.



Dr. Frankie Crutcher speaking at the 2022 EARC Field Day. (Photo submitted)

## Wolf Point Wild Horse Stampede To Celebrate 100 Years

#### Marvin Brookman Stadium, Wolf Point, MT

The Wolf Point Wild Horse Stampede will celebrate its 100<sup>th</sup> year July 5-8, in Wolf Point hosted by the Montana Pro Rodeo Circuit 2020 Medium Rodeo of the Year Stampede committee, along with the many dedicated Stadium committee and community volunteers.

The weekend festivities will start Wednesday evening July 5 with a steak fondue at the Big Sky Corral and the Wild Horse Ranch Rodeo at 6 p.m., followed by the Kyle Shobe & The Walk 'Em Boys concert, located at Marvin Brookman Stadium.

Grand marshals chosen for the 100<sup>th</sup> are Clint and Arlyss Long, 40-year Wild Horse Stampede Committee members, who served as chairman and secretary for many years. In setting the standards that pro rodeo demands, the Long's Stampede legacy and what they are most proud of in their tenure, is the overall renovation of the arena and rodeo grounds at the Marvin Brookman Stadium. In Arlyss's assertive words to the committee many years ago - "We are building a facility."

Under their leadership the Stampede committee received numerous awards including WPRA's Small Rodeo Committee of the Year twice and Justin Boots Best Footing Award three times, Montana Pro Rodeo Circuit "Committee of the Year" 17 times and instrumental to the introduction of the MPRF Contestant Hospitality event.

Clint and Arlyss Long are representative of what is expected, of oneself, to be a dedicated committee member in service to the sport of professional rodeo.

RAM and Cinch jeans & shirts PRCA Rodeo action will be held each evening at 7 p.m., Thursday, July 6-Saturday, July 8.

Other events and festivities set for the 100<sup>th</sup> weekend celebration include the "100 Years of the Granddaddy of Montana Rodeo" 2-day parade, carnival, cowboy church, street dance entertainment by Jared Stewart & Jarred Hanson, re-enactors, the famous Catholic Hamburger Stand on Main Street, Stampede Fun Run, TETWP Stampede Roundup Golf Tournament Thursday and Tough Enough to Wear Pink Night, museum pancake breakfast, all-day activities at the Wadopana Pow Wow grounds, rodeo event Calcutta each night pre rodeo and Wild Horse Race Calcutta, rodeo specialty act "Haley Proctor" Trick Riding, Kids Stick Horse Rodeo hosted by Miss Rodeo Montana, bouncy house and Art in the Park. Additional events held in conjunction with the 100<sup>th</sup> Stampede will be announced at a later date.

Wolf Point Wild Horse Stampede tickets available after June 21 by calling 406-653-1770 or stop in at the Main Street ticket booth in Wolf Point. For more information or for possible schedule change contact The Wolf Point Chamber of Commerce & Agriculture at 406-653-2012, wolfpointchamber@gmail.com, www. wolfpointchamber.com.



### Williston Research Extension Center 2023 Field Day: Agronomy and Horticulture

Jul 12 • 4-8pm CDT | Location: Williston REC, 14120 Hwy 2, Williston, ND

#### The Dryland Crops Tour Starts At 4pm. Topics Include:

#### **Pulse Breeding, Upcoming Varieties**

- Kernza perennial grain 
   Root Rot of Pea
- Climate Smart Approaches in Agriculture
- Durum Wheat Breeding Update 
   Scab Update
- Weed Control Update 
   Forage Update
- Guar and Black Gram trial results

### Williston Research Extension Center 2023 Field Day: Irrigated Tour

Jul 13 • 8:30am - 12pm CDT



A Concurrent Horticulture Program Starts At 4pm In The Ernie French Center For Those Interested In Flowers, Gardening And Fruit/ Vegetable Production. Topics Include:

- Weed identification and pesticides 
   Conifer trees
- Raspberries and strawberries
- All America Selections flowers and pollinator garden

3pm
Research Program At NDSU
5:35pm Audrey Kalil - Management Of Root Rot In Field Peas Crop Rotation, Seed Treatment & Planting Date
5:55pm Elias Elias - Durum Wheat Varieties, Acreage & Performance
6:15pm Andrew Friskop - Fusarium Head Blight (Scab)
Management Update
6:25pm Charlie Lim - Weed Management Update
6:35pm James Rogers - Forage Grass Species & Production
6:45pm

A free steak and lamb dinner for attendees will follow the completion of the tours. Requests for accommodations related to disability should be made at least two weeks in advance of the event. For more information, contact Violeta Hobbs at 701-774-4315 or violeta.hobbs@ndsu.edu.



## USDA Offers Montana Producers Many Conservation Choices With Continuous CRP

#### Submitted by Tammy Lyseng, USDA Richland County Farm Service Agency County Executive Director

Bozeman, MT - Agricultural producers and landowners in Montana interested in conservation opportunities for their land in exchange for yearly rental payments can find many possibilities through the U.S. Department of Agriculture's (USDA) Continuous Conservation Reserve Program (Continuous CRP). This option offers conservation benefits similar to others, like General and Grassland CRP, but also offers unique flexibility and several program choices.

"Creating sound conservation and climate-smart options for the agricultural

community are top priorities for us," said Maureen Wicks, Montana USDA's Farm Service Agency State executive director. "Continuous CRP is one of the best ways we can do that because it offers so many options. Producers across the country are currently participating in Continuous CRP with more than 8.2 million acres enrolled, proving that agriculture and conservation can be strong partners."

The long-term goal of all CRP opportunities is to re-establish valuable land cover—helping to improve water quality, prevent soil erosion and reduce loss of wildlife habitat. Farmers enrolled in the program agree to remove environmentally sensitive land from agricultural



production and plant species that will improve environmental health and quality in exchange for a yearly rental payment.

Under Continuous CRP, producers and landowners can enroll in CRP throughout the year. Offers are automatically accepted provided the producer and land meet the eligibility requirements and the enrollment levels do not exceed the statutory cap. The Climate-Smart Practice Incentive is also available in the Continuous signup.

There are several enrollment options within Continuous CRP, including:

 State Acres For Wildlife Enhancement (SAFE)

1. The initiative restores vital habitat in order to meet high-priority state wildlife conservation goals.

2. Highly Erodible Lands Initiative (HELI)

3. Producers and landowners can enroll in CRP to establish long-term cover on highly erodible cropland that has a weighted erodibility index (EI) greater than or equal to 20.

 Conservation Reserve Enhancement Program (CREP)

1. Working with conservation partners, CREP leverages federal and non-federal funds to target specific state, regional, or nationally significant conservation concerns.

Farmable Wetlands Program

1. Producers and landowners can enroll land in CRP to restore previously farmed wetlands and wetland buffers, improving both vegetation and water flow.

USDA continues to improve conservation programs by looking for opportunities to broaden reach and accessibility for producers and landowners. The Department has enhanced Continuous CRP by expanding CLEAR30 from two pilot areas to nationwide availability and repositioning SAFE within Continuous CRP to give producers and landowners more opportunities to participate. In addition, the Department has improved CREP by creating flexibilities within CREP for partners to provide matching funds in the form of cash, in-kind contributions, or technical assistance, adding staff to work directly with partners, and partnering with three Tribal Nations, for the first time ever, to help conserve, maintain, and improve grassland productivity while reducing soil erosion and enhancing wildlife habitat.

To sign up, producers should contact the FSA at their local USDA Service Center.

#### More Information

Signed into law in 1985, CRP is one of the largest voluntary private-lands conservation programs in the United States. It was originally intended to primarily control soil erosion and potentially stabilize commodity prices by taking marginal lands out of production. The program has evolved over the years, providing many conservation and economic benefits.

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## Montana Stockgrowers Association Meeting Held June 15



The MonDak Area Stockgrowers Association donated \$23,879.51 to ten area fire departments. The money was raised from the proceeds of the Cattleman's Ball. Pictured (L-R) Seth Brown, Richey; Kody Sodt, Richey; Kyle Senner, Richey; David Norton, Bainville; Jerry Burns, Horse Creek; Pat Asbeck, Fairview; Jon Dunbar, Fairview; Leroy Schmierer, Savage; Justin Verhasselt, Sidney; Russ Thiessen, Lambert; Larry Hatter, Alexander (pictured right).

#### By Robyn Heck

The Montana Stockgrowers Association met on Thursday, June 15 at the Sidney Livestock Company.

Financial reports were given. Discussions were had on the Check Off beef system.

Mark Voll reported on the North Dakota Stockman's Association. He discussed how membership in these types of associations are important. "It is important for us to be a voice. This is the only way we, in eastern Montana and western North Dakota, can have a voice in DC. Our dues go to combat issues that we are constantly getting hammered with in the agriculture industry," said Voll. He also reported the favorable change in President Biden's Waters Of The United States (WOTUS) plan earlier this month. The EPA now says that spring creeks and stock dams are not under the jurisdiction of the government.

Voll also reported that the

Stockman's Association is constructing a new building in Bismarck off of Hwy. 83. It will be a 10,000 square space that will hopefully be open in the spring of 2024.

There was also discussion on the North Dakota Beef Commission's success. May was "beef month", and they held a competition for the best burger in the state. There was a 300% increase in beef awareness. The best burger in North Dakota went to Velva two years in a row, but this year it goes to the restaurant in Minnewaukan, ND. Their goal is to keep beef front and center for consumers.

The Montana Stockgrowers Association also discussed their Cattleman's Ball. They are looking for more help for their main fundraiser.

This year they presented donations to all area fire departments. Financial support was given to Bainville, Horse Creek, Fairview, Richey, Alexander, Wibaux, Culbertson, Savage, Lambert, and Sidney fire departments.

Also, the steer scholarship was given to James Head. James would like to thank the Stockgrowers Association for this opportunity. He would also like to thank Bob Walker for allowing him to house his steer at his place. He shared stories of halter leading and progression in the steers growth.

### MonDak Area Stockgrowers Association Awards Scholarships to Area Students

#### By Marley Manoukian, MonDak Area Stockgrowers Secretary/Treasurer

The MonDak Area Stockgrowers Association presented four area students with scholarships last week at the spring meeting. Two high school scholarships and two college students that will have a positive future impact on the agriculture industry and rural communities were selected for the awards.

The \$500 high school scholarship was awarded to Burton Pollari. Burton is the son of Karen and Andy Pollari and a recent graduate of Sidney High School. He plans to attend Rocky Mountain College and major in environmental science.

The \$1000 high school scholarship was awarded to Leah Beery. Leah is the daughter of Matt and Krista Beery and is a recent graduate of Circle High School. She plans to attend Northwest College, Powell, WY, and major in agriculture

#### education.

The \$500 college scholarship was awarded to Grady Larson. Grady is the son of Tim and Kristin Larson, Sidney, and is currently attending Miles Community College and pursuing a degree in ag business.

The \$1,000 college scholarship was awarded to Tiara Whitmus. Tiara is the daughter of Donna and Jeff Whitmus and a past graduate of Lustre Christian High School. She is currently attending Miles Community College and majoring in livestock and equine management and agriculture pathways.

Congratulations to our scholarship winners and best of luck in your future endeavors.

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## United States & India Agree To Lower Tariffs On Pulse Crops

"Underscoring the close bilateral economic and trade relationship, the United States and India will terminate six WTO disputes; India will remove retaliatory tariffs on select U.S. products" Submitted by Logan Kruse, Montana Department of Agriculture

Washington - On Thursday, June 22, United States Trade Representative Katherine Tai announced the United States and the Republic of India have agreed to terminate six outstanding disputes at the World Trade Organization. Furthermore, India agreed to remove retaliatory tariffs on certain U.S. ag products, including chickpeas, lentils, almonds, walnuts, and apples, marking a big win for Montana Agriculture.

"These tariff cuts will restore and expand market opportunities for U.S. agricultural producers and manufacturers.

Montana is currently the number one ranking state in both chickpea and lentil production in the United States. In 2022, Montana produced just over 65% of the nation's lentils (USDA-NASS). With the export value of U.S. pulses in 2021 reaching \$389 million and the current estimate being 120% more due to higher production, this removal of retaliatory tariffs marks a large opportunity for Montana agriculture and its producers.

"Prime Minister Modi's visit has underscored the importance of the U.S.-India bilateral relationship and our cooperation on a range of shared priorities. This agreement represents the culmination of intensified bilateral engagement over the last two years, including through the U.S.-India Trade Policy Forum, to deepen our economic and trade ties," said Ambassador Katherine Tai. "As a result of our work, U.S. agricultural producers and manufacturers will now enjoy renewed access to a critical global market and we will strengthen our trade relationship with one of our closest partners."

The Montana Department of Agriculture is serving Montana Agriculture and growing prosperity under the Big Sky. For more information on department programs and services, visit agr.mt.gov.

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# Detection Of Palmer Amaranth Confirmed Near Shelby, MT

### Submitted by Logan Kruse, Montana Department of Agriculture Communications Officer

Helena, MT - The Montana Department of Agriculture (MDA) confirmed Palmer amaranth in a residential planter near Shelby, MT. This is the first case of Palmer amaranth confirmed in Montana.

Palmer amaranth (Almaranthus palmeri), a fast-growing, prolific-seeding pigweed, has been confirmed in Montana for the first time. A single male plant was found growing in a residential planter near Shelby, most likely introduced from contaminated birdseed; no seed was produced. The site will be monitored for the next several years to ensure no additional plants emerge.

Palmer amaranth has smooth stems, long leafstalks (petioles), long, thin seedheads, and it tends to grow much taller than other common "weedy" pigweeds. Palmer amaranth is diecious, meaning it has both male and female plants, which allows it to quickly become genetically diverse and easily develop herbicide resistance. Common vectors of spread include millet, sunflower screenings, and farm equipment. The Montana Department of Agriculture recommends using caution when moving around equipment or purchasing seed and feed, especially when it is from Palmer amaranth infested states. There is a zero tolerance for Palmer amaranth seed in Montana stated in ARM 4.12.3011 and the Palmer Amaranth Task Force is willing to help landowners identify and manage all populations.

To report a suspected Palmer amaranth plant, contact your local county weed district, MSU Extension agent, or the Montana Department of Agriculture. Leave the plant in the ground so it can be correctly identified, take plenty of pictures, record GPS coordinates, and arrange for a site visit as soon as possible. Identification is difficult, so most suspected plants are genetically tested. For additional resources and contact information, visit the Early Detection, Rapid Response webpage here: agr.mt.gov/Noxious-Weeds.

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## **Ag Appreciation Golf Tournament July 10**



2022's highest scoring team (L-R) Tanner Hagler and Tim Cymbaluk. Not pictured are Danielle Steinley and James Johnson.

#### **By Hunter Simmons**

The Sidney Chamber of Commerce along with Kraken Resources and Dasinger Oil Properties will host the annual Ag Appreciation Golf Tournament on Monday, July 10, at the Sidney Country Club.

This event has a prestigious past, pairing farmers and ranchers with local businessmen and women for a four-person scramble. Prizes in varying categories will be awarded at the close of the tournament at 4 p.m.

Last year's winners were Tim Cayko, Rob Breuer, Todd Cayko and Kyle Cayko. For their success, they each received bottles of Pendleton whiskey and gift cards to Western Tire Co. They are anticipated to return this year to defend their title.

Breakfast and a barbeque lunch will be provided at the course. Each hole has its own sponsor, touting exclusive giveaways and refreshing adult beverages. Whether you are a seasoned golfer, beginner, or just a spectator, this is an event you do not want to miss!

Registration starts at 7:30 a.m. and is free for farmers and ranchers in Richland County thanks to over 50 local sponsors. Tee time is set for 9 a.m. Reserve your spot today by contacting the Chamber of Commerce at 406-433-1916 or signing up at https://www.surveymonkey.com/r/ZBS6P9B.



2022's lowest scoring team (L-R) Tim Cayko, Rob Breuer, Todd Cayko and Kyle Cayko. The team won a bottle of Pendleton and gift cards from Western Tire Co.



## Richland County Farmers Market July 8 - Oct. 14

By Marley Manoukian, MSU Richland County Extension Agent

The Richland County Farmers Market will once again be in Sidney this summer. The market will be held the second Saturday of July through the second Saturday of October, July 8-Oct. 14. The farmers market will again be located at the Richland County Courthouse parking lot, on the corner of 2nd St. NW and 2nd Ave. NW and will be open from 7:30 a.m.-12 p.m.

There will be a variety of handmade items and crafts, produce, and food products available at the market. Individuals interested in becoming a vendor at the Richland County Farmers Market can contact the Richland County Extension Office at 406-433-1206.

Stop by the Richland County Farmers Market on Saturdays starting July 8 to take in the variety of produce, food products, and handmade items that the vendors in our community have to offer.





# **McKenzie County Fair Highlights**



Cutting the ribbon for the new McKenzie County Ag Expo. Left to Right – Stacy Boekelman, David Sting (FCI) Erica Johnsrud, Tim Nelson, Janel Lee, Laurel Nelson, April Mitteer, Chris Kubal, Joel Brown (CC) Craig Hystad (CC), Kathy Skarda (CC), Paige Delany, Howdy Lawlar (CC), Tim Jorgensen, Lindsay Madorin (AE), Kylee Roff (AE), Aaron Klein (ICON), Riley Faller (AE), Heidi Brenna (ICON), Todd Mitzel (ICON). (Photo by Kathy Taylor)

McKenzie County and Ag Expo Staff hosted a grand opening ceremony for the new Ag Expo Facility located at 12880 25th St NW on Thursday, June 15 after the first section of the Bulls & Broncs event. The Ag Expo Facility includes an exhibition hall, livestock expo, and an outdoor arena and will provide the space to host rodeo shows, various recreational and social events, and livestock shows. For more information, please visit mcagexpo.com or call 701-842-3976.



Ellie Shape shows off her Grand Champion Turkey at the McKenzie County Fair. (Photo by Kathy Taylor)



Dylon Cargo shows off his 1245 Ib. Overall Grand Champion Steer at the McKenzie County Fair 4-H Livestock Sale on Friday. (Photo by Kathy Taylor)





South for 3 miles, turn left for 2.7 miles, turn right up the hill. Roads will be marked. **OWNER: OUICK RANCH LLC** FOR MORE INFORMATION: RICK 406-939-1632 • Lunch will be available.

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- Cummins JD 70 diesel Tractor, power steering JD Narrow Front Tractor (can't find the model) JD 4850 MFWD Tractor, 15-speed power shift, 3 pt., PTO, new cab kit, 2000 hours on rebuilt motor, & JD 740 Front-end Loader w/bucket & grapple, Nice & Clean (Kenny 406-974-2168) Ezzee-on Front-end Loader w/bucket & grapple CAT De w/bw/draulic Decor
- CAT D6 w/hydraulic Dozer
   JD 35' Toolbar w/Spikes, model 1600
   Graham Holme Toolbar
   (4) 10' JD 9350 Disc Drills

- (4) 10' JD 9450 Hoe Drills w/JD Transport
- JD 330 Disc JD 935 Land Plane
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  Powder River Portable Loading Chute
  Powder River Hydraulic Squeeze Chute
  Hydraulic Sthwheel Portable 27' Chute & Alleyway

- Pierson Portable Chute w/palp cage (older unit)
  Haybuster H-1100 Hay Chopper
- Red Ox 8-Big Round Bale Hauler

- H&S 6-wheel double Rake
  (2) Portable Calf Feeders
- Misc. Bale Feeders



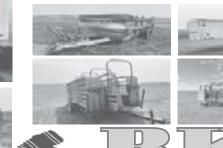
#### 1986 Ford F250 Flatbed Pickup, 2x4 (for parts) 1986 Chevy Dually Pickup & diesel Motor w/PTO to run hay chopper



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AUCTIONEER'S NOTE: Donna Quick has sold her ranch and will be liquidating all her equipment. There is some very good livestock handling equipment, with much of it being portable. This will not be an all-day sale, so please be on time. Hope to see you Saturday, July 22, 10:00 a.m. ~Rick



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        2001 Ford F250 Crew cab Pickup, V10 w/Flatbed
        2001 Dodge Ram 2500 Pickup, 4x4 (runs)
        2007 Dodge 3500 diesel 1-ton 4-door Pickup, 4x4, 6-speed manual, w/Krogmann bale bed (runs)
        2006 Chevy 2500 HD extended cab Pickup (for parts)
        1997 Ford F150 Pickup 4x4, regular cab (for parts)
        1994 Ford Ranger XLT Pickup, 4-speed w/overdrive & FS 100-callon Spraver Hose w/ Norzle

      - 100-gallon Sprayer, Hose w/ Nozzle
         1993 Ford F150 (for parts)

      - 1950's Ford F250 Pickup (for parts)
        1963 Ford Pickup (for parts)
        Old Chevy Truck w/fertilizer spreader

      - 1978 Wilson Hopper Bottom 42' Trailer
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16' Bumper-pull Stock Trailer
2011 Western Hopper bottom 39' Trailer, single tires, auto inflation, new tarp, pintle hitch, 2-new air bags Terry (406-977-2366)

- Sperry NH Manure Spreader, model 800
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- Ford F700 gas Truck w/Harsh 854M box w/ETN scale,

## Blister Beetles In Hay Are A Danger For Livestock

Blister beetles are attracted to blooming alfalfa and weeds.

#### By NDSU Agriculture Communication

Blister beetles have made their appearance in North Dakota and are feeding on alfalfa fields.

"The name 'blister beetle' stems from a naturally occurring toxin called cantharidin produced by the beetle that causes blistering of skin when the beetle is crushed and the toxin is released," says James Rogers, Extension forage crops production specialist at North Dakota State University's North Central Research Extension Center.

Adult blister beetles are attracted to blooming alfalfa fields and weeds (goldenrods, dandelions). They will feed on nectar and pollen and devour leaves, stems and flowers. Blister beetles produce one generation per year and will be active from June to September. Adult blister beetles will lay their eggs in soil from late summer to early fall and can overwinter in North Dakota as larvae, emerging in mid to early summer.

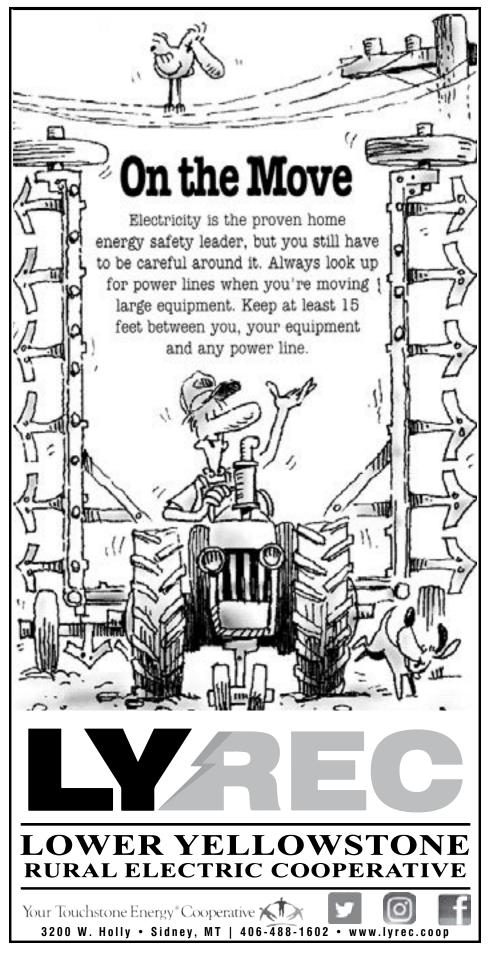
Cantharidin from blister beetles can cause severe inflammation and even death in horses, says Rogers. In horses, depression, inflammation and ulceration of the mouth, irritation of the gastrointestinal tract, and painful urination are common symptoms of sub-lethal doses of cantharidin. Cattle and sheep are much more tolerant of cantharidin ingestion. Little work has been done to establish toxicity levels, though symptoms can occur with cantharidin ingestion. These symptoms may include depression, elevated temperatures and dehydration.

The most common species of blister beetles found in North Dakota are the ash-gray and black blister beetle. Lesser seen are the striped and Nuttall's blister beetle. Blister beetle toxicity levels are higher in males but also vary by species and by the region in which the beetles are found, says Rogers. Adults range in size from ½ inch to 1 inch long. Blister beetles are fairly easy to identify among other beetles, as the "neck" region located behind the head is narrower than the head when viewed from above.

Blister beetles are very mobile and tend to swarm in large numbers in small areas of the field, says Miranda Meehan, NDSU Extension livestock environmental stewardship specialist. They can move into alfalfa fields from field edges that have a host plant such as sweet clover, which blooms earlier than alfalfa. Once alfalfa begins to bloom, they may move into a field and feed for a short period of time before

Continued on next page.





## Blister Beetles In Hay Are A Danger For Livestock...

#### Continued from previous page.

migrating to other areas of the field or to new fields. After alfalfa is cut, they often move into blooming canola and other blooming field crops. Hay infested with blister beetles is a big concern for hay producers and livestock owners.

Here are some ways to reduce the threat of blister beetles:

- Use equipment such as a disc mower without hay conditioners or crimpers that may crush blister beetles and release toxin into the hay. This also encourages beetles to move out of the hay field.

- Allow cut hay to fully dry before raking to allow beetles to move out of the hay. Raking may dislodge dead beetles from hay; however, the potential still exists for cantharidin in the hay.

- Control blooming weed hosts near or in alfalfa fields.

- Cut alfalfa at less than 10% bloom and/or late in the season (mid-August to early September).

- Check fields 24 hours prior to cutting to ensure that new swarms of blister beetles have not re-infested the fields.

- Scout harvested hay and underneath windrows closely for blister beetles and allow blister beetles to move out of drying hay before baling. Turning the windrows may be helpful to get blister beetles to move out.

"Even tractor tires can crush blister beetles in hay when turning equipment around," says Karl Hoppe, Extension livestock systems specialist at NDSU's Carrington Research Extension Center. "Cut hay with a sickle bar or disc mower that allows blister beetles to move out of hay after cutting. If large numbers of blister beetles are observed in spots during harvesting, it is best to quit harvesting and allow blister beetles to move out of the way or go around them."

If blister beetles are suspected in harvested hay, do not feed it to horses. If alfalfa is fed to horses and symptoms such as blood-tinged urine, depression or placing their muzzle in water without drinking appear, call a veterinarian immediately. Hay contaminated with blister beetles can be used by cattle, but be cautious. Offer other hay sources that are clean of blister beetles or blend hays. Grinding hay containing blister beetles and then mixing with other feeds will dilute the cantharidin but won't get rid of it. If feed refusal is noted with cattle offered alfalfa hay, then remove it and replace with another hay source. Keep track of bales that are suspected to have blister beetle contamination so you can manage accordingly and avoid accidental feeding to horses.

It can be difficult to detect blister beetles in harvested hay because beetles may be crushed from the haying process. Blister beetles may not be present in every bale due to the insects' tendency to swarm, which means that it is possible that only bales from certain areas of the field may be infested. Chemical control is generally not recommended at harvest because dead beetles could be still be incorporated into cured hay instead of falling onto the ground.

If blister beetle toxicity is suspected, a diagnostic test is available through the NDSU veterinary diagnostic laboratory. Plasma or urine samples are used for the test. For more information about the test, visit ndsu.ag/VDL-sample. Additional information on blister beetle identification and management is available at ndsu. ag/blister-beetle. NDSU Extension agents are also available to aid in identification and determine best management practices for dealing with blister beetles.

## Expect Changes In The Of Growth-Promoting Implants In Beef Cattle

The FDA will implement the change after June 2023.



The new FDA guidance allows only one implant during the backgrounding and finishing phase of production unless the implant has a claim for reimplantation on the label. (NDSU photo)

#### **By NDSU Agriculture Communication**

The Food and Drug Administration is changing guidance for using implants in beef cattle after June 2023.

Implants for beef cattle are placed under the skin of the ear and promote growth and improve feed efficiency.

"The new guidance from the FDA's Center for Veterinary Medicine redefines beef cattle's production phases, which will affect the label claims of existing and new drugs," says Zac Carlson, North Dakota State University Extension beef cattle specialist. "This affects implants for beef cattle production because they are considered a drug."

The new production phases are:

1. Calves nursing their dams less than 2 months of age.

### Franzen Crowned Texas Jr. High State Champ Bronc Rider & Rookie of the Year

#### By Katelyn Sponheim

Former Sidney resident, Cye Franzen, recently was crowned Texas Junior High State Champion Bronc Rider and Rookie of the Year. I caught up with him on the road to Nationals in Perry, GA.

For his wins in Texas; Franzen took home a saddle, eight buckles, and several other prizes. While a competitor always hopes to add to their winnings, especially after an 18-hour



drive to Nationals, he was looking forward to some sight-seeing as well. Little Rock, AR, and the ocean were two he wanted to experience.

At the junior high level of rodeo, bronc riding is done on steer, not a horse like we see at the high school, college, professional and open rodeo formats. To prepare for his event, Franzen rides the spur board, similar to a mechanic bull, but more for practicing a mark out. A mark out requires a rider to have both spurs touching the bronc's shoulders until the bronc's feet hit the ground after the initial step or jump out of the chute. Failure to do so results in disgualification. He also spends time on a bucking dummy, and rides practice steers.

Franzen also participates in team roping and breakaway roping, but steer riding is his favorite. He says it's "a lot of fun" and he really enjoys all the travel involved. Franzen had to say of his hours on the rodeo road, "I get to see places I never thought I would." At the end of that road though, the competition itself and the irreplaceable feeling of a win is at the heart of his passion for the sport. When asked if he had advice for fellow competitors, or someone looking to compete, his answer was guick and confident. "Practice, and just have fun!"

Good luck to Franzen and our other local competitors at the National Junior High Finals Rodeo, this June 18-24.

2. Calves nursing their dams 2 months of age or older.

3. Growing beef steers/heifers on pasture (stockers).

4. Growing beef steers/heifers in a dry lot (backgrounders).

5a. Growing beef steers/heifers fed in confinement for harvest (feedlot cattle).

5b. Growing beef steers/heifers in a grow yard.

"These production phases are important because the new guidance will allow beef cattle to receive one implant for each production phase," says Dr. Gerald Stokka, NDSU Extension veterinarian and livestock stewardship specialist. "Additionally, beef cattle will be allowed to receive more than one implant within a production phase, but only if that implant has a claim for reimplantation on the label."

Currently, there are implants approved for reimplant use within a production phase. However, most implants do not have any language on their label addressing reimplantation.

Production phase 4 (growing beef steers/heifers in a dry lot) is a new production phase, says Karl Hoppe, NDSU Extension livestock systems specialist. It consists of weaned, growing beef steers and beef and dairy heifers that are maintained in a dry lot and receive the majority of their diet from harvested forage, possibly with a supplement. Because this will be a new production phase, no current implants are approved.

Production phase 5b consists of weaned, growing beef steers and heifers confined in group pens and fed a moderate- to high-roughage diet available at all times as their sole ration prior to the finishing phase. This would describe most pre-conditioning and backgrounding operations in North Dakota. However, production phases 5a (finishing beef cattle phase) and 5b are considered the same production phase. Therefore, beef steers and heifers implantedduring production phase 5b (backgrounding phase) would only be allowed during the finishing feeding period (production phase 5a) if the implant they were given during the backgrounding phase (5b) was approved for reimplantation.

"Be sure to check the label of the steroidal implants you intend to use to see if it is allowed within the production phase of the cattle you intend to implant," says Dr. Stokka. "Contact your county Extension agent, Extension beef and livestock specialist, veterinarian or implant manufacturer representative for further assistance."



#### AG ROUNDUP JULY 2023 29

### Montana State Alumna Publishes Research Into Wheat Stem Sawfly Biocontrols

Right: Cowpea, a pulse crop that produces extrafloral nectar, could be a viable food source for two species of wasps that act as natural biocontrols for wheat stem sawflies.



#### By Reagan Colyer, MSU News Service

Bozeman - Research from a Montana

State University alumna published recently in the journal, Physiological Entomology could have tangible impact for Montana agricultural producers who deal with perennial damage from wheat stem sawflies.

Laissa Cavallini, who completed her master's degree in entomology in spring 2022, worked alongside professor David Weaver and department head Bob Peterson in the Department of Land Resources and Environmental Sciences in MSU's College of Agriculture. The project examined two species of parasitic wasps that act as biocontrols for wheat stem sawfly. Cavallini explored the nutritional needs of those wasps to explore ways of boosting their effectiveness as biocontrols — a pest management tactic that involves using one organism to manage another.

The insects, called Bracon cephi and Bracon lissogaster, are small orange wasps that can detect the presence of wheat stem sawfly larvae inside a wheat stem. They then inject a paralyzing toxin into the sawfly larvae before laying their own eggs. When the wasp eggs hatch, the immature wasps kill and consume the immobilized sawfly.

"Something interesting about these parasitoids and about wheat stem sawfly itself is that the organisms are all native," said Cavallini, who completed her undergraduate work in her home country of Brazil before joining Weaver's lab in 2018 as a graduate student. "What's more, these two species are the only ones known to parasitize the wheat stem sawfly."

That unique relationship means that B. cephi and B. lissogaster are naturally suited to act as biocontrols for wheat stem sawflies but are limited by a short lifespan in wheat fields. Cavallini's work examined the nutritional needs of the parasitic wasps to see if their diet could increase their lifespan and potentially make them more effective management tools.

"I thought it was a nice opportunity to work with parasitoids and look into controlling insect pests in a way that's less harmful to the environment," said Cavallini. "We already knew that some parasitoids were able to feed on nectar, but we didn't have a lot of information in the beginning. We saw an opportunity to see if that was the same here in Montana."

Because Montana has a dry, arid climate, Cavallini said, it was necessary to identify whether the wasps could readily access plant nectar as a food and water source. Depending on the type of plant, a lack of water could mean the nectar forms crystals that are difficult to consume or, most often, the nectar is stored in a part of the plant that the small insects can't easily reach. Cavallini built on research done by a previous graduate student, Dayane Reis, to determine whether ingesting sugar had an impact on the wasps' lifespan. The insects were fed sucrose, the same type of sugar that they would get from plant nectar.

"We noticed that sugars helped them a lot," Cavallini said. "They need this resource. Feeding on water, they would live for two to five days, and feeding on sugar, some of them lived for 60 days or longer."



It was an important finding, Cavallini said, and it confirmed the hypothesis that nectar could make a large difference in the effectiveness of the parasitoids as biocontrols. But the team still had to gauge whether the wasps could access plant nectar on or near agricultural fields, so they next investigated whether the lab findings could be replicated in an agricultural setting and explored crops that could serve as a source of nectar.

Ultimately, the team identified cowpea as a potential partner crop to serve as a food source for the two parasitoid species. A type of pulse crop, cowpea was appealing for several reasons. It produces extrafloral nectar, meaning its nectar is more easily accessible for insects like B. cephi and B. lissogaster, providing an ideal food source to help them live longer and work more effectively in wheat stem sawfly management. Additionally, heat and drought tolerant cowpea also provides many of the same benefits as other pulse crops, like peas and lentils. It fixes nitrogen in soil, reducing the need for nitrogen fertilizer, and it helps to prevent erosion and maintain soil moisture, making it a good candidate as a rotational crop in years when a field may otherwise be left fallow, said Cavallini.

"Another important part of this research is that we don't have cowpea being widely grown in Montana," she said. "We didn't know if the parasitoids, which are native, would be attracted to it. But we found that they were able to perceive odors from cowpea plants and move to feed on the extrafloral nectar."

Because the experiments with cowpea were done in a lab, Cavallini said field tests are needed to determine if those results can be replicated on a farm. She added that incorporating this biocontrol could be effective alongside the development of solid-stemmed wheat varieties that are more difficult for sawflies to burrow into. As Cavallini moves on to a doctoral program at North Carolina State University, she hopes future graduate students at MSU will continue those explorations.

"Altogether, this research has the potential to have important impacts on how wheat stem sawfly is managed in Montana," Cavallini said.



# Richland County Fair & Rodeo Has An Extravaganza Of Entertainers For 2023

#### By Meagan Dotson

Get ready to be entertained at the 2023 Richland County Fair & Rodeo, happening Aug. 2-5.

Country artist Kip Moore will be headlining this year's concert on Saturday night. He recently released two new singles and his album "Damn Love" which dropped April 28.

Neo-traditional country singer and songwriter Chancey Williams will be opening. The Wyoming native was named iHeartRadio's 2022 Rocky Mountain Country Music Awards Entertainer of the Year. Williams also won Songwriter of the Year for "The Saint", and Album of the Year for "3rd Street", produced with country hitmaker, Trent Wilmon. The performance will include sonas from his most recent album, "One of These Davs".

Of course, there will be rodeos Thursday and Friday nights, with Friday being 'Tough Enough to Wear Pink' in which attendants will wear pink to show their support and raise funds for cancer awareness.

Wednesday, Aug. 2, 406 FMX will be wowing the crowd with their freestyle motocross show in the arena and tickets are just \$15. It will be 90 minutes of adrenaline as the crowd watches motorcycle jumps, snowmobile jumps, and a back-flipping UTV.

"It really should be an awesome show," said Fair Manager Pam Shelmidine of the Montana based 406 FMX entertainers. "It is always great to get local talent to showcase in our arena."

Free entertainment will be held every day with a rotating schedule that will be posted on the Richland County Fair & Rodeo website and Facebook page in June.

Strolling acts include Pippi the Clown and Buster the Baby T-Rex. Buster and his handler will be roaming around the fairgrounds for an hour at a time, three times a day.

Additionally, there will be The Magic Bean, which is an agricultural education show for kids, explaining to them in fun fashion how a little bean seed becomes food on the table. There will also be a pedal tractor pull for the kids that will happen three times each day of the fair. These acts will be set up in the grassy area behind the fair office and there will be signs set up to make sure everyone knows where to go to take in these fun events.

Don't forget to swing into the carnival and check out the more than 100 vendors that will be set up in and outside the event center. Get your grub on for a good cause and sample some delicious fair food while supporting a variety of nonprofits that raise a bulk of funds for their organizations feeding hungry fair-goers. Remember the reason for this particular season is to showcase some of Richland County's finest via awesome fair exhibits.



Baking, photography, sewing, seed pictures, school exhibits, 4-H exhibits and so much more will be proudly displayed. The 4-H schedule will be available on the fair website by the end of the week. Fair buttons, concert tickets and rodeo tickets will be available May 30 at the fair office; buttons will also be available at local banks.

Get geared up for Stars, Stipes, & Summer Nights at the Richland County Fair & Rodeo! Chancey Williams will be opening for Kip Moore during the Richland County Fair & Rodeo, Saturday, Aug. 5. (Photo submitted)

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