

Agenda for 2024 Variety Release Meeting

January 24, 1-4 pm in 108 Plant Biosciences

1. Approval of the Minutes of the 2023 meeting.
2. Discuss and vote on 2024 variety release motions

Motions:

Spring wheat - Jason Cook, MSU spring wheat breeder

1. MT2030 - Motion for protected MAES public cultivar release with PVP Title V protection
2. MT 2049 - Motion to release for licensing
3. MT 2050 – Motion to release for licensing

Chickpea – Kevin McPhee, MSU pulse crop breeder

NDC160236 – Motion for release

Winter wheat – Sue Mondal, MSU winter wheat breeder

MTS2068 - Motion for protected MAES public cultivar release with PVP Title V protection

Crop Science

Entomology

Horticulture

Plant Biology

Plant Genetics

Plant Pathology

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VARIETY RELEASE COMMITTEES - 2024
Chair, Mike Giroux, PSPP Department Head

Wheat Variety Release Committee			
Present	Voting Members, 16	Title / Expertise	Appointing Administrator
X	Sue Mondal / Jason Cook	Assistant Professor / Winter Wheat Breeding / Spring Wheat Breeding	PSPP Department Head
X	Deanna Nash	Manager of the Cereal Quality Lab / Cereal Quality	PSPP Department Head
X	Alan Dyer	Professor / Plant Pathology	PSPP Department Head
X	Doug Holen/Proxy BranDee Johnston	MSU Foundation Seed Manager / Varietal Development	MT Foundation Seed Board
X	Heather Unverzagt	Exec. Director of the Montana Seed Growers / Foundation Seed and Seed Quality	MT Seed Growers Association Board
	Fabian Menalled	Professor / Agricultural Specialist / Cropland Weed Research	LRES Department Head
X	Perry Miller	Professor / Cropping Systems	LRES Department Head
X	David Weaver	Professor / Entomology	LRES Department Head
X	Peggy Lamb	Research Scientist NARC / Variety Testing	Research Center Department Head
X	Jed Eberly	Assistant Professor CARC / Cropping Systems	Research Center Department Head
	Justin Vetch	Assistant Professor and Superintendent WTARC / Cropping Systems	Research Center Department Head
X	Jessica Torrion	Assistant Professor and Superintendent NWARC / Crop Physiology	Research Center Department Head
X	Chengci Chen	Professor and Superintendent EARC / Cropping Systems	Research Center Department Head
	Qasim Khan	Senior Research Scientist, Cropping Systems (SARC)	Research Center Department Head
	Greg Wichman	Chair MAES Advisory Council	MAES Advisory Board
X	Charlie Bumgarner	Montana Wheat and Barley Director, District 5	Montana Wheat and Barley Committee
X	Ex-officio Daniel Juliano	Associate Director of Technology Licensing / MSU Technology Transfer	V.P. for Research and Economic Development

12/16 Voting members present.

Pulse Crop Variety Release Committee			
Present	Voting Members, 15	Affiliation	Appointing Administrator
X	Sue Mondal	Research Scientist / Winter Wheat Breeding	PSPP Department Head
X	Kevin McPhee	Professor / Legume Breeding	PSPP Department Head
X	Deanna Nash	Manager of the Cereal Quality Lab / Cereal Quality	PSPP Department Head
X	Alan Dyer	Professor/Plant Pathology	PSPP Department Head
X	Doug Holen/Proxy BranDee Johnston	MSU Foundation Seed Manager / Varietal Development	MT Foundation Seed Program
X	Heather Unverzagt	Exec. Director of the Montana Seed Growers / Foundation Seed and Seed Quality	MT Seed Growers Association
	Fabian Menalled	Professor / Agricultural Specialist / Cropland Weed Research	LRES Department Head
X	Perry Miller	Professor / Cropping Systems	LRES Department Head
X	David Weaver	Professor / Entomology	LRES Department Head
X	Peggy Lamb	Research Scientist NARC / Variety Testing	Research Center Dept. Head
X	Jed Eberly	Assistant Professor CARC / Cropping Systems	Research Center Dept. Head
	Justin Vetch	Assistant Professor and Superintendent WTARC / Cropping Systems	Research Center Department Head
X	Jessica Torrior	Assistant Professor and Superintendent NWARC / Crop Physiology	Research Center Dept. Head
X	Chengci Chen	Professor and Superintendent EARC / Cropping Systems	Research Center Dept. Head
	Qasim Khan	Senior Research Scientist, Cropping Systems (SARC)	Research Center Dept. Head
	Greg Wichman	Chair MAES Advisory Council	MAES Advisory Board
	Chris Westergard/ Colby Johnson	President of Northern Pulse Growers Association Research Committee Representative	Montana Pulse Advisory Committee
X	Charlie Bumgarner	Montana Wheat and Barley Director, District 5	Montana Wheat and Barley Committee
X	Ex-officio Daniel Juliano	Associate Director of Technology Licensing / MSU Technology Transfer	V.P. for Research, Creativity, and Technology Transfer

13/18 voting members present

2024 Variety Release Minutes

1. The 2023 Variety Release Meeting Minutes were Reviewed and Approved

2. General discussion regarding fees

Charlie Bumgarner summarized what was discussed in the morning at a meeting between the Montana Seed Growers Association, MSU Foundation Seed, MSU breeders, and the Montana Wheat and Barley Committee regarding increased fees on varieties. In general, Charlie thought most producers are happy to pay the fees because they know it has value to them in the long run and they are not overly burdensome. He mentioned that the university and researchers should be more aggressive about asking for increased fees for lines that will bring in more seed sales and income to the producers and to breeding programs.

3. MT2030 – Spring Wheat - Motion for protected MAES public cultivar release with PVP Title V protection

Jason Cook presented data for spring wheat MT2030 (Lanning/MT1338). MT2030 is adapted to eastern Montana, it has a high yield potential, is early maturing, has good mix tolerance and good bake water absorption. MT2030 is susceptible to sawfly since it is hollow stemmed. Jason currently has 15 bushels of breeder seed.

Peggy Lamb asked how different the yield data would be if the Bozeman data was excluded? Jason said the biggest outlier is the 2023 Bozeman data due to large yields (120 bu/ac) and does skew the data some. Jason said that even without Bozeman the results are similar with MT2030 being a top performer, primarily in Sydney.

Mike Giroux asked what the rainfed average yield was at Sidney. Chengci Chen said he has had large yields too but on average it is 60-70 bu/ac. Alan Dyer asked if all the trials were done in summer fallow fields. Jason said most locations were on summer fallow but Williston, CARC, and Fort Benton had re-crop or continuous cropping. Jason discussed how seeding rates and conditions vary greatly between the locations. Chengci Chen said MT2030 has been a top variety in Sydney for a couple years now.

Peggy Lamb also asked about other off-station locations in the NE MT area and how MT2030 performed. Jason said MT2030 performed well at the MT off-stations but did do poorly in Williston, and he attributed that to the different conditions and drought at Williston. Chengci Chen mentioned that the off-station data is not that reliable due to drought and grasshoppers in the area the last couple years.

Jason summarized that yield potential, early heading, and improved quality relative to Vida

were the main reasons for releasing MT 2030. Jason made the motion for protected MAES public cultivar release of MT2030 with PVP Title V protection.

Motion passed 11-1.

4. MT 2049 – Spring Wheat - Motion to release for licensing

Jason Cook presented data for spring wheat MT2049 (Lanning/MT1415). MT2049 has good yield potential, high tillering, is shorter than Dagmar, early heading, and early maturity, susceptible to sawfly and could be prone to lodging. Has better mix tolerance and bake water absorption than Vida. Jason has 16 bu breeders available. MT2049 is the earliest maturing line in his trials.

Jason Cook motioned to release MT2049 for licensing. Motion was seconded by BranDee Johnston.

Someone asked if there is potential interest in this variety and BranDee Johnston said there is interest by private companies. Mike Giroux wondered how many spring wheat varieties have been licensed this way. Daniel Juliano and Jason thought that the only recent one was NS Presser. Chengci Chen wondered if licensing these varieties would take away from MSU variety acreage. Jason said it was mainly to get the best varieties out to the growers and companies might provide different avenues of growth that MSU doesn't have. He didn't think it would be a negative for MSU publicly released varieties.

Motion passed 5-1, with 6 abstentions.

5. MT 2050 – Spring Wheat - Motion to release for licensing

Jason Cook presented data for MT2050 (MT1542/MT1415). MT 2050 has good yield potential, is semi solid, good straw strength, good protein, and test weight similar to Vida. Matures earlier than Reeder and Vida. Has some stripe rust resistance possibly from Yellowstone in pedigree. Its mix tolerance and bake water absorption are like Reeder and Vida, so on the lower end of acceptable. Jason has 9 bu of breeders seed available.

Jason mentioned that MT2050 does well in high production areas whereas MT2049 is more prone to lodging so better for dryland production. MT2050 is semi solid stem at 19. MT2050 is susceptible to aluminum toxicity but MT2030 and MT2049 are moderately tolerant.

Sam Anderson asked about the flour yields as the highest yields were for MT2030 and MT2049. Mike Giroux mentioned that you need the ash data to fully understand if the high flour yield is a positive attribute. Mike mentioned that these lines are more like Reeder and Vida in terms of mixing strength vs say a stronger mixing line like McNeal. Mike wondered what a cut off would be for mix tolerance. Jason thought a tolerance of 5 maybe. No lines really approach this, most are around 3-4. Out of the three, MT2050 had the lowest bake mix time and water absorption. Dagmar seems to hit the sweet spot though some people want stronger.

Jason motioned for the release of MT2050 for licensing. Alan Dyer seconded the motion. Perry Miller asked David Weaver to comment on the solidness of MT2050 and whether this line

should be released. David Weaver commented that the line has good solidness but given the lower yields it didn't warrant release as it could degrade the overall perception around yield and solid stem wheats.

The motion failed 5-7.

6. NDC160236 – Chickpea- Motion to release.

NDC160236 is a Kabuli chickpea (café type) that has large seeds and its origination dates to Kevin's days at NDSU. NDC160236 is a fern type chickpea with white flowers. Plant selections were made in 2015 and increased in a row in 2016. Plots were grown in 2016 in Minot and in 2017 in Bozeman. Performance trials were conducted from 2017 to 2023 in Montana.

This line is susceptible to Ascochyta Blight but has better disease tolerance than the best disease tolerant line currently grown, CDC Frontier. For yield NDC160236 was the highest yielding in multilocation trials in 2020 and had a large percentage of large seeds like top grown lines.

Peggy Lamb asked if the Bozeman yield data is skewing the data. Kevin said no and that when you remove Bozeman the ranking stays essentially the same. Chengci Chen mentioned that he had data for 2022 and 2023 and this line still looks good yield wise.

Charlie Bumgarner mentioned that domestic buyers were wanting 50% >9 mm seeds. Kevin says this line on average is above that and falls between CDC Orion and CDC Frontier, the top grown lines. Sam Anderson asked if seed size and yield are correlated to which Kevin said there was only a weak correlation.

In 2021 NDC160236 was the top yielding line in Bozeman trials and was number two in 2022 behind CDC Orion. NDC160236 has similar flowering to CDC Frontier but earlier maturity, similar for other checks. For plant height NDC160236 is slightly taller than CDC Frontier but shorter than ND Crown. For yield it has a 7-17% yield advantage compared to top three lines over 13-17 location-years.

The high yield potential and disease tolerance are the key reasons for releasing this line. Kevin says he has 500 bushels of breeder seed expected to produce 4000 bu next year. Kevin and BranDee Johnston said the industry is very interested in getting this line as soon as possible.

Kevin McPhee motioned for release of NDC160236 as a joint release with NDSU contingent that NDSU also approves the variety release.

Mike Giroux asked about the details of the MTA between NDSU and MSU regarding pulse releases. There was some uncertainty and a discussion began about the specifics. Kevin explained that there needs to be agreement between the two universities before moving forward but as of today he doesn't know where NDSU is in the process.

Charlie Bumgarner thought this line would be a good example of a new release that growers would be fine with paying increased fees for because it has the possibility to significantly increase chickpea production in Montana.

Todd Hansen asked why the release agreement wasn't worked out ahead of time. Kevin said he has been working on it, but this is the first release of this nature and should go smoother in the future. Todd also asked if we say yes, and NDSU says no then what happens. Kevin's reply was he didn't know. It was suggested that a vote be taken regardless of what NDSU decides so we can get the process moving.

The motion passed 13-0.

7. MTS2068 – Winter Wheat - Motion for protected MAES public cultivar release with PVP Title V protection

Sue Mondal presented data for winter wheat MTS2068. Sue said a MTS2068 release is in part a response to grower's complaints about leaf spotting observed in Bobcat, as this line does not have leaf spots. MTS2068 is a solid stemmed line and comes from a composite cross.

Across locations MTS2068 had yield like Bobcat. Intrastate yield testing occurred from 2021-23 where MTS2068 was better or equal to the top yielding lines at several locations. MTS2068 has acceptable protein and test weight. It has a stem solidness score of 20, Warcat is a 23. It has very low sawfly cutting across years. For off-station locations it was also a top yielding line and has good winter survivability.

Quality wise MTS2068 is a low PPO line, has long bake mix time and good loaf volume. Chengci Chen asked about winter hardiness. Sue said it is a 90% survival rate compared to Bobcat which is around 88%. Sam Anderson commented that he would like to see more commercial varieties included in quality trait analyses.

Someone asked about its water absorption. Sue commented MTS2068 had the highest water absorption out of the group tested. MTS2068 has excellent resistance to stripe rust but is susceptible to stem rust. Sue thinks that MTS2068 likely also has resistance to aluminum toxicity and will confirm this next year.

David Weaver wanted to confirm for Sue that this line should be considered a solid line, not semi solid. There was general agreement.

Sue Mondal motioned for protected MAES public cultivar release of MTS2068 with PVP Title V protection.

Motion passed, 11-0 with one abstention.

Meeting adjourned at 4 pm.

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In Person attendees:

Sam Anderson	MWBC
Ronnie Proctor	MSU PSPP
Jim Berg	MSU PSPP retired
Daniel Juliano	MSU Tech Transfer
Phil Bruckner	MSU PSPP retired
Daniel Juliano	MSU tech transfer
Kevin McPhee	MSU Pulse Breeder
Sue Mondal	MSU Winter Wheat Breeder
Kailash Moore	MSU undergraduate
BranDee Johnston	MSU Foundation Seed
Charlie Bumgarner	MWBC, Producer
John McDonnell	Circle S Seed
Zach Coccoli	MT Dept. Ag.
Ryan McCormick	Producer
Bing Von Bergen	Heartland Seed, Producer
Mac Burgess	MSU PSPP
Rudy Gettle	MSU Post Farm
Clayton Edwards	MSU Foundation Seed/Post Farm
Dave Gettle	Post Farm Manager
Andrew Lehnerz	MSGA
Dan Works	Producer
Alan Dyer	MSU PSPP
Everett Owen	MSU PSPP
Deanna Nash	MSU PSPP
Nancy Blake	MSU PSPP retired
Jeanne Gripenrog	MSU PSPP
Aoran Diao	MSU PSPP grad student
Amrit Poudel	MSU PSPP grad student
Jenish Simon	MSU PSPP grad student
Shreejana KC	MSU PSPP grad student
Shreya Gautam	MSU PSPP grad student
Emmanuel Annan	MSU PSPP grad student
Claire Luby	MSU PSPP
Mike Giroux	MSU PSPP Dept. Head
Andy Hogg	MSU PSPP
Heather Unverzagt	MSGA Exec. Director

Online Attendees

Dale Clark	Nutrien Ag Solutions.
Jessica Torrior	MSU WARC
Peggy Lamb	MSU NARC
Chengci Chen	MSU EARC
Jed Eberly	MSU CARC
Alam Chinchilla	MSU EARC
Todd Hansen	MPCC, Producer
Frankie Crutcher	MSU-EARC