



Crop Science

Entomology

Horticulture

Plant Biology

Plant Genetics

Plant Pathology

DATE: January 21, 2020
TO: Variety Release and Recommendation Committee Members
FROM: Mike Giroux, Chair
RE: 2020 Variety Release Minutes and Committees
Chair: Mike Giroux, Department Head PSPP
Secretary: Andy Hogg, Research Associate, PSPP

Present committee members:

Mike Giroux, Phil Bruckner, Deanna Nash, Mary Burrows, Doug Holen, David Weaver, Heather Unverzagt

Called in or sent in vote and comments by email:

Peggy Lamb, Patrick Carr, Ken Kephart.

Absent Committee Members:

Ed Davis, Perry Miller, Darrin Boss, Jessica Torrion, Chengci Chen, Marc Vogel, Mike O'Hara.

Others present:

Daniel Juliano, Jason Cook, Sam Anderson, Dave Gettel, Ron Brown, Robert Brown, Bob Hoffman, Heather Unverzagt, Rebecca Papke, Cameron Delaney, Scott Christensen, Ryan Holt, Darin Oelkers, Hwa-Young Heo, Jim Berg, Nancy Blake, Ron Ramsfield, Sam Ackerman.

Agenda for 2020 Variety Release Meeting

Following is the agenda for the 2020 Variety Release meeting to be held on **Tuesday, January 21, 2020 at 1:00 pm in 108 Plant BioScience Building.**

1. Approval of the Minutes of the 2019 meeting.
2. Discuss and vote on motions

Motion to be considered by Wheat VR Committee: Giroux/Hogg - Release of MTD16005 spring durum wheat:

<http://plantsciences.montana.edu/foundationseed/varietyrelease/2020.html>

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2020 Wheat Variety Release Committee		
<i>Voting Members, 16</i>	<i>Title / Expertise</i>	<i>Appointing Administrator</i>
1. Phil Bruckner	Professor / Winter Wheat Breeding	PSPP Department Head
1. Jason Cook	Assistant Research Professor / Spring Wheat Breeding	
2. Deanna Nash	Manager of the Cereal Quality Lab / Cereal Quality	PSPP Department Head
3. Mary Burrows	Professor / Plant Pathology	PSPP Department Head
4. Doug Holen	Manager of the Foundation Seed Program / Varietal Development	MT Foundation Seed Board
5. Heather Unverzagt	Exec. Director of the Montana Seed Growers / Foundation Seed and Seed Quality	MT Seed Growers Association Board
6. Ed Davis	Agricultural Specialist / Cropland Weed Research	LRES Department Head
7. Perry Miller	Professor / Cropping Systems	LRES Department Head
8. David Weaver	Professor / Entomology	LRES Department Head
9. Peggy Lamb	Research Scientist NARC / Variety Testing	Research Center Department Head
10. Patrick Carr	Associate Professor and Superintendent CARC / Cropping Systems	Research Center Department Head
11. Darrin Boss	Professor WTARC / Entomology, Insect Ecology	Research Center Department Head
12. Jessica Torrion	Assistant Professor and Superintendent NWARC / Crop Physiology	Research Center Department Head
13. Chengci Chen	Professor and Superintendent EARC / Cropping Systems	Research Center Department Head
14. Ken Kephart	Associate Professor and Superintendent SARC / Agronomist	Research Center Department Head
15. Marc Vogel	Chair MAES Advisory Council	MAES Advisory Board
16. Mike O'Hara	Montana Wheat and Barley Director, Representing Teton & Chouteau County	Montana Wheat and Barley Committee
Ex-officio Daniel Juliano	Associate Director of Technology Licensing / MSU Technology Transfer	V.P. for Research and Economic Development

2020 Minutes

1. Approval of the Minutes of the 2019 meeting.

- Jed Eberly and Pat Carr called in from CARC.
- Ken Kephart sent in his proxy vote by email and commented "MTD16005 looks good to me and I have no significant concerns since yield was very competitive across locations and protein content and strength also look good. Nice to see that this line has the low cadmium trait since that is important to have now in any new releases and was something lacking in the variety Silver."
- Doug Holen mentioned that research fees on MSU seed sales are increasing this year. To \$1/bushel wheat and \$1.25/bushel of barley. This is the first increase since 2015.
- David Weaver motioned to approve the 2019 minutes.
- Phil Bruckner seconded the motion.

- Motion passed unanimously, 9-0.

2. Wheat Committee

- **Mike Giroux** motion to release the spring durum MTD16005 as a public protected variety.
- Mike Giroux acknowledged that MAES research stations are vital for testing and eventual release of new varieties and that it is a team effort and that the proposal represents the work of many MAES faculty and staff.
- Mike Giroux went over the top grown Durum cultivars in Montana. He noted that Alzada is dominant in the North Central region due to its preferred quality characteristics and contract acreage but that NDSU varieties dominate the NE region of Montana.
- Mike Giroux discussed the pedigree and background of MTD16005. One of the parents, M175, was developed at MSU originally with the intent of developing a high amylose durum line in association with a private company. MTD16005 carries a mutation in a starch synthase IIa gene (*ssIIa*) that increases pasta firmness but does not modify amylose content. It was also mentioned that M175 was the donor of the low cadmium accumulation allele present in MTD16005.
- Mike Giroux presented data tables from field testing at 7 locations over three years, all at MAES. MTD16005 is yield competitive or higher yielding than the commonly grown durum cultivars in Montana. MTD16005 is 35 inches tall and flowers a day later than Mountrail and Divide. It has a similar appearance to durum cultivars developed at NDSU, i.e. Mountrail and Divide. MTD16005 had similar quality to currently grown cultivars with acceptable test weight, semolina yield, protein and semolina protein content, and a high yellow color. It also has improved gluten strength compared to Mountrail, which is widely grown, but was equal to Divide and less than Alzada. MTD16005 had the lowest grain and semolina ash.
- Dave Gettel mentioned that it showed no damage from wild oat herbicide applied at a high rate.
- Jim berg asked how screening for low cadmium accumulation was accomplished.
- Mike Giroux replied that is a simple CAPS marker assay for the low accumulation allele that can be done in the lab and that Andy Hogg had confirmed that MTD16005 has low cadmium in its grain relative to varieties lacking the low accumulation allele.
- Mike Giroux discussed the disease evaluations performed on MTD16005 which included stripe rust testing in Washington over 2 years, stem and leaf rust testing at MSU, leaf spot evaluations at MSU, and Fusarium head blight (FHB) testing over 2 years performed by Frankie Crutcher at EARC. MTD16005 was found to have high resistance to the stem and leaf rust isolates tested, seedling susceptibility to stripe rust followed by high temperature adult plant resistance, and moderate susceptibility to FHB. Resistance/susceptibility to stripe rust and FHB was comparable to all other durum cultivars tested.
- Doug Holen confirmed he has ~30 bu for foundation seed production in 2020.
- Heather Unverzagt asked if yield testing was conducted by any private companies?

- Mike Giroux replied that it was only tested at MAES locations.
- Mike Giroux motioned for release of MTD16005 as a public protected variety.
- Peggy Lamb seconded the motion.
- Vote was taken and passed unanimously 9-0.
- Meeting was adjourned at 1:30 pm.