

Release and Recommendation Notices, Planning Conference January 2008

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Hockett

We propose to release the MSU barley line tested as MT910189 under the variety name 'Hockett' for commercial production in the spring of 2008. Hockett derives from the cross ND7293/Bearpaw and was selected to fit the needs of the American lager brewing industry. Hockett has passed three years' small scale malting quality evaluation, two years' pilot scale malting evaluation and one year of plant scale malting and brewing evaluation by Anheuser-Busch Inc from the 2006 crop. The 2007 crop was excellent and will enter plant scale evaluation this spring. The American Malting Barley Association (AMBA) recommendation process requires two years' success through plant scale tests, and we look forward to Hockett's successful plant scale evaluation from the 2007 crop. Hockett's malting characteristics are similar to those of the widely grown 2-rowed malting variety, Harrington. Hockett outyields Harrington and produces grain with lower protein percent and higher test weight (Table 1). Anheuser-Busch Inc. has advanced Hockett to very large scale experimental evaluation with the goal of potentially recommending Hockett for production and commercial use in the spring of 2009.

Breeding History

Hockett derives from a cross made between ND7293 and Bearpaw in 1986. F₁ plants from this cross were grown at the A.H. Post Research farm in 1987, and F₂ populations were grown at the A.H. Post research farm in 1988. Spikes from F₂ plants were collected and 200 were advanced by single seed descent through the F₃ and F₄ generations in the greenhouse in the winter of 1988-1989. Approximately 150 spikes were harvested in March of 1989 and were prepared for planting as headrows in the spring of 1989. Approximately 60 plants were selected from these 150 headrows (no more than one per row based on row performance), providing seed for 2-row 3m non-replicated observation plots that were planted at the A.H. Post Research Farm in 1990. One of these selected plots was given the trialing name MT910189 and was advanced to multi-location yield trials in the spring of 1991.

Uniqueness

Hockett is well-adapted to Montana's short, dry rainfed environments. While superior to Harrington and Metcalf in yield, Hockett's best feature is its retention of test weight and lower grain protein percentage under drought. We believe that Hockett will be a worthy successor to Harrington, and will provide Montana barley growers with a more reliable, higher yielding alternative for dryland production systems.

Dryland Locations (Number of Location Years in Parentheses):

Yield Bu/Ac (Comparable means based on Haxby)

	Havre	Moccasin	Huntley	Sidney	Conrad	Bozeman
Hockett	63.9 (11)	60.5 (10)	60.2 (11)	78.0 (11)	60.2 (11)	100.1 (11)
Harrington	60.6 (11)	56.8 (10)	54.0 (11)	78.9 (11)	54.0 (11)	93.4 (11)
Metcalf	58.2 (2)	57.2 (3)	52.5 (2)	77.0(2)	52.5 (2)	96.3 (2)
Craft	66.2 (8)	63.6 (8)	59.0 (8)	82.1 (8)	59.0 (8)	105.4(8)

Geraldine	63.7 (9)	61.3 (8)	57.3 (9)	81.9 (9)	57.3 (9)	99.2 (9)
Haxby	67.6 (11)	66.2 (10)	61.8 (11)	83.1 (11)	61.8 (11)	107.3 (11)

Test Weight Lbs/Bu (Comparable means based on Haxby)

	Havre	Moccasin	Huntley	Sidney	Conrad	Bozeman
Hockett	50.6 (11)	50.4 (10)	50.1 (11)	50.3 (11)	50.1 (11)	52.9 (11)
Harrington	47.8 (11)	47.5 (10)	47.7 (11)	48.1 (11)	47.7 (11)	49.9 (11)
Metcalf	49.1 (2)	49.6 (3)	49.6 (2)	49.3 (2)	48.3 (2)	51.0 (2)
Craft	51.3 (8)	51.4 (8)	50.3 (8)	51.0 (8)	50.3 (8)	52.9 (8)
Geraldine	48.6 (9)	48.8 (8)	47.2 (9)	49.7 (9)	47.2 (9)	50.3 (9)
Haxby	51.8 (11)	52.4 (10)	51.6 (11)	51.8 (11)	51.6 (11)	53.9 (11)

Percent Protein (Comparable means based on Haxby)

	Havre	Moccasin	Huntley	Sidney	Conrad	Bozeman
Hockett	14.4 (11)	14.1 (10)	14.3 (11)	12.0 (11)	14.3 (11)	13.2 (11)
Harrington	15.1 (11)	14.9 (10)	15.0 (11)	12.4 (11)	15.0 (11)	13.9 (11)
Metcalf	15.6 (2)	15.7 (3)	16.2 (2)	12.7 (2)	16.2 (2)	14.3 (2)
Craft	14.5 (8)	14.2 (8)	14.7 (8)	12.6 (8)	14.7 (8)	13.4 (8)
Geraldine	15.5 (9)	14.7 (8)	14.2 (9)	12.5 (9)	14.2 (9)	13.9 (9)
Haxby	14.4 (11)	13.6 (10)	14.4 (11)	12.5 (11)	14.4 (11)	13.0 (11)

Irrigated Locations:

Yield Bu/Ac (Comparable means based on Harrington)

	Creston	Huntley	Sidney	Conrad	Bozeman
Hockett	134.8 (11)	127.7 (11)	94.8 (11)	95.2 (11)	115.4 (11)
Harrington	128.0 (11)	117.7 (11)	95.6 (11)	93.9 (11)	111.1 (11)
Metcalf	128.4 (3)	122.5 (3)	86.4 (3)	102.0 (3)	111.6 (3)
Craft	135.2 (9)	127.0 (9)	105.6 (9)	100.6 (9)	121.6 (9)
Geraldine	138.2 (9)	122.7 (9)	101.9 (9)	108.8 (9)	119.5 (9)
Haxby	134.4 (11)	129.0 (11)	105.8 (11)	109.8 (11)	121.0 (11)

Test Weight Lbs/Bu (Comparable Means based on Harrington)

	Creston	Huntley	Sidney	Conrad	Bozeman
Hockett	51.9 (11)	52.6 (11)	48.0 (11)	52.6 (11)	53.4 (11)
Harrington	50.4 (11)	50.5 (11)	46.5 (11)	51.1 (11)	50.9 (11)
Metcalf	50.6 (3)	50.5 (3)	47.4 (3)	51.7 (3)	51.1 (3)
Craft	52.9 (9)	52.8 (9)	49.6 (9)	53.6 (9)	54.0 (9)
Geraldine	51.4 (9)	51.7 (9)	48.1 (9)	52.7 (9)	51.8 (9)
Haxby	53.0 (11)	53.5 (11)	50.2 (11)	54.6 (11)	54.5 (11)

Percent Protein (Comparable means based on Harrington)

	Creston	Huntley	Sidney	Conrad	Bozeman
Hockett	13.5 (11)	12.1 (11)	12.2 (11)	11.5 (11)	12.6 (11)
Harrington	13.6 (11)	12.2 (11)	12.4 (11)	11.6 (11)	12.8 (11)
Metcalf	14.4 (3)	12.2 (3)	12.4 (3)	11.8 (3)	13.2 (3)
Craft	13.6 (9)	12.2 (9)	12.2 (9)	12.2 (9)	12.3 (9)
Geraldine	13.9 (9)	11.3 (9)	12.0 (9)	11.5(9)	12.7 (9)
Haxby	13.6 (11)	11.9 (11)	12.2 (11)	11.8 (11)	12.3 (11)