

# WINTER BARLEY FUNGICIDE TRIAL MICHIGAN—2019

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Trials were conducted in 2019 to evaluate two fungicides and two winter malting barley varieties at the W.K. Kellogg Biological Station in Hickory Corners, MI. The fungicides were applied at the time of barley head emergence, and targeted control of *Fusarium* head blight, which causes mycotoxin (DON\*) accumulation. Management information, quality targets, and results are shown in the panels to the right and below.

The product cost for Miravis® Ace was \$17.67 per acre, while Prosaro® cost was \$15.18 per acre. Miravis® Ace fungicide increased overall plant health and grain yields of both barley varieties, but did not significantly reduce DON accumulation in either variety. Grain yield differences between fungicide and control treatments were larger within LCS Calypso than LCS Puffin, suggesting that Puffin may be more resistant to foliar diseases than Calypso. \*DON = deoxynivalenol



Figure 1. Picture of the 2019 winter barley fungicide trials at KBS show the lighter colored barley on the right of the pictures was sprayed with Miravis® Ace and the left side of the images did not receive a fungicide application.

## Management Details

- Barley varieties included LCS Puffin and LCS Calypso.
- Barley was seeded at 1.3 million seeds/A on Oct. 16.
- Fertility included 20 lbs N/A, 45 lbs P/A, 65 lbs K/A, 6.3 lbs S/A in the fall and 70 lbs N/A in the spring.
- Fungicide treatments (Miravis® Ace = 13.7 oz/A, Prosaro® = 8.2 oz/A) were applied on May 31 when 50% of the barley heads had emerged from the boot.
- Harvest was on July 10.
- Harsh winter conditions resulted in some winter damage to the barley. Spring was cooler and wetter than average.

## Yield and Quality Data

Winter Barley Variety	Fungicide Treatment	Yield (Bu/A)	Test Weight (Lb/Bu)	% Crude Protein	% Plump	% Thin	% GC	% GE 4 ml	% GE 8ml	RVA (SN)	DON (ppm)
Puffin	Control	55.0 b	45.8	10.2 c	96.8	0.3	97.3	56.0 a	11.3 b	160	0.5 b
Puffin	Prosaro®	58.0 b	45.5	10.3 c	96.4	0.3	98.3	39.0 b	8.3 b	153	1.2 ab
Puffin	Miravis® Ace	68.6 a	45.7	10.3 c	96.4	0.3	98	43.3 b	8.7 b	155	0.7 b
Calypso	Control	28.7 d	41.5	11.7 a	94.7	0.3	98	30.3 b	19.3 b	169	2.1 a
Calypso	Prosaro®	40.8 c	43.6	11.2 b	97.1	0.2	96.7	39.0 b	28.7 a	165	1.2 ab
Calypso	Miravis® Ace	64.4 a	44.3	10.9 b	97.9	0.2	97	42.3 b	36.0 a	152	1.8 ab

\* Letters within a column indicate significant differences between treatments. Important quality targets include: Germination Capacity (GC) >95%: Plump >90%: Crude Protein (CP) <12.5: DON <1.0 ppm: Stirring Number (a.k.a. RVA) >120. The Germination Energies (%GE) increases over time after harvest as dormancy is diminished.