

Title: Wild Oat Herbicide Screening Trial - 2015

Objective: To evaluate the effects of herbicides and application rates on wild oat control and spring wheat yield.

Materials and Methods:

Twelve herbicides were applied to evaluate the consistency of wild oat control in spring wheat. The experimental design was a randomized complete block with three replications. Buckpronto hard red spring wheat was planted on a seven inch row spacing to a depth of two inches on April 15, at a rate of 120 lb/A. Wild oat was seeded in the center of each plot at a density of 30 seeds per square foot on April 17. Herbicide treatments were applied using a CO₂ backpack sprayer with Teejet XR11002 nozzles in 20 GPA of water. Spring wheat and wild oat plants were at the 2-tiller and 3-leaf stage, respectively, at the time of application. Crop injury and wild oat control were both evaluated at one, three, and five weeks after application. Spring wheat yield and test weight were determined on July 31.

Results:

The greatest crop injury was initially observed with the tank mix of Varro, Widematch, and Affinity TankMix. Nevertheless, all injury symptoms diminished within five weeks of application, regardless of the treatment applied. Most treatments afforded excellent control of wild oat. The most complete control was observed with the tank mix of Varro, Olympus, and Carnivor. However, Wolverine Advanced and Goldsky plus MCPA failed to provide statistically equivalent control. Grain yields were low due to the drought conditions experienced during the growing season. As a result, yield differences were not observed among treatments, despite the wide range in wild oat control.

Summary:

Overall, Varro provided excellent control of wild oat, regardless of the tank mix partner. Wolverine Advanced and Goldsky do not appear to be well suited for wild oat control in this region of Montana.

Table 1. Materials and Methods - Spring Wheat Wild Oats - 2015

Seeding Date:	4/17/2015	Harvest Date:	7/31/2015
Julian Date:	107	Julian Date:	212
Previous Crop:	Canola	Soil Type:	Creston Sil
Tillage:	Conventional	Soil Test:	116-16-278
Irrigation:	None	Fertilizer:	244-70-10, 6-30-20

Table1. Herbicide efficacy for wild oat control in spring wheat, Kalispell, MT.

Treatment		Percent Crop Injury			Percent Control Wild Oats			Yield ¹ bu/A	PRO ² %	TWT ¹ %
		5/28	6/9	6/25	5/28	6/9	6/25			
check		0.0	0.0	0.0	0.0	0.0	0.0	39.2	14.7	59.1
Varro	6.9 oz/A	10.0	13.3	0.0	61.7	90.0	96.0	46.4	14.6	59.0
Bromac	1.0 pt/A									
Ammonium Sulfate	0.5 lb/A									
Varro	6.9 oz/A	26.7	20.0	0.0	68.3	93.3	98.3	41.4	14.9	59.3
Weld Herbicide	1.3 pt/A									
Ammonium Sulfate	0.5 lb/A									
Varro	6.9 oz/A	16.7	11.7	0.0	73.3	85.0	96.3	48.3	14.7	59.1
Carnivor Herbicide	1.0 pt/A									
Ammonium Sulfate	0.5 lb/A									
Varro	6.9 oz/A	11.7	15.0	0.0	70.0	91.7	89.3	41.9	14.9	59.2
Widematch	1.0 pt/A									
2, 4-D Ester	0.5 pt/A									
Ammonium Sulfate	0.5 lb/A									
Varro	6.9 oz/A	20.0	20.0	0.0	68.3	83.3	96.7	41.4	14.9	59.7
Widematch	1.0 pt/A									
MCPA Ester	0.5 pt/A									
Ammonium Sulfate	0.5 lb/A									
Varro	6.9 oz/A	30.0	18.3	0.0	55.0	93.3	98.0	37.1	15.2	58.8
Widematch	1.0 pt/A									
Affinity Tank mix	0.6 oz/A									
Ammonium Sulfate	0.5 lb/A									
Varro	6.9 oz/A	23.3	15.0	0.0	66.7	81.7	99.0	45.1	15.0	59.3
Olympus	0.2 oz/A									
Carnivor Herbicide	1.0 pt/A									
Ammonium Sulfate	0.5 lb/A									
Huskie Complete	13.7 oz/A	21.7	18.3	0.0	60.0	93.3	96.0	42.8	14.8	59.0
Ammonium Sulfate	0.5 lb/A									
Wolverine Advanced	27.4 oz/A	3.3	16.7	0.0	46.7	78.3	79.7	41.7	14.6	59.0
Everest 2.0	0.8 oz/A	6.7	15.0	0.0	60.0	90.0	95.0	41.7	14.7	59.3
Supremacy	4.5 oz/A									
NIS	0.3 % v/v									
Goldsky	1.0 pt/A	13.3	16.7	0.0	63.3	86.7	80.0	44.5	14.4	59.4
MCPA Ester	0.5 pt/A									
Axial XL	16.4 oz/A	6.7	10.0	0.0	56.7	81.7	97.3	44.9	14.4	59.2
Huskie	13.5 oz/A									
Mean		14.6	14.6	0.0	57.7	80.6	86.3	42.8	14.7	59.2
CV		42.3	40.0	0.0	25.3	12.2	8.1	9.5	1.2	0.6
LSD		10.4	9.9	ns	24.6	16.6	11.8	ns	0.3	ns
Pr>F		0.0001	0.0277	1.0000	0.0004	0.0001	0.0001	0.1400	0.0002	0.3579

PRO: protein, TWT: test weight

¹ adjusted to 13% moisture, ² adjusted to 12% moisture