

Title: Evaluation of A21996 for wild oat control in spring wheat - 2017

Objective: Determine if there are differences in grass weed control and crop safety between A21996 and competitor products in spring wheat.

#### Materials and Methods:

Buck Pronto spring wheat was planted on May 3 in a field previously cropped to barley. Wild oat was planted in the center of each plot on May 15 to augment the natural weed population. Herbicides were applied to wild oat infested spring wheat on June 5, 2017 using a CO<sub>2</sub> backpack sprayer equipped with TeeJet XR11002 nozzles in a volume of 20 GPA. The crop was nine inches tall and had five leaves per main stem and one tiller. Wild oat was three inches tall and had two to three leaves. The study area was treated with Curtail at 2 pt/A on June 19 for the control of Canada thistle.

#### Results:

All treatments afforded excellent crop tolerance. Similarly, all treatments provided excellent control of wild oat. That being said, wild oat densities were low (6 plants/square foot), in spite of being seeded in each plot.

Drought and heat stress depressed spring wheat yields, which were about half of the long term average for the area. Low yields and low wild oat pressure eliminated potential yield differences among the treatments. Protein content averaged 15.17 %, with Varro having the highest protein in the study. Test weight averaged 59.7 lb/bu. The check had the lowest test weight, while the highest test weights were recorded for treatments containing A21996 and Rimfire Max.

#### Summary:

A21996 performed well in this experiment, demonstrating excellent crop tolerance and excellent efficacy toward wild oat.

Table 1. Materials and Methods.

Seeding Date:	5/3/2017	Harvest Date:	8/16/2017
Julian Date:	123	Julian Date:	228
			Creston
Seeding Rate:	85 lb/A	Soil Type:	SiL
Previous Crop:	Barley	Soil Test:	38-19-78
Tillage:	Conventional	Fertilizer:	150-30-30

Table 2. Effect of A21996 on crop tolerance and control of wild oat in spring wheat. Kalispell, MT 2017.

Treatment	Rate		6/9	6/30	7/14	7/14	8/3	8/16	8/16	8/16
			CI %	CI %	CI %	AVEFA %	AVEFA %	YLD bu/A	PRO %	TWT lb/bu
Check			0	0	0	0	0	56.3	15.00	59.1
A21996	15	fl oz/a	0	0	0	98	100	55.7	14.90	60.1
Varro 10 EC	6.8	fl oz/a	0	0	0	99	100	55.6	15.60	59.4
Activator 90	0.3	% v/v								
Goldsky 0.84 SL	1	pt/a	0	0	0	99	100	54.1	15.20	59.7
Activator 90	0.3	% v/v								
Ammonium sulfate	1	lb/a	0	0	0	99	100	57.2	15.10	60.0
Everest 2.0 3.5 SC	1	fl oz/a								
Activator 90	0.3	% v/v								
Ammonium sulfate	1.5	lb/a	0	0	0	98	100	61.3	15.20	60.1
Rimfire Max 6.67 WG	3	oz/a								
Activator 90	0.3	% v/v								
<b>Mean</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>82.2</b>	<b>83.3</b>	<b>56.7</b>	<b>15.17</b>	<b>59.7</b>
LSD P=.05			.	.	.	2.34	.	6.1	0.38	0.72
CV			0	0	0	1.56	0	5.91	1.38	0.66
Pr>F			1	1	1	0.0001	1	0.2370	0.0457	0.0507

CI: Crop injury, AVEFA: Wild oat, YLD: Yield, PRO: Protein, TWT: Test weight.