Evaluating Sierra™ + Tank Mix Partners for Grass and Broadleaf Weed Control in Spring Wheat

A field study was conducted at the Cook Agronomy Farm near Pullman, WA to evaluate tank mixes with Sierra herbicide (flucarbazone) for grass and broadleaf weed control in spring wheat. The soil was a silt loam with a pH of 5.3 and 2.9% organic matter. The experimental design was a randomized complete block with four replications. One hundred pounds/acre of 'Diva' spring wheat was planted on April 11, 2013 using the Horsch drill with 12-inch row spacing. The postemergence herbicide treatments were applied on May 17 using a CO_2 backpack sprayer set to deliver 10 gpa at 35 psi and 3 mph. Wheat plants had 6 leaves and were 8 inches tall. Weeds present at the time of treatment application were mayweed chamomile, common lambsquarters, and Italian ryegrass.

None of the herbicide treatments provided commercially acceptable control of Italian ryegrass or mayweed chamomile. The Italian ryegrass population at the Cook Agronomy Farm is known to be resistant to several Group 1 herbicides and the mayweed chamomile population appears to be resistant to some Group 2 herbicides. This mix of herbicide treatments may not have been the best choice for the weed populations at this site. The mayweed chamomile became so heavy in these plots that we decided to mow the plots before harvest to prevent seed production. Consequently, no grain yield data were collected.

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		27-Jun-13	
Treatment	Rate	Italian ryegrass control	Mayweed chamomile control
	oz/a	---------- % ----------	
Axial XL	16.4	28	50
Orion	17		
Axial XL	16.4	28	18
Pulsar	8.3		
MCPA ester	8.6		
Axial Star	16.4	34	50
Orion	17		
Axial Star	16.4	18	29
Pulsar	8.3		
MCPA ester	8.6		
Sierra	0.75	46	34
Orion	17		
AMS	17.5 lb/100 gal		
Sierra	0.75	10	33
Pulsar	8.3		
MCPA ester	8.6		
AMS	17.5 lb/100 gal		
Axial Star	16.4	24	33
Bronate Advanced	9.6		
PowerFlex	3.5	25	8
Goldsky	16	21	15
Nontreated check		0	0
LSD (5%)*		37	18

*Treatment differences less than the LSD value are not considered significant because we do not feel confident that the difference is due to the treatment rather than to experimental error or random variation associated with the experiment.