Weed Control in Spring Wheat with Cadet® Herbicide

A field study was conducted at the Cook Agronomy Farm near Pullman, WA to evaluate broadleaf weed control in spring wheat with Cadet herbicide (fluthiacet). Soil at the site was a silt loam with 3.5% organic matter and a pH of 5.0. The experimental design was a randomized complete block with four replications. 'Diva' spring wheat was planted on April 11, 2013 at a rate of 100 pounds per acre using a Horsch drill with 12-inch row spacing. The postemergence herbicide treatments were applied on May 17, 2013 using a CO_2 backpack sprayer set to deliver 10 gpa at 35 psi and 3 mph. At the time of application, wheat was tillered with 4-6 leaves and approximately 8 inches in height. The predominant weeds were mayweed chamomile (1-inch rosette) and common lambsquarters (4-leaf). The trial was harvested for grain yield on September 10, 2013.

All treatments containing Cadet herbicide caused some necrotic leaf spotting in winter wheat, but the wheat quickly grew out of the injury. Cadet herbicide treatments also provided very good to excellent control of common lambsquarters; however, only the Cadet + Huskie (pyrasulfotole + bromoxynil) treatment also provided excellent control of mayweed chamomile. Because there was no treatment containing only Huskie, it is difficult to know how much Cadet was contributing to the mayweed control in this treatment. Judging by the poor to fair control of mayweed provided by the other treatments containing Cadet, it is likely that Cadet was providing only minimal additional control of this weed. Mayweed chamomile rapidly took over the plots and choked out the lambsquarters that had been prevalent earlier in the study. Even with heavy mayweed pressure, no significant differences in grain yields were observed, despite the excellent mayweed control provided by the Cadet + Huskie treatment.

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		31-May-13			10-Jul-13	10-Sep-13
Treatment	Rate	Crop injury	Common lambsquarters control	Mayweed chamomile control	Mayweed chamomile control	Grain yield
	oz/a	---------- % ----------				bu/a
Cadet	0.75	8	91	8	5	64
NIS	0.25% v/v					
Cadet	0.75	13	89	71	35	61
2,4-D amine	24					
NIS	0.25% v/v					
Cadet	0.75	5	90	70	38	65
Affinity BroadSpec	0.6					
NIS	0.25% v/v					
Cadet	0.75	5	93	78	60	71
Affinity BroadSpec	0.6					
2,4-D amine	24					
NIS	0.25% v/v					
Affinity BroadSpec	0.6	3	79	68	75	63
2,4-D amine	24					
NIS	0.25% v/v					
Cadet	0.75	11	98	96	96	73
Huskie	13.5					
NIS	0.25% v/v					
Nontreated check		0	0	0	0	64
LSD (5%)*		3	5	12	17	13

*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.