Evaluation of Sandea® as a post plant, preemergence herbicide for crop tolerance and weed control in 'Frontier' chickpeas

Henry Wetzel and Drew Lyon

Sandea (halosulfuron-methyl) is in the mechanism of action Group 2, which inhibits acetolactate synthase. Sandea has activity on numerous broadleaf weeds as well as members of the *Cyperus* specie, nutsedge. Sandea is not registered for use in chickpeas in WA. We evaluated Sandea for its safety and broadleaf weed control in chickpeas.

An area at the Cook Agronomy Farm, previously in spring wheat was sprayed with RT 3® (32 fl oz/A) and AMS (12 lb/100 gal) on April 24th. The trial area was prepared for planting with a one pass cultivator/harrow implement on May 18th. On May 20th, 'Frontier' chickpeas were planted at a rate of 175 lb/acre at a depth of 1.5 inches using a Monosem vacuum planter with a 10-inch row spacing. The post plant, preemergence herbicide applications were made on May 21st with a CO_2-powered backpack sprayer set to deliver 10 gpa at 52 psi at 2.3 mph. Winds out of the west at 8 mph, air temperature was 70°F and relative humidity was 48%. The first significant rainfall (0.51 in.) came nineteen days after treatments were applied. The soil at this site is a Thatuna silt loam with 4.0% organic matter and a pH of 5.1.

None of the treatments evaluated caused injury to chickpeas. Sandea was tested at 3 rates, 0.5, 0.75 and 1.0 oz/A. There was not a rate response when evaluating its effectiveness for common lambsquarters or mayweed chamomile control. Sandea did not provide commercially acceptable control of common lambsquarters, but demonstrated good control of mayweed chamomile. Crop yields were not negatively affected by any of the herbicide treatments.

Many mayweed chamomile biotypes have developed resistance to the Group 2 herbicides currently labeled in wheat. Sandea might provide a way to insert a Group 2 herbicide into the rotation for the control of mayweed chamomile, although history would suggest that resistance could develop quickly if Sandea was used too frequently.

					Mayweed	
		Crop injury	Common lambsquarters control		chamomile control	
Treatment	Rate	6/1	7/6	7/20	7/20	Yield
	oz/A	0-100%	----------0-100%----------		0-100%	lb/A
Nontreated check	--	--	--	--	--	810 a
Hand-weeded check	--	--	--	--	--	1320 a
Sandea	0.5	0	43 a	30 c[1]	79 a	1000 a
Sandea	0.75	0	54 a	48 bc	89 a	1220 a
Sandea	1.0	0	45 a	35 c	79 a	1340 a
Sandea + TriCor® + Sharpen®	0.5 + 8.0 + 2.0 fl oz	0	85 a	75 ab	88 a	1630 a
Lorox® + TriCor + Sharpen	20.0 + 8.0 + 2.0 fl oz	0	94 a	91 a	93 a	1840 a

[1] Means, based on four replicates, within a column, followed by the same letter are not significantly different at P = 0.05 as determined by Fisher's protected LSD test, which means that we are not confident that the difference is the result of treatment rather than experimental error or random variation associated with the experiment.

Disclaimer

Some of the pesticides discussed in this presentation were tested under an experimental use permit granted by WSDA. Application of a pesticide to a crop or site that is not on the label is a violation of pesticide law and may subject the applicator to civil penalties up to $7,500. In addition, such an application may also result in illegal residues that could subject the crop to seizure or embargo action by WSDA and/or the U.S. Food and Drug Administration. It is your responsibility to check the label before using the product to ensure lawful use and obtain all necessary permits in advance.