Broadleaf weed control in chickpeas

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A field study was conducted on the WSU Cook Agronomy Farm near Pullman, WA to evaluate broadleaf weed control in chickpeas. The soil at this site is a Palouse silt loam with 3.4% organic matter and a pH of 5.0. Prior to planting, the entire area was sprayed with glyphosate at 24 fl oz/acre followed by Sharpen® at 2 fl oz/acre. On May 3, 'Sierra' chickpeas were planted at a rate of 200 lb/acre at a depth of 2 inches using a Monosem vacuum planter with 10-inch row spacing. The following day, post-plant, pre-emerge (POSPRE) spray applications were applied using a CO_2 backpack sprayer set to deliver 15 gpa at 3 mph and 30 psi. The air temperature was 53°F, relative humidity was 49% and the wind was out of the south at 4 mph. Crop and weed biomass were collected on July 14 using two quarter-meter quadrats per plot. Grain was harvested on September 5 using a Kincaid 8XP plot combine.

Although there were no significant treatment differences for visual control of mayweed chamomile on June 25, treatments containing (Sharpen® + metribuzin), with or without Prowl®, were the only treatments that provided greater than 90% visual control of mayweed. There were significant treatment differences for mayweed dry weight on July 14. All herbicide treatments had significantly less mayweed biomass than the nontreated control. Three treatments (Sharpen + metribuzin), (Sharpen + metribuzin + Prowl) and (Lorox®DF + Spartan®4F + Prowl) had less mayweed biomass than the (Lorox + Valor®SX + Prowl) treatment, which had the greatest mayweed biomass of all of the herbicide treatments.

There were no significant treatment differences for crop dry weight on July 14 (data not shown). All herbicide treatments provided significantly greater grain yields than the nontreated check. Two treatments (Lorox + Spartan) and (Lorox + Pursuit + Prowl) yielded significantly less than the (Sharpen + metribuzin + Prowl) treatment, which had the highest yield in this study.

The contribution of Prowl, which is primarily a grass control product, to mayweed control was not consistent in this study. Treatments containing (Sharpen + metribuzin) provided the best control of mayweed chamomile and resulted in some of the better grain yields. The treatments containing (Lorox + Spartan) also performed well, while treatments containing (Lorox + Valor) or (Lorox + Pursuit) were less consistent in their control of mayweed chamomile.

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		June 25	July 14	September 8
		Mayweed chamomile	Mayweed chamomile	
Treatment[a]	Rate	control	dry weight	Yield
	oz pr/a	%	lb/a	lb/a
Sharpen	2	91	112	970
Metribuzin	8			
Lorox DF	20	88	174	772
Spartan 4F	8			
Lorox DF	20	85	214	1014
Valor SX	2			
Lorox DF	20	74	370	851
Pursuit®	2			
Sharpen	2	94	94	1067
Metribuzin	8			
Prowl	48			
Lorox DF	20	85	147	982
Spartan 4F	8			
Prowl	48			
Lorox DF	20	69	655	801
Valor SX	2			
Prowl	48			
Lorox DF	20	79	272	738
Pursuit	2			
Prowl	48			
Nontreated Check	--	--	1712	324
LSD (5%)		ns	504	282

[a]All treatments were applied POSPRE on May 4.