

## Early spring Spartan® applications followed by post-plant preemergence and postemergence herbicide treatments for broadleaf weed control in chickpea

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A trial was established at the Cook Agronomy Farm near Pullman, WA to evaluate Spartan herbicide application timings and its' effect on broadleaf weed control in chickpea. The trial area was cultivated and harrowed in the same pass in two directions on May 6<sup>th</sup>. Early Spartan treatments were applied on May 8<sup>th</sup> with a CO<sub>2</sub>-powered backpack sprayer set to deliver 10 gpa at 48 psi at 2.3 mph. The air temperature was 72°F, relative humidity



was 24% and the wind was out of the north at 5 mph. On May 23<sup>rd</sup>, '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. Post-plant preemergence treatments were applied on May 23<sup>rd</sup> with a CO<sub>2</sub>-powered backpack sprayer set to deliver 10 gpa at 52 psi at 2.3 mph. The air temperature was 68°F, relative humidity was 31% and the wind was out of the northwest at 4 mph. The postemergence application of pyridate to certain treatments occurred on June 25<sup>th</sup> with a CO<sub>2</sub>-powered backpack sprayer set to deliver 10 gpa at 45 psi at 2.3 mph. The air temperature was 72°F, relative humidity was 34% and the wind was out of the west at 2 mph. The soil at this site is a Palouse silt loam with 4.1% organic matter and a pH of 5.2.

Early Spartan and post-plant preemergence applications received 0.25 and 0.5 inches of rainfall the week following the applications, respectively. With the reduced rainfall that was received after planting and the long periods of time between rainfall events, common lambsquarters pressure was only moderate in this study. There was no crop injury noted among any of the treatments in this study. Visual plot assessments of common lambsquarters control suggested treatments that included an early application of Spartan on May 8<sup>th</sup> provided excellent control. However, when common lambsquarters plants were counted, all treatments provided a statistically similar reduction in plants per square meter when compared to the nontreated check plots. There were no significant differences among yield or 100-seed weight among treatments.

			7/10	7/25	9/4	9/4
			Common	Mean number of common		
	Rate	Application Date(s)	lambsquarters control	lambsquarters plants	Yield	100- seed weight
Treatment	fl oz/A		0 to 100%	per yd <sup>2</sup>	lb/A	g
Nontreated Check	--		--	62 b	834 a	35 a
Spartan fb Sencor + Sharpen	8 fb 8 oz + 2	5/8 fb 5/23	95 a <sup>1</sup>	0 a	1412 a	36 a
Spartan fb Sencor + Sharpen fb Tough + NIS	8 fb 8 oz + 2 fb 48 + 0.25% v/v	5/8 fb 5/23 fb 6/25	100 a	0 a	1273 a	35 a
Spartan fb Tough + NIS	8.0 fb 48 + 0.25% v/v	5/8 fb 6/25	98 a	0 a	1367 a	35 a
Sencor + Sharpen	8 oz + 2	5/23	71 cd	5 a	1065 a	35 a
Sencor + Sharpen + Lorox	8 oz + 2 + 20 oz	5/23	75 c	4 a	1165 a	35 a
Valor + Lorox	2 oz + 20 oz	5/23	59 d	10 a	1091 a	34 a
Valor + Outlook	2 oz + 21	5/23	79 bc	2 a	1040 a	34 a
Spartan fb Lorox	8 fb 20 oz	5/8 fb 5/23	91 ab	1 a	1149 a	34 a
Spartan + Lorox	8 + 20 oz	5/23	72 c	4 a	975 a	33 a
Spartan fb Outlook	8 fb 21	5/8 fb 5/23	89 ab	0 a	1027 a	35 a
Spartan + Outlook	8 + 21	5/23	75 c	3 a	1159 a	35 a
Sencor + Sharpen fb Tough + NIS	8 oz + 2 fb 48 + 0.25% v/v	5/23 fb 6/25	99 a	0 a	955 a	34 a

<sup>1</sup> 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

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