

Weed Control with Pyridate and Clethodim in Chickpea

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Palouse Conservation Field Station in Pullman, WA

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Methods

The study was established at the Palouse Conservation Field Station in Pullman, WA. Treatments were applied post emergence (POST) at several different crop stages, detailed in Table 1 and Table 2. The study was conducted in a randomized complete block with 4 replications. Plots were 10' by 30' long. Lorox (2.5 lb/A), Outlook (21 fl oz/A), and Valor (2 oz/A) were applied pre-emergence (PRE) at planting to establish a weed free trial. Glyphosate at 32 fl oz/A with ammonium sulfate at 3 lb/100 gal was applied 22 days before harvest as a burn down application.

Crop injury was visually rated 28 days after treatment (DAT) of application A (Table 2). Common lambsquarters control was visually assessed 28 DAT of application A (Table 2). Plots were harvested using a plot combine on September 21, 2016. Common lambsquarters percent data was arcsine square-root transformed. All data were subjected to an analysis of variance using the statistical package built into the Agricultural Research Manager software system (ARM 8.5.0, Gylling Data Management).

Results

No significant crop injury was observed for any treatment 28 DAT compared to the nontreated control.

All treatments provided significantly greater percent common lambsquarters control compared to the nontreated. Pyridate at 48 fl oz A⁻¹ with NIS (0.25% v/v) applied to 8 to 10" chickpeas with Select Max being applied prior provided the greatest lambsquarters control at 98% control.

No significant difference in yield was observed for any treatment.

Table 1. Treatment application details

Study Application	A	B	C
Date	May 24, 2016	June 3, 2016	June 6, 2016
Application volume (GPA)	15	15	15
Crop Stage	2-4"	6"	8-10"
Air temperature (°F)	60	68	81
Soil temperature (°F)	54	60	68
Wind velocity (mph, direction)	2, E	6, W	4, E
Next rain occurred on	June 8, 2016	June 8, 2016	June 8, 2016

Table 2. Percent crop injury, common lambsquarters control and yield for chickpeas following applications of pyridate at different application timings. Pullman, WA, 2016. Means followed by the same letter are not statistically significantly different ($\alpha=0.05$).

Treatment	Application Code	Rate		June 21, 2016	June 21, 2016	September 21, 2016
				Crop injury	Common lambsquarters control	Yield
				%	%	lb/A
Nontreated	-	-	-	0	0 a	1560
Pyridate (Tough)	A	24 fl oz/A	0.940			
Select Max	B	16.5 fl oz/A	0.125	4	83 bc	1580
Agridex (COC)	B	0.25% v/v				
Pyridate (Tough)	A	48 fl oz/A	1.880			
Select Max	B	16.5 fl oz/A	0.125	13	82 bc	1790
Agridex (COC)	B	0.25% v/v				
Pyridate (Tough)	A	24 fl oz/A	0.940			
Induce (NIS)	A	0.25% v/v		0	86 bc	1970
Select Max	B	16.5 fl oz/A	0.125			
Agridex (COC)	B	0.25% v/v				
Pyridate (Tough)	A	48 fl oz/A	1.880			
Induce (NIS)	A	0.25% v/v		23	58 c	1680
Select Max	B	16.5 fl oz/A	0.125			
Agridex (COC)	B	0.25% v/v				
Pyridate (Tough)	A	24 fl oz/A	0.940			
Select Max	A	16.5 fl oz/A	0.125	0	86 bc	1900
Agridex (COC)	A	0.25% v/v				
Pyridate (Tough)	A	24 fl oz/A	1.880			
Select Max	A	16.5 fl oz/A	0.125	5	82 bc	1560
Agridex (COC)	A	0.25% v/v				
Pyridate (Tough)	C	24 fl oz/A	0.940			
Select Max	B	16.5 fl oz/A	0.125	0	68 bc	1660
Agridex (COC)	B	0.25% v/v				
Pyridate (Tough)	C	48 fl oz/A	1.880			
Select Max	B	16.5 fl oz/A	0.125	8	92 bc	1620
Agridex (COC)	B	0.25% v/v				
Pyridate (Tough)	C	24 fl oz/A	0.940			
Induce (NIS)	C	0.25% v/v		11	64 bc	1530
Select Max	B	16.5 fl oz/A	0.125			
Agridex (COC)	B	0.25% v/v				
Pyridate (Tough)	C	48 fl oz/A	1.880			
Induce (NIS)	C	0.25% v/v		0	98 b	1790
Select Max	B	16.5 fl oz/A	0.125			
Agridex (COC)	B	0.25% v/v				
Pyridate (Tough)	C	24 fl oz/A	0.940			
Select Max	C	16.5 fl oz/A	0.125	3	66 bc	1660
Agridex (COC)	C	0.25% v/v				
Pyridate (Tough)	C	24 fl oz/A	1.880			
Select Max	C	16.5 fl oz/A	0.125	6	88 bc	1820
Agridex (COC)	C	0.25% v/v				

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.