

Postemergence Mayweed Chamomile Management in Winter Wheat without Clopyralid

Zuger, R.J. & I.C. Burke

The objective of the study was to evaluate mayweed chamomile (*Anthemis cotula* L.) management in winter wheat without the active ingredient clopyralid, a synthetic auxin commonly used for mayweed chamomile control.

The study was established at the Cook Agronomy Farm near Pullman, WA. Treatments were applied to mayweed chamomile at 3 inches or greater in diameter post emergence (POST) in winter wheat, detailed in Table 1 and Table 2. Widematch was included as an industry standard. The study was conducted in a randomized complete block with 4 replications. Plots were 10' by 30' long. Winter wheat, variety PNW Trooper Blend (Puma, SY107, Ovation), was planted on October 10, 2017. The trial site had been treated with 1.75 oz A⁻¹ of Zidua as a delayed preemergence (PRE) on October 12, 2017 for Italian ryegrass and mayweed chamomile control. Axial XL at a rate of 16.4 fl oz A⁻¹ was applied POST on April 19, 2018 for Italian ryegrass control.

Mayweed chamomile control was visually assessed 29 and 42 days after treatment (DAT). Plots were harvested using a 5 ft wide plot combine on August 2, 2018. All data was 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

There was no significant crop injury for any of the treatments 16 DAT. Mayweed chamomile control was greater in treatments containing herbicides when compared to the nontreated 16 DAT. Control of mayweed chamomile was greatest with Huskie with MCPA ester (68%), Brox-M with Affinity Broadspec and MCPA ester (64%), or Widematch (83%) 16 DAT (Table 2). Mayweed chamomile control increased at 42 DAT, and control was greater in all treatments that included herbicides compared to the nontreated control. Mayweed chamomile control was greatest for Huskie with MCPA ester (76%), Peak with Brox-M and Starane Ultra (76%), and Widematch (99%) 42 DAT (Table 2). No significant differences in winter wheat yield were observed (Table 2).

Table 1. Treatment application details

Study Application	
Date	May 14, 2018
Application volume (GPA)	15
Crop Stage	8 tillers
Air temperature (°F)	80
Soil temperature (°F)	59
Wind velocity (mph, direction)	5, SE
Cloud Cover	0%
Next rain occurred on	May 16, 2018

Table 2. Percent mayweed chamomile control and winter wheat yield. Pullman, WA, 2018. Means followed by the same letter are not statistically significantly different ($\alpha=0.05$).

Treatment	Field Rate	Active Ingredients	lb ai/A	June 12, 2018	June 25, 2018	August 2, 2018
				(29 DAT)	(42 DAT)	
				Mayweed Control	Mayweed Control	Yield
				%	%	bu/A
Nontreated			-	-	-	93 ab
Huskie	13.5 fl oz/A	pyrasulfotole & bromoxynil	0.033			
MCPA ester	1 pt/A		0.185	80	88 ab	88 b
NIS	0.5% v/v	MCPA ester	0.462			
Talinor	18.2 fl oz/A	bicycloprone & bromoxynil	0.044			
CoAct+	3.6 fl oz/A		0.208	87	85 ab	89 ab
COC	1% v/v					
Starane Flex	14 fl oz/A	florasulam & fluroxypyr	0.005			
MCPA ester	1 pt/A		0.091	55	71 ab	93 ab
NIS	0.5% v/v	MCPA ester	0.462			
Starane Ultra	5.7 fl oz/A	fluroxypyr	0.125			
Affinity Broadspec	1 oz/A	thifensulfuron & tribenuron	0.014	75	55 b	100 a
MCPA ester	1 pt/A		0.007			
NIS	0.5% v/v	MCPA ester	0.462			
Starane Ultra	5.7 fl oz/A	fluroxypyr	0.125			
Harmony Extra XP	0.45 oz/A	thifensulfuron & tribenuron	0.014	69	60 ab	97 ab
MCPA ester	1 pt/A		0.007			
NIS	0.5% v/v	MCPA ester	0.462			
Orion	17 fl oz/A	florasulam & MCPA ester	0.004			
Starane Ultra	5.7 fl oz/A		0.310	46	71 ab	94 ab
NIS	0.5% v/v	fluroxypyr	0.125			
Peak	0.5 oz/A	prosulfuron	0.018			
Starane Ultra	5.7 fl oz/A	fluroxypyr	0.125	43	54 b	96 ab
NIS	0.5% v/v					
Brox-M	14 fl oz/A	bromoxynil & MCPA ester	0.219			
Starane Flex	14 fl oz/A		0.219	60	68 ab	100 a
NIS	0.5% v/v	florasulam & fluroxypyr	0.005			
Brox-M	14 fl oz/A	bromoxynil & MCPA ester	0.219			
Harmony Extra XP	0.45 oz/A		0.219	69	61 ab	91 ab
NIS	0.5% v/v	thifensulfuron & tribenuron	0.014			
Brox-M	14 fl oz/A	bromoxynil & MCPA ester	0.219			
Affinity Broadspec	1 oz/A		0.219			
MCPA ester	1 pt/A	thifensulfuron & tribenuron	0.016	53	65 ab	91 ab
NIS	0.5% v/v	MCPA ester	0.462			
Peak	0.5 oz/A	prosulfuron	0.018			
Brox-M	14 fl oz/A	bromoxynil	0.219	75	78 ab	95 ab
Starane Ultra	5.7 fl oz/A	MCPA ester	0.219			
NIS	0.5% v/v	fluroxypyr	0.125			
Widematch	1.33 pt/A	clopyralid & fluroxypyr	0.125	80	93 a	93 ab
NIS	0.5% v/v		0.125			
			<i>LSD</i>	<i>NS</i>	<i>21.47</i>	<i>6.97</i>