Mayweed chamomile control in winter wheat with an experimental herbicide from Syngenta

Drew Lyon and Henry Wetzel

A field study was conducted on the WSU Cook Agronomy Farm near Pullman, WA to evaluate the efficacy of an experimental herbicide (A19278A + safener A20916A) from Syngenta on mayweed chamomile in winter wheat. The soil at the site is a Palouse silt loam with 3.2% organic matter and a pH of 5.6. On November 6, 2014, 'ARS Amber' winter wheat was planted using a Horsch air drill with 12-inch row spacing. On April 23, herbicides were applied using a CO_2 backpack sprayer set to deliver 10 gpa at 2.3 mph and 40 psi. Conditions were an air temperature of 52°F, relative humidity of 32% and the wind out of the southwest at 5 mph. The wheat had begun to joint. Mayweed chamomile was 2.5-inch in diameter and 1-inch tall. There were approximately 400 mayweed chamomile plants per square meter. Plots were harvested on July 10 using a Kincaid 8XP plot combine.

No crop injury was observed in this experiment (data not shown). A19278A applied at 13.7, 16.0 or 18.2 fl oz/A provided significantly better mayweed chamomile control than Huskie® applied at 11.0, 13.5 or 15.0 fl oz/A. Although Huskie is labeled as providing control of mayweed chamomile in spring wheat, it is only labeled for suppression of mayweed chamomile in winter wheat. There was not a significant rate response among either compound. The addition of Rhonox MCPA seemed to boost Huskie's activity on mayweed chamomile control, but did little to improve the control provided by A19278A. Initially, WideMatch® (16.0 fl oz/A) provided little control of mayweed chamomile, but by the final rating provided similar control to the various rates of A19278A and the Rhonox MCPA + A19278A tank-mix. There were no significant differences among test weight or yield (data not shown) in relation to the herbicide treatments. The average test weight and yield were 47 lb/bu and 43 bu/a, respectively. The experimental herbicide from Syngenta appears to have very good crop safety and provides excellent mayweed chamomile control in winter wheat.

	Rate	Mayweed chamomile control (0 to 100)		
Treatment	fl oz/A	5/14	5/26	6/10
Nontreated Check	--	--	--	--
A19278A	13.7	77 ab[1]	80 ab	89 ab
A20916A	0.197% v/v			
Agri-Dex	1.0% v/v			
A19278A	16.0	76 ab	80 ab	84 ab
A20916A	0.197% v/v			
Agri-Dex	1.0% v/v			
A19278A	18.2	80 a	82 ab	89 ab
A20916A	0.197% v/v			
Agri-Dex	1.0% v/v			
A19278A	16.0	80 a	88 a	94 a
Rhonox MCPA	12.0			
A20916A	0.197% v/v			
Agri-Dex	1.0% v/v			
Huskie	11.0	52 c	51 c	42 d
AMS	1.0 lb/A			
NIS	0.25% v/v			
Huskie	13.5	50 cd	54 c	50 cd
AMS	1.0 lb/A			
NIS	0.25% v/v			
Huskie	15.0	45 cd	49 c	44 d
AMS	1.0 lb/A			
NIS	0.25% v/v			
Huskie	15.0	66 b	72 b	70 bc
Rhonox MCPA	12.0			
AMS	1.0 lb/A			
NIS	0.25% v/v			
WideMatch	16.0	40 d	79 ab	95 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.

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.