Evaluation of a new formulation of Batalium™ herbicide for crop safety and the control of mayweed chamomile in spring wheat

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Batalium contains bromoxynil (Group 6), fluroxypyr (Group 4) and flucarbazone (Group 2). Batalium is not labeled for the control of mayweed chamomile, but we wanted to evaluate the new formulation to determine its efficacy. A field study was conducted at Duane Oehlwein's farm near Egypt, WA. The soil at this site is a Hanning silt loam with 4.5% organic matter and a pH of 6.1. On April 12, 2021, 'Louise' spring wheat was planted with a Morris no-till drill with Anderson openers on a 12-inch row spacing at a rate of 68 lb seed per acre. Postemergence treatments were applied on June 9th with a CO_2-powered backpack sprayer set to deliver 10 gpa at 48 psi at 2.3 mph. The applications were made under 4 mph winds out of the southeast with an air temperature of 55°F and relative humidity of 59%. Most of the wheat had 2 tillers and plants were 15 inches tall. Mayweed chamomile was uniformly distributed, and its population was high across the trial area. Mayweed chamomile was 2.5- inches- tall and 2.25- inches- wide at the time of application and had a density of 8 plants per square foot in the nontreated check plots. The trial was not taken to harvest.

Figure 1. Mayweed chamomile beginning to flower in the nontreated check plots on June 23rd (14 DAT)

From April 1st to July 31st, the trial area received 0.93 inches of rainfall. For nearly the entire duration of the trial, the crop was under drought stress. However, with the wheat planted early and the trial area bordering a grass water way, it was a nice stand of wheat and a dense, uniform population of mayweed chamomile developed, most likely supported by deep soil moisture. Wild oats were also present in the trial area but not uniformly enough dispersed to be able to take a rating on them. When the treatments were applied, mayweed chamomile plants were larger than preferred for optimum control. Mayweed chamomile was beginning to initiate flowers 14 DAT throughout the trial area (Figure 1). Early flowering may have been incited as a result of the drought stress and above average temperatures. At 14 DAT, the spring wheat was nearly fully headed. Mayweed chamomile never grew above the height of the spring wheat canopy. Despite the environmental conditions, there was no visible crop injury associated with any of the treatments. Batalium did not control mayweed chamomile (Table). Tank mix partners with Batalium did not significantly improve

control. The only treatment that provided commercially acceptable control of mayweed chamomile was Axial Bold + Huskie. The clopyralid (Group 4) component of Stinger and WideARmatch has provided very good control of mayweed chamomile in other studies. Mayweed chamomile treated with Batalium + Stinger and Everest 3.0 + WideARmatch were significantly twisted, stunted and on the final rating date (7/22), flowers were less noticeable than in the nontreated check plots. In this trial, the lack of control from the clopyralid component of the two treatments may have been influenced the growth stage of mayweed chamomile, environmental conditions or some combination of the two factors.

		7/21
		42 DAT
		Mayweed chamomile
Treatment[1]	Rate	control
	fl oz/A	%
Batalium	13.7	38 d[2]
Batalium + Audit 1:1	13.7 + 0.4 oz/A	43 cd
Batalium + Paridy	13.7 + 6.4	48 b-d
Batalium + Stinger	13.7 + 4.0	50 b-d
Batalium + Starane Ultra	13.7 + 5.75	45 b-d
Batalium + Weedone LV4 EC	13.7 + 8.0	40 cd
Batalium + Rhonox MCPA	13.7 + 8.0	48 b-d
Batalium + Evito	13.7 + 1.0	40 cd
Huskie + Axial XL	13.5 + 16.4	78 a
PerfectMatch	16.0	55 bc
Everest 3.0 + WideARmatch	2.0 + 14.0	60 b

[1] With the exception of the nontreated check, treatments were tank mixed with NIS and AMS 0.25% v/v and 8.5 lb/100 gal, respectively.

[2] 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.