

HERBICIDE SOLUTION PH EFFECT ON CONTROL OF DOWNY BROME AND WILD OAT.
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Herbicide solution pH potentially can have a dramatic effect on the efficacy of a herbicide. Greenhouse experiments were conducted to evaluate whether solution pH influenced the activity of weak acid herbicides for control of downy brome and wild oat. Herbicide treatments were applied to two-tiller downy brome and three- to four-leaf wild oat. Treatments included either the herbicide, methylated seed oil, and ammonium sulfate alone, with Climb™ (raises pH solution), or with Climb™ and Trifol™ (acidifier and buffering agent). Species were visually evaluated 21 and 35 d and biomass was harvested 35 d after treatments were applied. Results from the downy brome 21 d after treatment indicated that within a herbicide, regardless of additive, provided a narrow margin of separation. Thirty-five days after treatment, flucarbazone or propoxycarbazone with mesosulfuron provided less than 43% control of downy brome, but fresh weights were reduced by 70% when compared to the control. Propoxycarbazone with Climb™ and Trifol™ provided 85% control at 21 d which increased to 92% at 35 d with fresh weights 96% less than the control. Results from the wild oat experiment were less variable than the downy brome experiments. Sulfosulfuron at 25 g/ha, alone, provided greater than 94% control of wild oat 21 and 35 d after application and dry weight was 88% less than control plants. All treatments that included propoxycarbazone at 30 g/ha provided greater than 90% control at both evaluation timings. Mesosulfuron at 2.5 g/ha, alone and with the addition of Climb™ and Trifol™, provided 91 to 94% control while mesosulfuron with Climb™ only provided 80% control. In conclusion, downy brome control was affected more with solution pH in comparison to wild oat.