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VIPER'S BUGLOSS: BIOLOGY AND MANAGEMENT OF A NEW INVADER ON RANGELAND

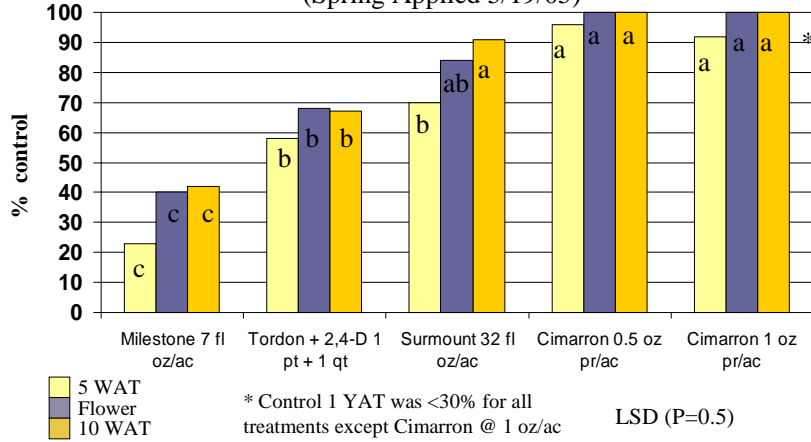
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Viper's bugloss (*Echium vulgare* L.) is a biennial to short-lived taprooted perennial in the borage family. The plant grows 2 to 3 feet tall, and both stems and leaves are covered with stiff trichomes that emerge from a bulbous base. Brilliant blue flowers are borne on a thyrse, and produce from 500 to 2000 seeds per plant. Viper's bugloss contains pyrrolizidine alkaloids poisonous to livestock. The plant is native to Europe preferring dry, coarse textured, rocky soils. It is established in temperate zones worldwide especially along transportation corridors, overgrazed pastures, and rangeland. Rapid expansion of the weed in western Montana and other areas of the Pacific Northwest during the past 8 yrs have concerned private and public land managers. Research trials were established in 2004 and 2005 in western Montana to determine the response of viper's bugloss to various herbicide treatments. Herbicides were applied at rosette growth stage in both spring and fall using a hand-held boom sprayer delivering 13.5 gpa. Treatment plots were replicated three times in a randomized complete block design. Visual evaluations were collected during season of application and 1 YAT (yr after treatment). Metsulfuron at 0.3 and 0.6 oz ai/A applied in spring at rosette growth stage provided 100% control of rosettes and flowering the season of application. Metsulfuron at 0.6 oz ai/A provided good (90%) control of rosettes 1 YAT. Aminopyralid at 1.75 oz ae/A, and picloram at 4 oz ae/A plus 2,4-D at 16 oz ae/A did not stop flowering in viper's bugloss the year of treatment or control rosettes 1YAT when applied in spring. Fall applied herbicide treatments providing 100% control of germinating rosettes 1 YAT included metsulfuron alone at 0.6 oz ai/A, metsulfuron at 0.15 oz ai/A plus chlorsulfuron at 0.19 oz ai/A, and chlorsulfuron alone at 0.75 oz ai/A. Metsulfuron rates of 0.3 oz ai/A applied in fall provided excellent control (99%) 9 months after treatment, but control declined to less than 50% 1 YAT. Metsulfuron alone at rates less than 0.3 oz ai/A applied in fall does not provide effective control of the weed. Metsulfuron, chlorsulfuron, or a combination of these two herbicides applied to rosettes in either spring or fall has an excellent fit for managing viper's bugloss on rangeland, roadsides, and wildland sites.

RESULTS

Vipers Bugloss Control at 5 and 10 WAT

(Spring Applied 5/19/05)



RESULTS

Vipers Bugloss Control at 9 and 12 MAT

(Fall Applied 9/19/05)

