Managing Herbaceous Perennials in the Tahoe Basin

Jennifer Erskine-Ogden, University of California, Davis, Section of Evolution and Ecology, Davis, CA, 95616, jaerskine@ucdavis.edu, Mark J. Renz, University of Wisconsin, Madison, Justin Norsworthy, New Mexico State University, and Sue Donaldson, University of Nevada Cooperative Extension

Several weedy herbaceous perennial species have recently established within the Tahoe Basin and surrounding areas. While control methods exist for these species, they cannot be implemented in sensitive areas within the Tahoe Basin. We compared a new herbicide delivery method that deposits herbicide on the lower side of a stem's cut surface with cutting only and spot spraying in both greenhouse and field trials on specific herbaceous perennials. In greenhouse studies we evaluated the effectiveness of several herbicides applied in two different growth stages of perennial pepperweed (PPW) (*Lepidium latifolium*), at the flowerbud and flowering stages. Results showed that applications made to PPW reduced pepperweed belowground biomass by 79, 82 or 42 % if plants were treated with glyphosate (25 % solution of Rodeo[1]), chlorsulfuron (0.14 oz Telar[1]/gallon water) or cut only respectively 45 days after treatment compared to untreated controls. No differences were found between herbicides used, method of application, or phenology of plants. Field studies were also initiated to evaluate the effectiveness of this method under field conditions on PPW, diffuse knapweed (DKW) (*Centaurea diffusa*) and dalmation toadflax (DT) (*Linaria genistifolia* ssp. *dalmatica*). Excessive rainfall occurred in the winter/spring of 2005 reducing densities 29, 37 and 27 % in untreated treatments for PPW, DKW and DT respectively compared to the previous year. Cover of plants treated with this new method was reduced 76-81, 90-99, and 63-81 % for PPW, DKW and DT respectively. In all cases, adding glyphosate at 10 % (25 % solution of Rodeo[1]), chlorsulfuron (0.11 oz Telar[1]/gallon water), or clopyralid (0.25 fl oz of transline[1]/gallon water) (for DKW & DT only) in a cut stem method improved control compared to cutting stems exclusively (reduced cover 24, 53, and 56% for PPW, DKW and DT respectively). We are currently analyzing species changes as a result of this method and if any differences exist compared to a spot spray application. This new method provides land managers with an effective management option for the eradication of establishing infestations of herbaceous perennial weeds in/near sensitive areas.

For more information on this method, please see our University of Nevada Cooperative Extension Special Publication 06-09 at:
http://www.unce.unr.edu/publications/SP06/SP0609.pdf

[1]Brand names are provided for example purposes only. Other brands may also be licensed for use in your area. Information herein is offered with no discrimination. Rodeo was used in this experiment because of close vicinity to water. Labels should be adhered to for all herbicides for appropriate use.