New Weed Management Handbook for Natural Areas

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While there are several publications that provide information on the management of weeds in agricultural systems, there is currently no comprehensive book that provides control options for invasive and weedy species in natural areas. However, in January of 2013, the first such book will be published by the Weed Research and Information Center at the University of California. The book, entitled *Weed Control in Natural Areas in the Western United States*, will cover about 340 species of weeds that invade or cause problems in wildland and natural areas, rangelands, grasslands, pastures, riparian and aquatic areas. The scope of the book is the 13 western states that include Arizona, California, Colorado, Idaho, Montana, New Mexico, Nevada, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming. The species chosen were those that were on the state noxious weed lists of the western states, as well as other non-crop weeds that are frequently problematic in natural areas of the western United States. Within the book there are control options, both non-chemical and chemical, provided in full write-ups for nearly 242 species, with a little under 100 additional species included in a susceptibility table only, again both non-chemical and chemical options. Although the vast majority of species are non-native, some native species are included, as they occasionally are problems in certain human use areas, both terrestrial and aquatic.

While the bulk of the text is dedicated to providing control options, it also includes additional information on the variety of control techniques and equipment used in natural areas, as well as safety and environmental considerations, herbicide characteristics, rainfast periods and grazing and haying restrictions for terrestrial herbicides, a list of species with biological control agents either available or under development, and helpful conversion tables. The chemical control options include the recommended rate, timing and any helpful remarks or cautions. There are some instances when the data for control was lacking on the particular species, but through inference with a very closely related species, it includes options the authors feel should be effective.

The authors of the book comprise many individuals within California and other western states that conduct research on the control of invasive plants and other non-crop weeds. Though the project was led by Dr. Joe DiTomaso and Guy Kyser at UC Davis, it also includes Drs. Lars Anderson, Tim Prather from the University of Idaho, Tim Miller from Washington State University, George Beck from Colorado State University, Corey Ransom from Utah State University, Celestine Duncan in Montana, and several other UC Cooperative Extension experts, including Scott Oneto, Steve Orloff, John Roncoroni, Rob Wilson, Steve Wright, Katie Wilson, and Jeremiah Mann. The information in the book comes from a number of sources, including personal experience of the authors, peer-reviewed literature, and non-peer reviewed literature, herbicide labels, and reviews in books. In addition, the authors conducted extensive internet searches for credible websites that contained information on weed and invasive plant control and management. All forms of control, including chemical and non-chemical were included. With

this information, the authors summarized what they considered to be the most relevant and practical control options for each weed.

It is the intention of the authors to provide as many options as possible, with the hope that at least a few can achieve the desired objection and be implemented without restrictions. The choice of any option should be weighed against its desirable or undesirable impact on the ecosystem and the desired function of that system. Finally, because weedy and invasive plants are dynamic with new species appearing each year and new control techniques being developed by researchers and field practitioners around the west, the objective is to update and reprint the handbook about every three years so the information stays current.