# INVASIVE PLANT SCIENCE AND MANAGEMENT



### Invasive Plant Science and Management

Published quarterly by the Weed Science Society of America

Antonio DiTommaso, Editor

The Weed Science Society of America (WSSA) publishes original research and scholarship in the form of peer-reviewed articles in three international journals. *Weed Science* is focused on understanding "why" phenomena occur in agricultural crops. As such, it focuses on fundamental research directly related to all aspects of weed science in agricultural systems. *Weed Technology* focuses on understanding "how" weeds are managed. As such, it is focused on more applied aspects concerning the management of weeds in agricultural systems. *Invasive Plant Science and Management* is a broad-based journal that focuses not only on fundamental and applied research on invasive plant biology, ecology, management, and restoration of invaded non-crop areas, but also on the many other aspects relevant to invasive species, including educational activities, policy issues, and case study reports.

#### **Associate Editors (Assignment Year)**

Edith B. Allen, Botany & Plant Sciences Department, University of California, Riverside, CA 92521 (2008)

Jacob N. Barney, Department of Plant Pathology, Physiology, & Weed Science, Virginia Tech, Blacksburg, VA 24061 (2012)

John Cardina, Department of Horticulture & Crop Science, Ohio State University, Wooster, OH 44691 (2008)

Stephen F. Enloe, Center for Aquatic and Invasive Plants, University of Florida, Gainesville, FL 32653 (2010)

Songlin Fei, Department of Forestry and Natural Resources, Purdue University, West Lafayette, IN 47907 (2015)

Guillaume Fried, Plant Health Laboratory, Anses, 34988 Montferrier-sur-Lez, France (2017)

Catherine S. Jarnevich, US Geological Survey, Fort Collins, CO 80526 (2015)

Marie Jasieniuk, University of California, Davis CA 95616 (2017)

Darren J. Kriticos, CSIRO, Canberra, ACT 2601, Australia (2010)

James K. Leary, Department of Natural Resources and Environmental Management, University of Hawaii at Manoa, Honolulu, HI 96822 (2014)

Kelly G. Lyons, Department of Biology, Trinity University, San Antonio, TX 78212 (2008)

Jane M. Mangold, Department of Land Resources and Environmental Sciences, Montana State University, Bozeman, MT 59717 (2014)

John A. Randall, The Nature Conservancy, University of California, Davis, CA 95616 (2008)

Rob J. Richardson, Department of Crop Science, North Carolina State University, Raleigh, NC 27695 (2014)

Steve S. Seefeldt, NWREC, Washington State University, Mount Vernon, WA 98273 (2014)

Ryan M. Wersal, Lonza Specialty Ingredients, Alpharetta, GA 30004 (2014)

Tracy Candelaria, Managing Editor

#### Officers of the Weed Science Society of America

Scott Senseman, *President*Larry Steckel, *President-Elect*William Curran, *Vice President*Janis McFarland, *Past President* 

Darrin Dodds, Secretary
Phil Banks, Treasurer
Sarah Wand Director of Pub

Sarah Ward, Director of Publications

Mark Bernards, Chair, Constitution and Operating Procedures

*Invasive Plant Science and Management* (ISSN 1939-7291) is an official publication of the Weed Science Society of America, 12011 Tejon Street, Suite 700, Westminster, CO 80234 (720-977-7940). It is published quarterly, one volume per year, four issues per year beginning in March.

Membership includes receipt of *Weed Science, Weed Technology, Invasive Plant Science and Management*, and the online *WSSA Newsletter*. Dues should be sent to WSSA, 12011 Tejon Street, Suite 700, Westminster, CO 80234 no later than December 1 of each year. Membership in the society is on a calendar-year basis only.

New subscriptions and renewals begin with the first issue of the current volume. Please visit the *Invasive Plant Science and Management* subscription page at https://www.cambridge.org/core/journals/invasive-plant-science-and-management/subscribe; Email: subscriptions\_newyork@cambridge.org in USA, journals@cambridge.org outside USA.

Invasive Plant Science and Management publishes four times a year in March, June, September, and December. Annual institutional electronic subscription rates: US \$404.00; UK £281.00.

Please use Editorial Manager to access manuscript submissions (http://www.editorialmanager.com/ipsm). Authors are asked to pay \$65 per page as a portion of the cost of publication, plus an additional processing charge of \$55 per manuscript if none of the authors are WSSA members. The Editor can make exceptions in advance when justified.

The Weed Science Society of America fully subscribes to the belief that progress in science depends upon the sharing of ideas, information, and materials among qualified investigators. Authors of papers published in *Invasive Plant Science and Management* are therefore encouraged, whenever practicable and when state and federal laws permit, to share genotypically unique, propagative materials they might possess with other workers in the area who request such materials for the purpose of scientific research.

Invasive Plant Science and Management published by the Weed Science Society of America.
Copyright 2018 by the Weed Science Society of America. Printed in USA.
All rights reserved. Reproduction in part or whole prohibited.

Cover Photo: Understory view of a well-established Chinese privet (*Ligustrum sinense*) infestation in Auburn, AL. Cut stump treatments with glyphosate and triclopyr provide excellent control of Chinese privet, although root collar diameter can influence treatment efficacy. Photo Credit: Nancy J. Loewenstein.





## INVASIVE PLANT SCIENCE AND MANAGEMENT

#### **Table of Contents**

| Resea | rch a | nd E | iduca | tion |
|-------|-------|------|-------|------|

| Lisa C. Jones, Nicholas Norton, and Timothy S. Prather  | 1  |
|---|----|
| Seed-Dispersal Ability of the Invasive Perennial Vines <i>Vincetoxicum nigrum</i> and <i>Vincetoxicum rossicum</i> . Antonio DiTommaso, Courtney A. Stokes, Stéphane Cordeau, Lindsey R. Milbrath, and Thomas H. Whitlow  | 10 |
| Low Recruitment of Native Trees in a Deciduous Forest Associated with Japanese Barberry ( <i>Berberis thunbergii</i> ) Invasion. Arthur F. Link III, Trey Turnblacer, Cierra K. Snyder, Sarah E. Daugherty, and Ryan M. Utz   | 20 |
| Case Study  |    |
| Callery pear ( <i>Pyrus calleryana</i> ) Response to Fire in a Managed Prairie Ecosystem.  Adam R. Warrix and Jordan M. Marshall  | 27 |
| Research and Education  |    |
| Biomass Allocation, Plantlet Survival, and Chemical Control of the Invasive Chandelier Plant ( <i>Kalanchoe delagoensis</i> ) (Crassulaceae). Azalea Guerra-García, Diego Barrales-Alcalá, Magda Argueta-Guzmán, Abraham Cruz, Maria C. Mandujano, Jose A. Arévalo-Ramírez, Brook G. Milligan, and Jordan Golubov | 33 |
| Impacts and Best Management Practices for Erect Veldtgrass ( <i>Ehrharta</i> erecta). Courtenay A. Ray, Joel J. Sherman, Anna L. Godinho, Nikki Hanson, and Ingrid M. Parker.   | 40 |
| The Influence of Treatment Timing and Shrub Size on Chinese Privet ( <i>Ligustrum sinense</i> ) Control with Cut Stump Herbicide Treatments in the Southeastern United States. Stephen F. Enloe, Sarah E. O'Sullivan, Nancy J. Loewenstein, Eve Brantley, and Dwight K. Lauer                                     | 49 |
| Native Forb Response to Aminocyclopyrachlor. Travis R. Carter and Rodney G. Lym   | 56 |
| Timing Aminopyralid to Prevent Seed Production Controls Medusahead ( <i>Taeniatherum caput-medusae</i> ) and Increases Forage Grasses. Matthew J. Rinella, Josh S. Davy, Guy B. Kyser, Fadzayi E. Mashiri, Susan E. Bellows, Jeremy J. James, and   |    |
| Vanelle F. Peterson   | 61 |