

INVASIVE PLANT SCIENCE AND MANAGEMENT



VOLUME 15 | NUMBER 2
APRIL - JUNE 2022



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)

Jacob N. Barney, School of Plant and Environmental Sciences, 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)
Chelsea Carey, Point Blue Conservation Science, Petaluma, CA 94954 (2022)
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)
Elizabeth LaRue, University of Texas, El Paso, TX 79968 (2022)
James K. Leary, Center for Aquatic and Invasive Plants, University of Florida, Gainesville, FL, 32653 (2014)
Kelly G. Lyons, Department of Biology, Trinity University, San Antonio, TX 78212 (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, Minnesota State University, Mankato, Mankato, MN 56001 (2014)

Biology of Invasive Plants Series Editors

David R. Clements, Trinity Western University, Langley, BC V2Y 1Y1, Canada (2020)
Darren J. Kriticos, CSIRO, Canberra, ACT 2601, Australia (2010)

Tracy Candelaria, *Managing Editor*

Officers of the Weed Science Society of America

<http://wssa.net/society/bod/>

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 \$402.00; UK £280.00.

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 2022 by the Weed Science Society of America. Printed in USA.

All rights reserved. Reproduction in part or whole prohibited.

Cover Photo: Perennial grasses and forbs released after burning and indaziflam treatments at Hall Ranch study site near Lyons, Colorado, USA. Photo credit: Shannon Clark.



Volume 15 Number 2 April–June 2022

INVASIVE PLANT SCIENCE AND MANAGEMENT

Table of Contents

Research Articles

- Identifying the geographic origins of invasive *Megathyrsus maximus* in the United States using molecular data. John F. Gaskin, John A. Goolsby, Marie-Claude Bon, Massimo Cristofaro and Paul-André Calatayud 67
- Prescribed burning followed by indaziflam enhances downy brome (*Bromus tectorum*) control. Rachel H. Seedorf, Shannon L. Clark and Scott J. Nissen 72
- The effect of a novel herbicide adjuvant in treating Amur honeysuckle (*Lonicera maackii*). Benjamin J. Rivera, Richard Meilan, Michael E. Scharf, Rucha A Karve and Michael A. Jenkins 81
- Influence of institutional arrangements on invasive plant species management from multilevel perspectives: a case study in Vietnam's national parks. Tuyet T. A. Truong, Margaret E. Andrew, Giles E. St. J. Hardy, Bernard Dell and Michael Hughes 89

Note

- Aboveground native plant biomass reduces *Potentilla recta* growth: the role of a productive native plant community to mitigate reinvasion from the seedbank of invaded northern intermountain grasslands. Myra Juckers, Marc L. Roozendaal and Katherine J. Stewart 98