WEED TECHNOLOGY







WEED TECHNOLOGY

Published six times a year by the Weed Science Society of America

Jason K. Norsworthy, Editor

The Weed Science Society of America 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. Topics for *Weed Technology* include all aspects of weed management in agricultural, ornamental, forestry, aquatic, turf, recreational, rights-of-ways, and other settings; weed resistance to herbicides; herbicide resistant crops; biological weed control agents; new weed management techniques; impacts of weed competition with crops; vegetation management with plant growth regulators; weed surveys; weed-related grower surveys; education; and extension. Symposia papers and reviews are accepted. Consult the editor for additional information.

Associate Editors (Assignment Year)

Jason Bond, Stoneville, MS (2010) Kevin Bradley, Columbia, MO (2012) Barry Brecke, Jay, FL (2013) Peter Dittmar, Gainesville, FL (2016) Aaron Hager, Urbana, IL (2012) Charles Geddes, Lethbridge, AB (2022) Katherine Jennings, Raleigh, NC (2021) Prashant Jha, Ames, IA (2016) Amit Jhala, *Lincoln, NE* (2018) David Johnson, *Des Moines, IA* (2019) William Johnson, *West Lafayette, IN* (2007) Vipan Kumar, *Hays, KS* (2020) Drew Lyon, *Pullman, WA* (2018) Robert Nurse, *Guelph, ON* (2016) Sandeep Rana, *Galena, MD* (2021) Tracy Candelaria, *Managing Editor* Darren Robinson, *Ridgetown, ON* (2008) Larry Steckel, *Jackson, TN* (2007) Daniel Stephenson, *Alexandria, LA* (2013) Michael Walsh, *Crawley, Australia* (2016) Eric Webster, *Laramie, WY* (2018) Rodrigo Werle, *Madison, WI* (2022) R. Joseph Wuerffel, *Vero Beach, FL* (2020)

Officers of the Weed Science Society of America

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

Weed Technology (ISSN 0890-037X) is published by the Weed Science Society of America, 12011 Tejon Street, Suite 700, Westminster, CO 80234. It is published bimonthly, one volume per year, six issues per year beginning in February.

Membership includes online access to *Weed Technology, Weed Science, 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 *Weed Technology* subscription page at https://www.cambridge.org/core/journals/weed-technology/subscribe; Email: subscriptions_newyork@cambridge.org in USA, journals@cambridge.org outside USA.

Weed Technology publishes six times a year in February, April, June, August, October, and December. Annual institutional electronic subscription rates: US \$418.00; UK £290.00.

Please use Editorial Manager to access manuscript submissions (http://www.editorialmanager.com/wt). Authors are asked to pay \$85 for the first page and \$65 per page thereafter 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 *Weed Technology* 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 that area who request such materials for the purpose of scientific research.

Weed Technology published by the Weed Science Society of America. Copyright 2023 by the Weed Science Society of America. All rights reserved. Reproduction in part or whole prohibited.

Cover

Oryza spp. accession 4 is a short-grain, black-hulled, long-awned, dwarf weedy red rice found in California rice fields. It is believed to be a hybrid of wild, weedy, and cultivated rice grown in California. Photo credit: Liberty B. Galvin.

WEED TECHNOLOGY

VOLUME 37

JANUARY-FEBRUARY 2023

NUMBER 1

• **REVIEW**

4-Hydroxyphenylpyruvate dioxygenase (HPPD)-inhibiting herbicides: past, present, and future Amit J. Jhala, Vipan Kumar, Ramawatar Yadav, Prashant Jha, Mithila Jugulam, Martin M. Williams II, Nicholas E. Hausman, Franck E. Dayan, Paul M. Burton, Richard P. Dale and Jason K. Norsworthy
RESEARCH ARTICLES
Utilizing germinability thresholds for optimizing stale seedbed applications to control red rice (<i>Oryza</i> spp.) in California rice cropping systems Liberty B. Galvin, Maya T. Delong and Kassim Al-Khatib
Potential potato yield loss from weed interference in the United States and Canada Zahoor A Ganie, Nader Soltani, Andrew G McKenzie-Gopsill, Joel Felix, Pamela J. S. Hutchinson, J. Anita J. Dille and Peter H. Sikkema
Influence of a cereal rye cover crop on the critical period for weed control in soybean Annu Kumari, Andrew J. Price, Nicholas E. Korres, Audrey Gamble and Steve Li
Multiple-herbicide-resistant waterhemp control in glyphosate/glufosinate/2,4-D-resistant soybean with one- and two-pass weed control programs
Emily Duenk, Nader Soltani, Robert T. Miller, David C. Hooker, Darren E. Robinson and Peter H. Sikkema
Glyphosate-resistant horseweed control in glyphosate/glufosinate/2,4-D-resistant soybean with one- and two-pass herbicide programs
Emily Duenk, Nader Soltani, Robert T. Miller, David C. Hooker, Darren E. Robinson and Peter H. Sikkema 40
Peanut response to 2,4-D plus glyphosate Olumide S. Daramola, Prasanna Kharel, Joseph E. Iboyi and Pratap Devkota
Evaluation of electrical and mechanical Palmer amaranth (Amaranthus palmeri) management in cucumber, peanut, and sweetpotato
Levi D. Moore, Katherine M. Jennings, David W. Monks, Michael D. Boyette, Ramon G. Leon, David L. Jordan, Stephen J. Ippolito, Colton D. Blankenship and Patrick Chang
A sustainable approach for weed and insect management in sweetpotato: breeding for weed and insect tolerant/resistant clones
Phillip A. Wadl, H. Tyler Campbell, William B. Rutter, Livy H. Williams III, Victoria Murphey, Julianna Culbreath and Matthew Cutulle
Tomato and bell pepper tolerance to preemergence herbicides applied posttransplant in plasticulture production Ana C. Buzanini and Nathan S. Boyd
Transplant broccoli and collard response to the residual activity of glyphosate applied preplant Hannah E. Wright-Smith, A. Stanley Culpepper, Taylor M. Randell-Singleton and Jenna C. Vance
Effect of depth of flooding on growth and fecundity of fall panicum (<i>Panicum dichotomiflorum</i>) Venkatanaga Shiva Datta Kumar Sharma Chiruvelli, Hardev S. Sandhu, Ron Cherry and D. Calvin Odero
Snap bean response to pyroxasulfone in a diversity panel Martin M. Williams II, Ana Saballos and R. Ed Peachey
Tolerance of muscadine grape to 2,4-D choline postemergence-directed Kira C. Sims, Wayne E. Mitchem, Katherine M. Jennings, David W. Monks, David L. Jordan and Mark Hoffmann 89
Herbicide options for sterile oats (Avena ludoviciana) control in winter-planted sorghum Gulshan Mahajan and Bhagirath Singh Chauhan
Can relative sensitivity of cover crop species to chloroacetamide and pyrazole herbicides be exploited to design interseeding mixtures? John M. Wallace
• NOTE
Integrated weed management strategies for the depletion of multiple herbicide-resistant waterhemp (<i>Amaranthus tuberculatus</i>) seed in the soil seedbank Nader Soltani, Christy Shropshire and Peter H. Sikkema