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, horticultural, ornamental, forestry, aquatic, turf, recreational, rights-of-ways, and other settings; weed all aspects of 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) Steve Fennimore, Salinas, CA (2004) Aaron Hager, Urbana, IL (2012) 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)
Patrick McCullough, Griffin, GA (2016)
Scott McElroy, Auburn, AL (2012)

Robert Nurse, Guelph, ON (2016)
Darren Robinson, Ridgetown, ON (2008)
Larry Steckel, Jackson, TN (2007)
Daniel Stephenson, Alexandria, LA (2013)
Mark VanGessel, Georgetown, DE (2013)
Michael Walsh, Crawley, Australia (2016)
Eric Webster, Baton Rouge, LA (2018)
R. Joseph Wuerffel, Vero Beach, FL (2020)

Tracy Candelaria, Managing Editor

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 \$411.00; UK £286.00.

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 2020 by the Weed Science Society of America.
 All rights reserved. Reproduction in part or whole prohibited.

Cover

Volunteer corn in hybrid corn, a problem weed particularly in corn after corn cropping systems in southcentral Nebraska. Enlist corn is a new trait resistant to aryloxyphenoxypropionate that can provide selective control of glyphosate/glufosinate-resistant volunteer corn. Refer to article by Striegel et al. in this issue. Photo credit: Amit Jhala.

WEED TECHNOLOGY

VOLUME 34 MAY–JUNE 2020 NUMBER 3

RESEARCH ARTICLES	
Control of glyphosate/glufosinate-resistant volunteer corn in corn resistant to aryloxyphenoxypropionates Adam Striegel, Nevin C. Lawrence, Stevan Z. Knezevic, Jeffrey T. Krumm, Gary Hein and Amit J. Jhala	309
Off-target movement assessment of dicamba in North America Nader Soltani, Maxwel C. Oliveira, Guilherme S. Alves, Rodrigo Werle, Jason K. Norsworthy, Christy L. Sprague, Bryan G. Young, Daniel B. Reynolds, Ashli Brown and Peter H. Sikkema	318
Investigations of the sensitivity of ornamental, fruit, and nut plant species to driftable rates of 2,4-D and dicamba Brian R. Dintelmann, Michele R. Warmund, Mandy D. Bish and Kevin W. Bradley	331
Crop signal markers facilitate crop detection and weed removal from lettuce and tomato by an intelligent cultivator HannahJoy Kennedy, Steven A. Fennimore, David C. Slaughter, Thuy T. Nguyen, Vivian L. Vuong, Rekha Raja and Richard F. Smith	342
Survey of rice weed management and public and private consultant characteristics in Southern Brazil Bruno de Lima Fruet, Aldo Merotto Jr. and André da Rosa Ulguim	351
Inheritance of resistance and response of Provisia [™] rice to quizalofop- <i>p</i> -ethyl under U.S. field conditions Jose R. Camacho, Steve D. Linscombe, Eric P. Webster and James H. Oard	357
Field dissipation of S-metolachlor in organic and mineral soils used for sugarcane production in Florida Jose V. Fernandez, D. Calvin Odero, Gregory E. MacDonald, Jason A. Ferrell, Brent A. Sellers and P. Christopher Wilson	362
Evaluation of herbicide efficacy and application timing for giant miscanthus (Miscanthus x giganteus) biomass reduction	371
Determination of weed hosts of soybean cyst nematode in South Dakota Pawan Basnet, Sharon A. Clay and Emmanuel Byamukama	377
Cover crops are not affected by tobacco soil residual herbicides but also do not provide consistent weed management benefits Erin R. Haramoto, Carolyn J. Lowry and Robert Pearce.	383
Influence of 2,4-D, dicamba, and glyphosate on clethodim efficacy of volunteer glyphosate-resistant corn Nick T. Harre, Julie M. Young and Bryan G. Young	394
Relative activity comparison of aminocyclopyrachlor to pyridine carboxylic acid herbicides Benjamin P. Sperry, José Luiz C. S. Dias, Candice M. Prince, Jason A. Ferrell and Brent A. Sellers	402
Relationships between soil, forage, and grazing parameter effects on weed incidence in Missouri pastures Gatlin Bunton, Zachary Trower and Kevin W. Bradley	408
Droplet size impact on lactofen and acifluorfen efficacy for Palmer amaranth (<i>Amaranthus palmeri</i>) control Lucas X. Franca, Darrin M. Dodds, Thomas R. Butts, Greg R. Kruger, Daniel B. Reynolds, J. Anthony Mills, Jason A. Bond, Angus L. Catchot and Daniel G. Peterson	416
• SYMPOSIUM	
Herbicide-resistant weeds in turfgrass: current status and emerging threats James T. Brosnan, Matthew T. Elmore and Muthukumar V. Bagavathiannan	424
Herbicide resistance in turfgrass: a chance to change the future? James T. Brosnan, Michael W. Barrett and Prasanta C. Bhowmik	431
Herbicide resistance in the nursery crop production and landscape maintenance industries Jeffrey F. Derr, Joseph C. Neal and Prasanta C. Bhowmik	437
Evolution of target and non-target based multiple herbicide resistance in a single Palmer amaranth (<i>Amaranthus palmeri</i>) population from Kansas Sushila Chaudhari, Vijay K. Varanasi, Sridevi Nakka, Prasanta C. Bhowmik, Curtis R. Thompson, Dallas E. Peterson, Randall S. Currie and Mithila Jugulam.	117
	-+-+/
NOTE Colorimetria accountary detecting machines demand to wood account.	
Colorimetric assay for detecting mechanical damage to weed seeds Brian J. Schutte, Abdur Rashid, Joseph B. Wood and Israel Marquez	454

• EDUCATION/EXTENSION

Herbicide-resistant weeds in the Canadian prairies: 2012 to 2017	
Hugh J. Beckie, Scott W. Shirriff, Julia Y. Leeson, Linda M. Hall, K. Neil Harker, Faye Dokken-Bouchard	
and Clark A. Brenzil 4	61