WEED SCIENCE

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

William K. Vencill, 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* focuses 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 focuses 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 Science* include the biology and ecology of weeds in agricultural, forestry, aquatic, turf, recreational, rights-of-way, and other settings; genetics of weeds and herbicide resistance; chemistry, biochemistry, physiology and molecular action of herbicides and plant growth regulators used to manage undesirable vegetation, and herbicide resistance; ecology of cropping and non-cropping systems as it relates to weed management; biological and ecological aspects of weed control tools including biological agents, herbicide resistant crops, etc.; effects of weed management on soil, air, and water. Symposia papers and reviews are accepted. Consult the editor for additional information.

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**On the Cover:** Images show herbicide use and diversity of herbicide sites of action in major row crops in the United States. Image by Andrew K. Kass. 

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PHYSIOLOGY/CHEMISTRY/BIOCHEMISTRY

Reduced Translocation Is Associated with Antagonism of Glyphosate by Glufosinate in Giant Foxtail (*Setaria faber*) and Velvetleaf (*Abutilon theophrasti*).  Thierry E. Besançon, Donald Penner, and Wesley J. Everman

WEED BIOLOGY AND ECOLOGY
Variation in Response and Resistance to Glyphosate and Glufosinate in California Populations of Italian Ryegrass (*Lolium perenne ssp. multiflorum*).  Elizabeth Karn, Roland Beffa, and Marie Jasieniuk


Seed Dormancy and Seed Morphology Related to Weed Susceptibility to Biofumigation.  Maxime Lefebvre, Maryse L. Leblanc, and Alan K. Watson

Effect of Rhizome Fragmentation, Clover Competition, Shoot-Cutting Frequency, and Cutting Height on Quackgrass (*Elymus repens*).  Dorothee Kolberg, Lars Olav Brandsæter, Göran Bergkvist, Knut Asbjørn Solhaug, Bo Melander, and Björn Ringselle

Control Recommendations for Black Medic (*Medicago lupulina*) Based on Growth and Development in Competition with Strawberry.  Shaun M. Sharpe, Nathan S. Boyd, Peter J. Dittmar, Greg E. MacDonald, Rebecca L. Darnell, and Jason A. Ferrell


WEED MANAGEMENT
Target-Site Point Mutation Conferring Resistance to Trifluralin in Rigid Ryegrass (*Lolium rigidum*).  Benjamin Fleet, Jenna Malone, Christopher Preston, and Gurjeet Gill

Effect of Fumigation with 1,3-Dichloropropene and Chloropicrin on Fomesafen Dissipation in Eggplant Plasticulture Production.  Thomas V. Reed, Nathan S. Boyd, P. Christopher Wilson, and Peter J. Dittmar

Genetically Engineered Herbicide-Resistant Crops and Herbicide-Resistant Weed Evolution in the United States.  Andrew R. Kniss

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