

# WEED SCIENCE

JOURNAL OF THE WEED SCIENCE SOCIETY OF AMERICA

VOLUME 33

SEPTEMBER 1985

NUMBER 5

## PHYSIOLOGY, CHEMISTRY, AND BIOCHEMISTRY

Phytotoxicity of Products from Rhizospheres of a Sorghum-Sudangrass Hybrid ( <i>Sorghum bicolor</i> × <i>Sorghum sudanense</i> ). D. Raymond Forney and Chester L. Foy . . . . .	597
Chemical and Physical Effects of the Accumulation of Glyphosate in Common Milkweed ( <i>Asclepias syriaca</i> ) Root Buds. Mark A. Waldecker and Donald L. Wyse . . . . .	605
Uptake and Translocation of Fluazifop by Three Annual Grasses. Jeffrey F. Derr, Thomas J. Monaco, and Thomas J. Sheets . . . . .	612
Absorption, Translocation, and Metabolism of Metribuzin in Diploid and Tetraploid Soybean ( <i>Glycine max</i> ) Plants and Cell Cultures. Ezzaldin O. Abusleit, Frederick T. Corbin, Donald P. Schmitt, Joe W. Burton, A. Douglas Worsham, and Lafayette Thompson, Jr. . . . . .	618
Metribuzin Absorption, Translocation, and Distribution in Two Potato ( <i>Solanum tuberosum</i> ) Cultivars. Stanislaw W. Gawronski, Lloyd C. Haderlie, Robert H. Callihan, and Robert P. Dwelle. . . . .	629
Photosynthesis and Stomatal-Conductance Responses of Johnsgrass ( <i>Sorghum halepense</i> ) to Water Stress. Bryan L. Stuart, Daniel R. Krieg, and John R. Abernathy. . . . .	635

## WEED BIOLOGY AND ECOLOGY

Rangeland Vegetation Response Following Control of Brownspine Pricklypear ( <i>Opuntia phaeacantha</i> ) with Herbicides. David L. Price, Rodney K. Heitschmidt, Steven A. Dowhower, and James R. Frasure . . . . .	640
Interference of Red Rice ( <i>Oryza sativa</i> ) with Rice ( <i>O. sativa</i> ). Amadou Diarra, Roy J. Smith, Jr., and Ronald E. Talbert . . . . .	644
Associations between Discrete Genetic Loci and Genetic Variability for Herbicide Reaction in Plant Populations. Steven C. Price, Robert W. Allard, James E. Hill, and James Naylor . . . . .	650
Interference of Certain Broadleaf Weed Species in Soybeans ( <i>Glycine max</i> ). Janet L. Shurtliff and Harold D. Coble .	654
Responses of Intact and Scarified Curly Dock ( <i>Rumex crispus</i> ) Seeds to Physical and Chemical Stimuli. Minou Hemmat, Guang-Wen Zeng, and Anwar A. Khan . . . . .	658
A Nursery Study of Large-Flowered Taxa of <i>Carduus</i> . M. K. McCarty . . . . .	664
The Interaction of Soybean ( <i>Glycine max</i> ) and Five Weed Species in the Greenhouse. Janet L. Shurtliff and Harold D. Coble . . . . .	669

## WEED CONTROL AND HERBICIDE TECHNOLOGY

Johnsongrass ( <i>Sorghum halepense</i> ) Control in Soybeans ( <i>Glycine max</i> ) with Postemergence Grass Herbicides Applied Alone and in Mixtures. Ted Whitwell, Glenn Wehtje, Robert H. Walker, and John A. McGuire. . . . .	673
Herbicide Evaluations for No-Till Soybean ( <i>Glycine max</i> ) Production in Corn ( <i>Zea mays</i> ) Residue. Russell S. Moomaw and Alex R. Martin. . . . .	679
Herbicide Treatments for Control of Weeds in Dry-Seeded Rice ( <i>Oryza sativa</i> ). Roy J. Smith, Jr. and Khosro Khodayari . . . . .	686
Response of Three Annual Grasses to Fluazifop. Jeffrey F. Derr, Thomas J. Monaco, and Thomas J. Sheets. . . . .	693
Reduction in Weed Control After Repeat Applications of Thiocarbamate and Other Herbicides. Reed A. Gray and Grant K. Joo . . . . .	698

Contents continued—inside front cover

Red Rice ( <i>Oryza sativa</i> ) Control in Drill-Seeded Rice ( <i>O. sativa</i> ). <b>Amadou Diarra, Roy J. Smith, Jr., and Ronald E. Talbert</b> . . . . .	703
Evaluation of Early-Season and Postharvest Herbicide Treatments on Alfalfa ( <i>Medicago sativa</i> ). <b>Kimberly T. Winton and Jimmy F. Stritzke</b> . . . . .	708
Early Application of Herbicides for No-Till Sorghum ( <i>Sorghum bicolor</i> ) in Wheat ( <i>Triticum aestivum</i> ) Stubble. <b>Gail A. Wicks</b> . . . . .	713
Dicamba Absorption and Translocation as Influenced by Formulation and Surfactant. <b>Phil J. Petersen, Lloyd C. Haderlie, Raymond H. Hoefer, and Ray S. McAllister</b> . . . . .	717
Activity of Acetanilide Herbicides on Yellow Nutsedge ( <i>Cyperus esculentus</i> ). <b>A. J. Cornelius, W. F. Meggitt, and Donald Penner</b> . . . . .	721
A Flexible Ropewick Applicator for Use on Uneven Terrain. <b>Russell S. Moomaw and Alex R. Martin</b> . . . . .	724
Control of Woolly Croton ( <i>Croton capitatus</i> ) in Soybean ( <i>Glycine max</i> ). <b>Tony Driver and Lawrence R. Oliver</b> . . . . .	727
Differential Response of Six Sweet Potato ( <i>Ipomoea batatas</i> ) Cultivars to Metribuzin. <b>Howard F. Harrison, Jr., Alfred Jones, and Philip D. Dukes</b> . . . . .	730
Crop Losses in Wheat ( <i>Triticum aestivum</i> ) as Determined Using Weeded and Nonweeded Quadrats. <b>Larry Hume</b> . . . . .	734
Early Growth Effects of Flurazole as a Safener against Acetochlor in Grain Sorghum ( <i>Sorghum bicolor</i> ). <b>Lucinda A. Jackson, George Kapusta, and John H. Yopp</b> . . . . .	740
Evaluation of Chlorsulfuron in Wheat ( <i>Triticum aestivum</i> ) and in a Wheat-Soybean ( <i>Glycine max</i> ) Double-Cropping System. <b>Khosro Khodayari, Robert E. Frans, and Khalid H. Akkari</b> . . . . .	746
<b>SPECIAL TOPICS</b>	
Correction of an Error in 32:824. <b>Douglas D. Buhler and Orvin C. Burnside</b> . . . . .	750
Correction of Errors in Index 32:859, 863. <b>Donald E. Davis</b> . . . . .	750
Correction of Errors in 33:315, 316, 321. <b>Donald M. Maddox, Aubrey Mayfield, and Noah H. Poritz</b> . . . . .	750

# WEED SCIENCE

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

D. E. Davis, *Science Editor*  
Department of Botany, Plant Pathology, and Microbiology  
Auburn University, AL 36849  
AC/205-826-4830

#### *Associate Science Editors*

- F. Dana Hess, Department of Botany and Plant Pathology, Purdue University, West Lafayette, IN 47907  
R. E. Hoagland, USDA, Southern Weed Science Laboratory, P.O. Box 225, Stoneville, MS 38776  
H. S. Mayeux, Jr., USDA/ARS, P.O. Box 748, Temple, TX 76501  
R. F. Norris, Botany Department, University of California, Davis, CA 95616  
C. J. Scifres, Department of Range Science, Texas A&M University, College Station, TX 77841  
W. H. Vanden Born, Department of Plant Science, University of Alberta, Edmonton, Alberta, Canada T6G 2E3  
R. D. Williams, USDA/ARS, P.O. Box 1430, Durant, OK 74702

Fredda Schomacker Buxton, *Assistant Science Editor*  
AC/205-826-5797

Jerry Oot, *Technical Editor*  
AC/217-356-3182

#### *Reviewers*

W. H. Ahrens	E. P. Flint	J. S. Holt	G. L. Orr
N. E. Balke	G. R. Gillespie	P. W. Jacoby, Jr.	S. J. Parka
P. A. Banks	J. W. Gronwald	P. E. Keeley	S. R. Radosevich
S. W. Bingham	Peter Harris	G. R. Leather	D. L. Shaner
A. R. Bonanno	K. K. Hatzios	M. G. Merkle	L. L. Whatley
M. D. Devine			H. P. Wilson

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

J. D. Riggleman, <i>President</i>	L. M. Wax, <i>Secretary</i>
O. C. Burnside, <i>President-Elect</i>	H. P. Wilson, <i>Treasurer</i>
J. H. Dawson, <i>Vice-President</i>	J. L. Hilton, <i>Editor-in-Chief</i>
J. D. Nalewaja, <i>Past-President</i>	AC/301-344-3030

*Weed Science* (ISSN 0043-1745) is the official publication of the Weed Science Society of America, 309 West Clark Street, Champaign, IL 61820 (AC/217-356-3182). It is published bimonthly, one volume per year, six issues per year beginning in January.

Membership is \$25 per year, student affiliate membership \$10, which includes receipt of the *Weed Science*, *Weeds Today*, and *WSSA Newsletter*. Dues should be sent to WSSA, 309 West Clark Street, Champaign, IL 61820 not later than December 1 of each year. Membership in the society is on a calendar-year basis only.

Subscriptions (institutions, libraries, etc.) are \$35 per year, one volume per year of six issues beginning in January. New subscriptions and renewals begin with the first issue of the current volume and should be sent to WSSA, 309 West Clark Street, Champaign, IL 61820.

Change of address affecting the mailing list for members, students, and subscribers, inquiries about copies lost in the mail, requests for back issues, and all matters pertaining to the receipt of the Journal, membership and subscription information should be sent to WSSA, 309 West Clark Street, Champaign, IL 61820. Claims for copies lost in the mails must be received within 30 days (90 days foreign) of the date of issue to insure replacement at no charge.

Manuscripts must be sent to the Science Editor, D. E. Davis, Department of Botany, Plant Pathology, and Microbiology, Auburn University, AL 36849. Directions for contributors are published in the September 1984 issue of *Weed Science*.

*Weed Science* published by the Weed Science Society of America.  
Second class postage paid at Champaign, IL and at additional mailing offices.  
Copyright 1985 by the Weed Science Society of America. Printed in USA.  
All rights reserved. Reproduction in part or whole prohibited.

Return POD form 3579 to WSSA, 309 West Clark Street, Champaign, IL 61820.

**Sustaining Members**

**WEED SCIENCE SOCIETY OF AMERICA**

**August 12, 1985**

Agri-Growth Research Inc.	Indiana Farm Bureau Co-Op Assoc. Inc.
Agway, Inc.	W. R. Landis Associates, Inc.
A & L Agricultural Laboratories	Mobay Chemical Corporation
Alabama Farmers Coop	Mobley Company
American Agricultural Services, Inc.	Mono-Hy Sugar Beet Seed, Inc.
American Cyanamid Company	Monsanto Company
American Hoechst Corporation	Mycogen Corporation
The Andersons	NOR-AM Chemical Company
Atchison, Topeka & Santa Fe Railway Company	OMNIDATA International, Inc.
Balcom Chemicals, Inc.	Pan-Agricultural Labs., Inc.
BASF Wyandotte Corporation	PBI Gordon Corporation
Bio-Search & Development Company	Pennwalt Corporation
Cenex	PPG Industries, Inc.
Chevron Chemical Company	Rhone Poulenc Inc.
CIBA-GEIGY Corporation	Rogers Engineering Inc.
Deere & Company	Rohm & Haas Company
Dekalb-Pfizer Genetics	O. M. Scott & Sons Company
Delavan Corporation	SDS Biotech Corporation
Dow Chemical USA	Shell Development Company
E. I. DuPont DeNemours & Company	Spraying Systems Company
Eli Lilly & Company	Stauffer Chemical Company
Farmland Industries	Stewart Agricultural Research Service Inc.
FMC Corporation	Thomson Publications
Gandy Corporation	Union Carbide Ag. Products Company
Garst & Thomas Hybrid Corn	Uniroyal Chemical Company
W. R. Grace & Company	Valley Chemical Company
Griffin Corporation	Velsicol Chemical Corporation
Growmark, Inc.	Virginia Chemicals Inc.
ICI Americas, Inc.	Zoecon Corporation