

# WEED SCIENCE

JOURNAL OF THE WEED SCIENCE SOCIETY OF AMERICA

VOLUME 32

NOVEMBER

NUMBER 6

## PHYSIOLOGY, CHEMISTRY, AND BIOCHEMISTRY

- Morphological and Histological Effects of Sethoxydim on Corn (*Zea mays*) Seedlings. **Hideo Hosaka, Hideo Inaba, Atsushi Satoh, and Hisao Ishikawa** . . . . . 711
- Reversal of Fluridone-Reduced Chlorophyll Accumulation in Cucumber (*Cucumis sativus*) Cotyledons by Stimulatory Compounds. **Ronald A. Fletcher, Sarma V. Meru, and Satindra N. Bhardwaj** . . . . . 722
- Oxadiazon Absorption, Translocation, and Metabolism in Rice (*Oryza sativa*) and Barnyardgrass (*Echinochloa crus-galli*). **Nagi Reddy Achhireddy, Ralph C. Kirkwood, and William W. Fletcher** . . . . . 727
- Growth Inhibition and Disruption of Mitosis by DCPA in Oat (*Avena sativa*) Roots. **Jeffrey D. Holmsen and F. Dan Hess** . . . . . 732
- Absorption, Translocation, and Degradation of Tebuthiuron and Hexazinone in Woody Species. **Wayne K. McNeil, Jimmy F. Stritzke, and Eddie Basler** . . . . . 739
- Effect of Leaf Girdling and Rhizome Girdling on Glyphosate Transport in Quackgrass (*Agropyron repens*). **Thomas B. Klevorn and Donald L. Wyse** . . . . . 744

## WEED BIOLOGY AND ECOLOGY

- Alfalfa (*Medicago sativa*)—Cheat (*Bromus secalinus*) Competition. **David R. Pike and Jimmy F. Stritzke** . . . . . 751
- Allelopathic Effects of Lantana (*Lantana camara*) on Milkweedvine (*Morrenia odorata*). **Nagi Reddy Achhireddy and Megh Singh** . . . . . 757
- Influence of Weed Control Programs in Intensive Cropping Systems. **N. C. Glaze, C. C. Dowler, A. W. Johnson, and D. R. Sumner** . . . . . 762
- Germination, and Seedling and Rosette Development of Flodman Thistle (*Cirsium flodmanii*). **Robert G. Wilson and Melvin K. McCarty** . . . . . 768
- Growth Responses of Green and Yellow Foxtail (*Setaria viridis* and *S. lutescens*) to Shade. **Carol J. Bubar and Ian N. Morrison** . . . . . 774
- Germination Ecology of Milkweedvine (*Morrenia odorata*). **Megh Singh and Nagi Reddy Achhireddy** . . . . . 781
- Environmental Conditions Required for Germination of Prickly Sida (*Sida spinosa*). **Jerry M. Baskin and Carol C. Baskin** . . . . . 786
- The In Vitro Culture of Excised Ovules from Velvetleaf (*Abutilon theophrasti*). **Laura K. Thompson, Gerald R. Leather, and Maynard G. Hale** . . . . . 792
- Abscissic Acid and Sucrose Control of Velvetleaf (*Abutilon theophrasti*) Ovule Development In Vitro. **Laura K. Thompson, Gerald R. Leather, and Maynard G. Hale** . . . . . 798

## WEED CONTROL AND HERBICIDE TECHNOLOGY

- Reversal of Cation-Induced Reduction in Glyphosate Activity with EDTA. **Patrick J. Shea and Duane R. Tupy** . . . . . 802
- Itchgrass (*Rottboellia exaltata*) Response to Control Practices in Soybean (*Glycine max*). **Paul R. Nester, Thomas R. Harger, and James P. Geaghan** . . . . . 807
- Control of Annual Morningglories (*Ipomoea* spp.) in Soybeans (*Glycine max*). **Michele A. Barker, Lafayette Thompson, Jr., and F. Michael Godley** . . . . . 813
- Influence of Nitrogen on Recovery of Bermudagrass (*Cynodon dactylon*) Treated with Herbicides. **B. Jack Johnson** . . . . . 819

Contents continued—inside front cover

Herbicidal Activity of Fluazifop-Butyl, Haloxyfop-Methyl, and Sethoxydim in Soil. <b>Douglas D. Buhler and Orvin C. Burnside</b> . . . . .	824
Postemergence Control of Red Rice ( <i>Oryza sativa</i> ). <b>William L. Barrentine, Joe E. Street, and Mark E. Kurtz</b> . . . . .	832
Response of Bermudagrass ( <i>Cynodon dactylon</i> ), Quackgrass ( <i>Agropyron repens</i> ), and Wirestem Muhly ( <i>Muhlenbergia frondosa</i> ) to Postemergence Grass Herbicides. <b>Charles P. Hicks and Thomas N. Jordan</b> . . . . .	835
Comparative Phytotoxicity of Glyphosate, SC-0224, SC-0545, and HOE-00661. <b>Kenneth L. Carlson and Orvin C. Burnside</b> . . . . .	841
Application of Herbicides on Rangelands with a Carpeted Roller: Control of Goldenweeds ( <i>Isocoma</i> spp.) and False Broomweed ( <i>Ericameria austrotexana</i> ). <b>Herman S. Mayeux, Jr. and Richard A. Crane</b> . . . . .	845
<b>SPECIAL TOPICS</b>	
Future Needs in Weed Science. <b>C. G. McWhorter</b> . . . . .	850
Author Index to Volume 32 <i>Weed Science</i> . . . . .	856
Subject Index to Volume 32 <i>Weed Science</i> . . . . .	859

# 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*

S. O. Duke, USDA, Southern Weed Science Laboratory, P.O. Box 225, Stoneville, MS 38776

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

T. J. Monaco, Department of Horticultural Science, North Carolina State University, Raleigh, NC 27650

R. F. Norris, Botany Department, University of California, Davis, CA 95616

B. Truelove, Department of Botany, Plant Pathology, and Microbiology, Auburn University, AL 36849

W. H. Vanden Born, Department of Plant Science, University of Alberta, Edmonton, Alberta, Canada T6G 2E3

Fredda Schomacker Buxton, *Assistant Science Editor*

AC/205-826-5797

Jerry Oot, *Technical Editor*

AC/217-356-3182

## *Reviewers*

W. H. Ahrens

N. E. Balke

P. G. Bartels

S. W. Bingham

R. D. Comes

J. W. Gronwald

K. K. Hatzios

J. S. Holt

P. W. Jacoby

P. E. Keeley

D. L. Linscott

J. R. Teasdale

L. L. Whatley

R. D. Williams

J. A. Young

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

J. D. Nalewaja, *President*

J. D. Riggelman, *President-Elect*

O. C. Burnside, *Vice-President*

C. G. McWhorter, *Past-President*

D. L. Linscott, *Secretary*

G. R. Miller, *Treasurer*

J. L. Hilton, *Editor-in-Chief*

AC/301-344-3030

C. J. Cruse, *Executive Secretary*

AC/217-356-3182

*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 1983 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 1984 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

October 8, 1984

Aceto Agricultural Corporation	Great Western Sugar Company
Agway, Inc.	Griffin Corporation
Agri-Growth Research Inc.	Growmark, Inc.
A & L Agricultural Laboratories	ICI Americas, Inc.
Alabama Farmers Coop	Indiana Farm Bureau Co-Op Assoc. Inc.
American Agricultural Services, Inc.	Micron West Inc.
American Cyanamid Company	Mobay Chemical Corporation
American Hoechst Corporation	Mobley Company
The Andersons	Monsanto Company
Atchison, Topeka & Santa Fe Railway Company	Mycogen Corporation
Balcom Chemicals, Inc.	Nalco Chemical Company
BASF Wyandotte Corp.	NOR-AM Chemical Company
Bio-Search & Development Company	PBI Gordon Corporation
R. H. Bogle Company	Pennwalt Corporation
Cenex	PPG Industries, Inc.
Chevron Chemical Corporation	Rhone-Poulenc Chemical Company
CIBA-GEIGY Corporation	Rohm & Haas Company
Deere & Company	O. M. Scott & Sons Company
Dekalb-Pfizer Genetics	SDS Biotech Corporation
Delavan Corporation	Shell Development Company
Delta Distributors, Inc.	Sierra Chemical Company
Dow Chemical USA	Spraying Systems Company
E. I. DuPont DeNemours & Company	Stewart Agricultural Research Service Inc.
Ehrlich Chemical Company, Inc.	Stouffer Chemical Company
Electro General Corporation	Thermo Kinetics Industries
Eli Lilly & Company	Union Carbide Ag. Products Company
Farm Press Publications	Uniroyal Chemical Company
Farmland Industries	The Upjohn Company
FMC Corporation	Valley Chemical Company
Gandy Corporation	Velsicol Chemical Corporation
Garst & Thomas Hybrid Corn	Virginia Chemicals Inc.
W. R. Grace & Company	Zoecon Corporation