

WEED SCIENCE

JOURNAL OF THE WEED SCIENCE SOCIETY OF AMERICA



VOLUME 31

NOVEMBER 1983

NUMBER 6

—CONTENTS—

- 763 Leaching and Degradation of *dl*-Strigol in Soil. Andrew I. Hsiao, A. Douglas Worsham, and Donald E. Moreland
- 766 Behavior of 2,4-D in Common Waterplantain (*Alisma triviale*). Joel K. Ransom, Ervin A. Oelke, and Donald L. Wyse
- 771 Response of Four Bermudagrass (*Cynodon dactylon*) Cultivars to Fall-Applied Herbicides. B. J. Johnson
- 775 Distribution and Metabolism of Simazine in Simazine-Tolerant and -Intolerant Poplar (*Populus* sp.) Clones. O. A. Akinyemiju, D. I. Dickmann, and R. A. Leavitt
- 779 Paraquat Efficacy as Influenced by Atomizer Type. Donald L. Reichard and Glover B. Triplett
- 783 Decreased Activity of EPTC + R-25788 Following Repeated Use in Some New Zealand Soils. Anis Rahman and Trevor K. James
- 790 Antidotes Reduce Injury to Grain Sorghum (*Sorghum bicolor*) from Acetanilide Herbicides. Daniel L. Devlin, Loren J. Moshier, Oliver G. Russ, and Philip W. Stahlman
- 796 Performance of BAS 9052 Applied to Johnsongrass (*Sorghum halepense*) and Soybeans (*Glycine max*). E. James Retzinger, Jr., R. Larry Rogers, and Ronald P. Mowers
- 801 Bioassay of Benazolin for Auxin Activity Using the Pea (*Pisum sativum*) Straight Growth Test. Laura L. Whatley and Fred W. Slife
- 803 Influence of Yellow Nutsedge (*Cyperus esculentus*)—Free Periods on Yield of Cotton (*Gossypium hirsutum*). Paul E. Keeley and Robert J. Thullen
- 807 Absorption and Translocation of Triclopyr in Honey Mesquite (*Prosopis juliflora* var. *glandulosa*). Rodney W. Bovey, Hugo Hein, Jr., and Robert E. Meyer
- 813 Effect of No-till Systems on Weed Control and Yields of Continuous Winter Wheat (*Triticum aestivum*). Charles L. Cleary and Thomas F. Peeper
- 819 Solar Heating of the Soil: Effect on Weed Control and on Soil-Incorporated Herbicides. Baruch Rubin and Abraham Benjamin
- 825 Eight Years of Herbicide and Nitrogen Fertilizer Treatments on Kentucky Bluegrass (*Poa pratensis*) Turf. J. Jack Murray, Dayton L. Klingman, Ralph G. Nash, and Edwin A. Woolson
- 831 Sugarbeet (*Beta vulgaris* L.) Response to Simulated Herbicide Spray Drift. Galen L. Schroeder, Darrell F. Cole, and Alan G. Dexter
- 837 Germination, Growth, and Seed Production of *Ipomoea hederacea* when Planted at Monthly Intervals. Robert J. Thullen and Paul E. Keeley
- 840 Subsurface Placement Methods for Metribuzin and Trifluralin. Mustafa A. Khalifa, Howard D. Wittmuss, and Orvin D. Burnside
- 845 Relationships Between Phenylalanine Ammonia-Lyase Activity and Physiological Responses of Soybean (*Glycine max*) Seedlings to Herbicides. Robert E. Hoagland and Stephen O. Duke

Contents continued—inside front cover

Contents continued from front cover

- 853 Weed Control in a Low-Till Oat (*Avena sativa*)-Soybean (*Glycine max*) Rotation. Orvin C. Burnside and David R. Carlson
- 857 Ozone-Herbicide Interactions on Sorghum (*Sorghum bicolor*) and Velvetleaf (*Abutilon theophrasti*) Seedlings. Kriton K. Hatzios and Yaw-Shing Yang
- 861 Response of Wheat (*Triticum aestivum*) and Rotation Crops to Chlorsulfuron. Bill D. Brewster and Arnold P. Appleby
- 866 A Nursery Study of Leafy Spurge (*Euphorbia* spp.) Complex From North America. Duane H. Ebke and Melvin K. McCarty
- 874 Physiological Response of Common Cocklebur (*Xanthium pensylvanicum*) to Glyphosate. Emerson D. Nafziger and Fred W. Slife
- 879 Influence of Buthidazole, Diuron, and Atrazine on Some Light Reactions of Photosynthesis. Robert M. Devlin, Antoni J. Murkowski, Irena I. Zbieć, Stanisław J. Karczmarczyk, and Elżbieta M. Skórska
- 883 Response of Weeds in Bermudagrass (*Cynodon dactylon*) Turf to Tank-Mixed Herbicides. B. J. Johnson
- 889 Influence of Picloram Alone or Plus 2,4-D on Control of Wild Oats (*Avena fatua*) with Four Postemergence Herbicides. P. Ashley O'Sullivan
- 892 Interference and Temperature Effects on Growth of Cotton (*Gossypium hirsutum*), Spurred Anoda (*Anoda cristata*), and Velvetleaf (*Abutilon theophrasti*). Elizabeth P. Flint, David T. Patterson, and Jan L. Beyers
- 899 Effect of Simazine on Photosynthesis and Growth of Filamentous Algae. Steven W. O'Neal and Carole A. Lembi
- 904 Minutes of the Executive Committee Meeting, Weed Science Society of America
- 907 Author Index to Volume 31 *Weed Science*
- 910 Subject Index to Volume 31 *Weed Science*
- 917 Errata

WEESA6 31(6) 763–917 (1983)

Sustaining Members
WEED SCIENCE SOCIETY OF AMERICA
October 15, 1983

Aceto Agricultural Corp.
Agri-Growth Research Inc.
Agway, Inc.
A & L Agricultural Laboratories
Alabama Farmers Coop
American Cyanamid Company
American Hoechst Corporation
Amoco Oil Company
The Andersons
Atchison, Topeka & Santa Fe Railway Company
Balcom Chemicals, Inc.
BASF Corporation
B F C Chemicals, Inc.
R. H. Bogle Company
Cenex
Chevron Chemical Corp.
CIBA-GEIGY Corporation
Deere & Company
DeKalb Agric. Research Inc.
Delavan Corp.
Delta Distributors, Inc.
Diamond Shamrock Corp.
Dow Chemical USA
E. I. DuPont DeNemours & Co.
Ehrlich Chemical Co., Inc.
Electro General Corporation
Eli Lilly & Company
Farm Press Publications
Farmland Industries
FMC Corporation
Gandy Corp.
Garst & Thomas Hybrid Corn
W. R. Grace & Co.
Great Western Sugar Company

Griffin Corp.
Growmark, Inc.
Hopkins Agric. Chemical Library
ICI Americas, Inc.
Indiana Farm Bureau Co-Op Assoc. Inc.
M&M Air Service of Beaumont, Inc.
Micron West Inc.
Mobay Chemical Corporation
Mobley Company
Monsanto Company
Nalco Chemical Company
Nor-Am Agr. Products, Inc.
PBI Gordon Corp.
Pennwalt Corp.
PPG Industries, Inc.
Puregro Co.
Rhone-Poulenc Chemical Co.
Rohm & Haas Co.
Sandoz, Inc.
O. M. Scott & Sons Company
Shell Development Company
Spraying Systems Company
Stauffer Chemical Company
Stewart Agricultural Research Service Inc.
Tex-Ag Co.
3M Company
Thermo Kinetics Industries
Tide Products, Inc.
Union Carbide Ag. Products Co.
Uniroyal Chemical Co.
The Upjohn Co.
Valley Chemical Co.
Velsicol Chemical Corporation
Virginia Chemicals Inc.

WEED SCIENCE

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

D. E. Davis, *Editor*

Department of Botany, Plant Pathology, and Microbiology
Auburn University, AL 36849
AC/205-826-4830

Associate Editors

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

R. H. Hodgson, USDA/ARS, Weed Science Research, P.O. Box 1209, Frederick, MD 21701

L. S. Jordan, Plant Science Department, University of California, Riverside, CA 92521

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, Botany and Microbiology Department, Auburn University, Auburn, AL 36849

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

Editorial Committee

N. E. Balke
P. G. Bartels
S. W. Bingham
R. D. Comes
K. K. Hatzios
R. E. Hoagland

P. W. Jacoby
P. E. Keeley
D. L. Linscott
H. S. Mayeux, Jr.
R. M. Menges
A. G. Ogg, Jr.

D. T. Patterson
S. R. Radosevich
A. E. Smith, Jr.
R. B. Taylorson
J. R. Teasdale
R. D. Wauchope

R. D. Williams
H. P. Wilson
J. A. Young
R. L. Zimdahl

Officers of the Weed Science Society of America

C. G. McWhorter, President
J. D. Nalewaja, President-Elect
J. D. Riggleman, Vice-President
T. J. Sheets, 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 Editor, D. E. Davis, Department of Botany & Microbiology, Auburn University, Auburn, AL 36830. Directions for contributors are published annually in the January 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 1983 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.