

WEED SCIENCE

JOURNAL OF THE WEED SCIENCE SOCIETY OF AMERICA

VOLUME 34

SEPTEMBER 1986

NUMBER 5

PHYSIOLOGY, CHEMISTRY, AND BIOCHEMISTRY

- Absorption and Translocation of Sethoxydim with Additives. **John D. Nalewaja and Grzegorz A. Skrzypczak**. 657
- Regrowth of Quackgrass (*Agropyron repens*) Following Postemergence Applications of Haloxyfop and Sethoxydim. **David E. Stoltenberg and Donald L. Wyse**. 664
- L-2-Oxothiazolidine-4-Carboxylic Acid Protection Against Tridiphane Toxicity. **James L. Hilton and Parthasarathy Pillai**. 669
- Uptake and Translocation of ¹⁴C-Fluazifop by Quackgrass (*Agropyron repens*). **Nimal R. Chandrasena and Geoff R. Sagar**. 676
- Inhibited Mitotic Entry is the Cause of Growth Inhibition by Cinmethylin. **Mahmound H. El-Deek and F. Dan Hess**. 684

WEED BIOLOGY AND ECOLOGY

- Competition Between Winter Wheat (*Triticum aestivum*) Cultivars and Downy Brome (*Bromus tectorum*). **Challaiah, Orvin C. Burnside, Gail A. Wicks, and Virgil A. Johnson**. 689
- Efficacy of Ethylene as a Germination Stimulant of *Striga hermonthica* Seed. **Faiz F. Bebawi and Robert E. Eplee**. 694
- Floral Induction of Downy Brome (*Bromus tectorum*) as Influenced by Temperature and Photoperiod. **Jesse M. Richardson, Larry A. Morrow, and David R. Gealy**. 698
- Growth and Development of Dinitroaniline-Susceptible and -Resistant Goosegrass (*Eleusine indica*) Biotypes Under Noncompetitive Conditions. **Tim R. Murphy, Billy J. Gossett, and Joe E. Toler**. 704
- Shade Development Effects on Pitted Morningglory (*Ipomoea lacunosa*) Interference with Soybeans (*Glycine max*). **Edward C. Murdock, Philip A. Banks, and Joe E. Toler**. 711

WEED CONTROL AND HERBICIDE TECHNOLOGY

- The Response of Wild Garlic (*Allium vineale*) to the Timing of Spray Applications of Chlorsulfuron. **Andrew Leys and Fred W. Slife**. 718
- Weed Response, Yield, and Economics of Hexazinone and Nitrogen Use in Lowbush Blueberry Production. **David E. Yarborough, John J. Hanchar, Steven P. Skinner, and Amr A. Ismail**. 723
- Honeyvine Milkweed (*Ampelamus albidus*) Response to Foliar Herbicides. **Loren J. Moshier, Oliver G. Russ, Joseph P. O'Connor, and Mark M. Claassen**. 730
- Metribuzin and Chlorsulfuron Effect on Grain of Treated Winter Wheat (*Triticum aestivum*). **Randy L. Anderson**. 734
- Influence of Mulch, Tillage, and Diphenamid on Weed Control, Yield, and Quality in No-Till Flue-Cured Tobacco (*Nicotiana tabacum*). **Donn G. Shilling, A. Douglas Worsham, and David A. Danehower**. 738
- Analytical Techniques to Measure Sethoxydim and Breakdown Products. **Antony R. Shoaf and William C. Carlson**. 745
- Johnsongrass (*Sorghum halepense*) Control in Reduced-Tillage Systems. **Mark A. Langemeier and William W. Witt**. 751
- Effect of Cotton (*Gossypium hirsutum*) Herbicide Carryover on Subsequent Crops. **C. Brent Rogers, Ronald Talbert, and Robert Frans**. 756

Control of Jerusalem Artichoke (<i>Helianthus tuberosus</i>) in Barley (<i>Hordeum vulgare</i>). David A. Wall, Ferdinand A. Kiehn, and George H. Friesen	761
Variation in Response of Four Nightshades (<i>Solanum</i> spp.) to Herbicides. Alex G. Ogg, Jr.	765
Wild Proso Millet (<i>Panicum miliaceum</i>) Control with Thiocarbamate Herbicides on Previously Treated Soils. R. Gordon Harvey, Gregory R. McNevin, John W. Albright, and Mary Ellen Kozak	773

SOIL, AIR, AND WATER

Factors Affecting Degradation of MSMA in Soil. Khalid H. Akkari, Robert E. Frans, and Terry L. Lavy	781
Soil Solution and Mobility Characterization of Imazaquin. Andrew J. Goetz, Glenn Wehtje, Robert H. Walker, and Ben Hajek	788

SPECIAL TOPICS

A Washer for Removing Thickened Roots from Soil. Steven J. Carlson and William W. Donald	794
Interaction of Propanil and Selected Insecticides on Rice (<i>Oryza sativa</i>). Khosro Khodayari, Roy J. Smith, Jr., and N. Philip Tugwell	800
Directions for Contributors to <i>Weed Science</i>	804

WEED SCIENCE

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

Dayton L. Klingman, *Science Editor*
2028 Forest Hill Drive
Silver Spring, MD 20903
AC/301-434-6806

Associate Science Editors

Malcolm Devine, Department of Plant Science, University of Alberta, Edmonton, Alberta, Canada T6G 2P5

K. K. Hatzios, Department of Plant Pathology and Physiology, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061

F. Dana Hess, Zoecon Research Institute, Sandoz Crop Protection Corporation, P.O. Box 10975, Palo Alto, CA 94303-0589

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

R. D. Williams, USDA/ARS, P.O. Box 1430, Durant, OK 74702

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

Reviewers

N. R. Achhireddy
W. H. Ahrens
N. E. Balke
P. A. Banks
Mike Barrett
S. W. Bingham

A. R. Bonanno
Doug Boyette
D. D. Buhler
J. M. DiPaola
R. A. Evans
E. P. Flint

M. E. Foley
D. R. Forney
G. R. Gillespie
J. W. Gronwald
S. S. Harper
R. G. Harvey

J. S. Holt
G. R. Leather
R. S. McAllister
Jill Mellis
T. B. Moorman
G. L. Orr

S. J. Parka
D. T. Patterson
S. R. Radosevich
D. L. Shaner
A. K. Watson
L. L. Whatley

Officers of the Weed Science Society of America

O. C. Burnside, *President*
J. H. Dawson, *President Elect*
J. F. Ahrens, *Vice President*
J. D. Riggleman, *Past President*

L. M. Wax, *Secretary*
H. P. Wilson, *Treasurer*
J. L. Hilton, *Editor-in-Chief*
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 \$40 per year, student affiliate membership \$20, which includes receipt of *Weed Science* 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 \$50 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, Dayton L. Klingman, 2028 Forest Hill Drive, Silver Spring, MD 20903. Directions for contributors are published in the January 1986 issue of *Weed Science*. Authors are asked to pay \$50 per page charge as a portion of the cost of publication. The Science Editor can make exceptions in advance when justified.

Weed Science published by the Weed Science Society of America.
Second class postage paid at Champaign, IL and at additional mailing offices.
Copyright 1986 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
June 11, 1986

ABC Laboratories, Inc.
A & L Agricultural Laboratories
Agri-Growth Research Inc.
Agway, Inc.
American Agricultural Services, Inc.
American Cyanamid Company
American Hoechst Corporation
The Andersons
Ascheman Associates Consulting
Atchison, Topeka & Santa Fe Railway Company
Balcom Chemicals, Inc.
BASF Wyandotte Corporation
Cenex
Chevron Chemical Company
CIBA-GEIGY Corporation
Deere & Company
Dekalb-Pfizer Genetics
Delavan Corporation
Dow Chemical USA
E. I. DuPont DeNemours & Company
Eli Lilly & Company
FMC Corporation
Gandy Corporation
Garst & Thomas Hybrid Corn
W. R. Grace & Company
Griffin Corporation
Growmark, Inc.

ICI Americas, Inc.
W. R. Landis Associates, Inc.
Minnesota Valley Testing Labs., Inc.
Mobay Chemical Corporation
Mobley Company
Monsanto Company
Mycogen Corporation
NOR-AM Chemical Company
Pan-Agricultural Labs., Inc.
PBI Gordon Corporation
Pennwalt Corporation
Pioneer Overseas Corp.
PPG Industries, Inc.
R & D Sprayers, Inc.
Rhone Poulenc Inc.
Rogers Engineering Inc.
O. M. Scott & Sons Company
SDS Biotech Corporation
Shell Development Company
Spraying Systems Company
Stauffer Chemical Company
Stewart Agricultural Research Service Inc.
Union Carbide Ag. Products Company
Uniroyal Corporation
Velsicol Chemical Corporation
Virginia Chemicals Inc.
Zoecon Corporation