

WEED SCIENCE

JOURNAL OF THE WEED SCIENCE SOCIETY OF AMERICA

VOLUME 39

JANUARY–MARCH, 1991

NUMBER 1

PHYSIOLOGY, CHEMISTRY, AND BIOCHEMISTRY

- Antagonism of Haloxyfop Activity in Tall Fescue (*Festuca arundinacea*) by Dicamba and Bentazon. Renan Aguero-Alvarado, Arnold P. Appleby, and Donald J. Armstrong 1
- Cellular Characteristics of Dinitroaniline Herbicide-Resistant Goosegrass (*Eleusine indica*). Bernal E. Valverde, Arnold P. Appleby, Steven R. Radosevich, and Alfred Soeldner 6
- Inhibition of Photosynthesis in Downy Brome (*Bromus tectorum*) and Jointed Goatgrass (*Aegilops cylindrica*) Protoplasts by Metribuzin and its Ethylthio Analog. Robert A. Buman, David R. Gealy, and Alex G. Ogg, Jr. 13
- Photosynthetic Productivity of Mayweed Chamomile (*Anthemis cotula*). David R. Gealy, Shella A. Squier, and Alex G. Ogg, Jr. 18
- Effect of Naptalam on Chloramben Toxicity, Uptake, Translocation, and Metabolism in Cucumber (*Cucumis sativus*). Larry D. Knerr, Herbert J. Hopen, and Nelson E. Balke. 27

WEED BIOLOGY AND ECOLOGY

- Redvine (*Brunnichia ovata*) Germination and Emergence. David R. Shaw, Robert E. Mack, and Clyde A. Smith. 33
- Germination and Emergence of Virginia Buttonweed (*Diodia virginiana*). James H. Baird and Ray Dickens 37
- Reciprocal Yield Analysis of Red Rice (*Oryza sativa*) Competition in Cultivated Rice. Dan J. Pantone and John B. Baker ... 42
- Hairy Nightshade (*Solanum sarrachoides*) Interference in Dry Beans (*Phaseolus vulgaris*). Robert E. Blackshaw. 48
- Effects of Preemergence Herbicides on the Competitiveness of Selected Weeds. Timothy E. Adcock and Phillip A. Banks. ... 54

WEED CONTROL AND HERBICIDE TECHNOLOGY

- Triallate Antidotes for Wheat (*Triticum aestivum*). Patrick M. McMullan and John D. Nalewaja 57
- Postemergence Control of Large Crabgrass (*Digitaria sanguinalis*) with Herbicides. William J. Chism and S. Wayne Bingham 62
- Influence of Cultivation Timing on Chemical Control of Sicklepod (*Cassia obtusifolia*) in Soybean (*Glycine max*). David R. Shaw, Larry J. Newsom, and Clyde A. Smith 67
- Sensitivity of Sugarcane (*Saccharum* sp.) to Glyphosate. Edward P. Richard, Jr. 73
- Efficacy and Mode of Action of CGA-154281, a Protectant for Corn (*Zea mays*) from Metolachlor Injury. Loston Rowe, James J. Kells, and Donald Penner. 78
- Profitable, Effective Herbicides for Planting-Time Weed Control in No-till Spring Wheat (*Triticum aestivum*). William W. Donald and Tony Prato 83

SOIL, AIR, AND WATER

- Control of Plant Water Potential in Water Stress Studies. Daniel W. Kidder and Richard Behrens 91
- Pendimethalin Dissipation in Kentucky Bluegrass Turf. G. K. Stahnke, P. J. Shea, D. R. Tupy, R. N. Stougaard, and R. C. Shearman 97

SPECIAL TOPICS

- Effect of Ensiling and Rumen Digestion by Cattle on Weed Seed Viability. Robert E. Blackshaw and Lyle M. Rode. 104
- Virulence of *Sclerotinia sclerotiorum* and *S. minor* on Dandelion (*Taraxacum officinale*). Gordon E. Riddle, Lee L. Burpee, and Gregory J. Boland 109
- Differential Inhibition of Seed Germination by Sweetpotato (*Ipomoea batatas*) Root Periderm Extracts. Joseph K. Peterson and Howard F. Harrison, Jr. 119
- Weed Management Decisions in Corn Based on Bioeconomic Modeling. Donald W. Lybecker, Edward E. Schweizer, and Robert P. King. 124
- Expression of Metribuzin Sensitivity in Winter Wheat (*Triticum aestivum*) Populations. R. L. Ratliff, B. F. Carver, and T. F. Peeper 130
- Directions for Contributors to *Weed Science*. 134

WEESA6 39(1) 1-138 (1991)

WEED SCIENCE

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

R. J. Aldrich, *Editor*

Associate Editors

- Michael Barrett, Department of Agronomy, University of Kentucky, Lexington, KY 40546
G. Euel Coats, P.O. Drawer PG, Department Pl. Path. and Weed Sci., Mississippi State University, Mississippi State, MS 39762
J. F. Derr, Hampton Roads Ag. Exp. Station, 1444 Diamond Springs Road, Virginia Beach, VA 23455
Charlotte Eberlein, University of Idaho, Aberdeen Research and Extension Center, Aberdeen, ID 83210
Sidney S. Harper, Tennessee Valley Authority, National Fertilizer Development Center, Muscle Shoals, AL 35660
Paul W. Santelmann, Department of Agronomy, Oklahoma State University, Stillwater, OK 74078
Dale Shaner, American Cyanamid Co., P.O. Box 400, Princeton, NJ 08540
A. K. Watson, Department of Plant Science, Macdonald College of McGill University, 2111 Lakeshore Rd., Ste. Anne de Bellevue, PQ, Canada H9X 1C0
S. C. Weller, Department of Horticulture, Purdue University, West Lafayette, IN 47907
Allen F. Wiese, Texas Agricultural Experiment Station, Texas A&M University System, P.O. Drawer 10, Bushland, TX 79012

Jerry Oot, *Technical Editor*
AC/217-892-4329

Reviewers

- | | | | |
|-----------------|---------------------|-----------------|-----------------|
| W. H. Ahrens | M. E. Foley | Rex Liebl | P. J. Shea |
| Robin Bellinder | Greg Gillespie | John Lydon | C. E. Snipes |
| David Bridges | K. N. Harker | Wondi Mersie | R. F. Turco |
| D. D. Buhler | Kent Harrison | Tom Moorman | M. K. Upadhyaya |
| Jeffrey Conn | W. Carroll Johnson | L. J. Moshier | Glenn Wehtje |
| G. Crabtree | William C. Koskinen | U. Nandihalli | John W. Wilcut |
| A. G. Dexter | R. J. Kremer | D. T. Patterson | Alan York |
| W. E. Dyer | | | Frank Young |

Officers of the Weed Science Society of America

- | | |
|--------------------------------------|---|
| J. R. Abemathy, <i>President</i> | A. S. Hamill, <i>Secretary</i> |
| J. Antognini, <i>President-Elect</i> | J. M. Chandler, <i>Treasurer</i> |
| Harold Coble, <i>Vice President</i> | B. Truelove, <i>Editor-in-Chief</i> |
| L. W. Mitich, <i>Past President</i> | R. A. Schmidt, <i>Executive Secretary</i> |

Weed Science (ISSN 0043-1745) is an official publication of the Weed Science Society of America, 309 West Clark Street, Champaign, IL 61820 (AC/217-356-3182). It contains refereed papers describing the results of research that elucidates the nature of phenomena relating to all aspects of weeds and their control. It is published quarterly, one volume per year, four issues per year beginning with January-March.

Membership is \$50 per year, student affiliate membership \$20, which includes receipt of *Weed Science*, *Weed Technology*, 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 \$80 per year, one volume per year of four 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 mail 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, Richard J. Aldrich, 701 Wildwood Drive, Columbia, MO 65203 (Oct. 16 to April 30); or Box 236, Marcell, MN 56657 (May 1 to Oct. 15). Directions for contributors are published in the January issue of *Weed Science*. Authors are asked to pay \$50 (member) or \$100 (nonmember) per page charge as a portion of the cost of publication. The 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 1991 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
January 31, 1991

A & L Agricultural Laboratories	LI-COR, Inc.
ABC Laboratories Inc.	Mandel Scientific Company Ltd.
ACRES Agric. Custom Research	Marbicon Inc.
Agri-Growth Research Inc.	Micro Simplified Inc.
Agrolinz Inc.	Minnesota Valley Testing Lab
Allen Machine Works	Mobay Corp./Ag Chem. Div.
ALMACO	Monsanto Company
American Agricultural Services Inc.	Mycogen Company
American Cyanamid Company	Nippon Soda Company Ltd.
The Andersons	NOR-AM Chemical Company
BASF Corporation	OHMICRON
Battelle	OMNIDATA International Inc.
Calgene	Pan-Agricultural Labs., Inc.
CIBA-GEIGY Canada Inc.	PBI/Gordon Corporation
CIBA-GEIGY Corporation	Pioneer Overseas Corporation
Deere & Company	Plant Sciences Inc.
De Soto, Inc.	R & D Sprayers Inc.
DuPont Agricultural Products	Research Development Alternatives
Eli Lilly & Company	Research Options, Inc.
Enviro AgScience Inc.	Rhone Poulenc Ag Company
Environmental Technologies Institute Inc.	Rogers Engineering Inc.
EPL Bio-Analytical Services	Rohm & Haas Company
FMC Corporation	Sandoz Crop Protection
Gandy Corporation	O. M. Scott & Sons Company
Griffin Corporation	Spraying Systems Company
Growmark Inc.	SSI Mobley Company, Inc.
Gylling Data Management, Inc.	Stewart Agricultural Research Service Inc.
Heartland Technologies, Inc.	Sumitomo Chemical America Inc.
Hoechst-Roussel Agri Vet	Terra International Inc.
ICI Americas, Inc.	Thomson Publications
ICMS Inc.	Uniroyal Chemical Corporation
ISK Biotech Corporation	Weed Systems, Inc.
Kincaid Equipment Manufacturers	Wintersteiger America Inc.
Landis International Inc.	