

WEED SCIENCE

JOURNAL OF THE WEED SCIENCE SOCIETY OF AMERICA

VOLUME 36

SEPTEMBER 1988

NUMBER 5

PHYSIOLOGY, CHEMISTRY, AND BIOCHEMISTRY

- Selective Action of the New Herbicide 4-amino-6-(1,1-dimethylethyl)-3-(ethylthio)-1,2,4-triazin-5(4H)-one in Different Wheat, *Triticum aestivum*, Cultivars. **Carl Fedtke and Robert R. Schmidt** 541
- Temperature Effects on Translocation Patterns of Several Herbicides within Quackgrass (*Agropyron repens*). **K. Neil Harker and Jack Dekker** 545
- Uptake, Translocation, and Metabolism of Thiobencarb in Two Lettuce, *Lactuca sativa*, Cultivars. **Stephen Reiners, Stanley F. Gorski, and J. J. Victor DeSouza** 553
- Use of Soybean (*Glycine max*) and Velvetleaf (*Abutilon theophrasti*) Suspension-Cultured Cells to Study Bentazon Metabolism. **Tracy M. Sterling and Nelson E. Balke** 558

WEED BIOLOGY AND ECOLOGY

- Ray Achene Polymorphism and Germination in Ragweed Parthenium (*Parthenium hysterophorus*). **Sarbesh K. Dubey and Harendra N. Pandey** 566
- Freezing Resistance of Overwintering Buds of Four Perennial Weeds. **Wanda K. Schimming and Calvin G. Messersmith** 568
- Characterization of Reciprocal Hybrids of Common Ragweed, *Ambrosia artemisiifolia*, and Giant Ragweed, *A. trifida*. **Gilles Vincent, Denis Lauzer, and Mario Cappadocia** 574
- Factors Limiting the Distribution of Cogongrass, *Imperata cylindrica*, and Torpedograss, *Panicum repens*. **John W. Wilcut, Roland R. Dute, Bryan Truelove, and Donald E. Davis** 577
- Interference of Annual Weeds in Seedling Alfalfa (*Medicago sativa*). **Albert J. Fischer, Jean H. Dawson, and Arnold P. Appleby** 583
- Interspecific and Intraspecific Interference of Broadleaf Signalgrass (*Brachiaria platyphylla*) in Rice (*Oryza sativa*). **John T. McGregor, Jr., Roy L. Smith, Jr., and Ronald E. Talbert** 589
- Effect of Russian Thistle (*Salsola iberica*) Interference on Spring Wheat (*Triticum aestivum*). **Frank L. Young** 594
- Outcrossing in Velvetleaf (*Abutilon theophrasti*). **Robert N. Andersen** 599
- Patterns of Weed Emergence in Tropical Soil. **Robert L. Zimdahl, Keith Moody, Rosario T. Lubigan, and Eduardo M. Castin** 603
- Velvetleaf (*Abutilon theophrasti*) Growth and Development in Conventional and No-Tillage Corn (*Zea mays*). **Michael S. DeFelice, William W. Witt, and Michael Barrett** 609
- Influence of Cultivar Height on Competitiveness of Cotton (*Gossypium hirsutum*) with Johnsongrass (*Sorghum halepense*). **David C. Bridges and J. Mike Chandler** 616

WEED CONTROL AND HERBICIDE TECHNOLOGY

- Grass Interference in Container-Grown Bailey's Redosier Dogwood (*Cornus X baileyi*). **Kandy L. Walker and David J. Williams** 621

Response of Corn (<i>Zea mays</i>) Cultivars to Imazaquin. Karen A. Renner, William F. Meggitt, and Donald Penner . . .	625
Influence of Application Time on Clomazone Activity in No-Till Soybeans, <i>Glycine max.</i> Virginia L. Werling and Douglas D. Buhler.	629
Postemergence Herbicide Suppression of Wheat, <i>Triticum aestivum</i> , Growing with Alfalfa, <i>Medicago sativa</i> . Richard A. Beardmore and Dean L. Linscott	636
Influence of Tillage Systems on Giant Foxtail, <i>Setaria faberi</i> , and Velvetleaf, <i>Abutilon theophrasti</i> , Density and Control in Corn, <i>Zea mays</i> . Douglas D. Buhler and Tommy C. Daniel	642
Combinations of Nonselective Herbicides for Difficult to Control Weeds in No-Till Corn, <i>Zea mays</i> , and Soybeans, <i>Glycine max.</i> John S. Wilson and A. Douglas Worsham	648
Growth and Water Relations of Douglas Fir (<i>Pseudotsuga menziesii</i>) Seedlings under Different Weed Control Regimes. Michael Newton and David S. Preest	653
Influence of Imazapyr on the Control of Pitted Morningglory (<i>Ipomoea lacunosa</i>) and Johnsongrass (<i>Sorghum halepense</i>) with Chlorimuron, Imazaquin, and Imazethapyr. Dennis G. Riley and David R. Shaw	663
Joint Effects of Acifluorfen Applications and Soybean Thrips (<i>Sericothrips variabilis</i>) Feeding on Soybean (<i>Glycine max</i>). Randy M. Huckaba, Harold D. Coble, and John W. Van Duyn.	667
Environmental Modification of Seedling Alfalfa, <i>Medicago sativa</i> , Tolerance to Bromoxynil. Esther K. Peregrine and Robert F. Norris	671
Cinmethylin for Weed Control in Soybeans, <i>Glycine max.</i> Prasanta C. Bhowmik.	678
SPECIAL TOPICS	
Plant Growth Response to the Phytotoxin Viridiol Produced by the Fungus <i>Gliocladium virens</i> . Richard W. Jones, W. Thomas Lanini, and Joseph G. Hancock	683
Minutes of the Board of Directors Meeting	688
Minutes of the General Membership Business Meeting	694
Minutes of the Board of Directors Meeting	697
Report of the Necrology Committee	701

WEED SCIENCE

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

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

Associate Editors

- Nagi R. Achhireddy, Yoder Brothers, Inc., P.O. Box 68, Alva, FL 33920
N. E. Balke, Department of Agronomy, University of Wisconsin, 1575 Linden Drive, Madison, WI 53706
Richard Behrens, 1490 West County Road C-2, St. Paul, MN 55113
Malcolm Devine, Department of Crop Science and Plant Ecology, University of Saskatchewan, Saskatoon, Saskatchewan, Canada S7N 0W0
R. A. Evans, 1560 California Avenue, Reno, NV 89509
K. K. Hatzios, Department of Plant Pathology, Physiology, and Weed Science, Plant Molecular Biology Building, VPI and State University, Blacksburg, VA 24061
R. D. Ilnicki, Department of Soils and Crops, Rutgers University, New Brunswick, NJ 08903
R. S. McAllister, Dynamac International, Inc., 1140 Rockville Pike, Rockville, MD 20852

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

Reviewers

W. H. Ahrens	A. G. Dexter	J. S. Holt	P. J. Shea
L.W.J. Anderson	Charlotte Eberlein	Rex Liebl	R. F. Turco
Michael Barrett	Raymond Forney	A. R. Martin	A. K. Watson
A. R. Bonanno	Greg Gillespie	Wondi Mersie	Glenn Wehtje
D. D. Buhler	K. N. Harker	Tom Moorman	S. C. Weller
G. E. Coats	S. S. Harper	L. J. Moshier	L. L. Whatley
J. F. Derr	Kent Harrison	D. T. Patterson	G. A. Wicks
			M. C. Williams

Officers of the Weed Science Society of America

J. F. Ahrens, <i>President</i>	A. G. Dexter, <i>Secretary</i>
H. M. LeBaron, <i>President-Elect</i>	J. R. Abernathy, <i>Treasurer</i>
L. W. Mitich, <i>Vice President</i>	B. Truelove, <i>Editor-in-Chief</i>
J. H. Dawson, <i>Past President</i>	R. A. Schmidt, <i>Executive Secretary</i>

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*, *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 \$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 Editor, Dayton L. Klingman, 2028 Forest Hill Drive, Silver Spring, MD 20903. Directions for contributors are published in the September 1986 issue of *Weed Science*. Authors are asked to pay \$50 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 1988 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 29, 1988

ABC Laboratories, Inc.	Minnesota Valley Testing Labs, Inc.
A & L Agricultural Laboratories	Monsanto Company
Agri-Growth Research Inc.	Mycogen Corporation
ALMACO	Nippon Soda Company
American Agricultural Services, Inc.	NOR-AM Chemical Company
American Cyanamid Company	OMNI-DATA International
American Hoechst Corporation	Pan-Agricultural Labs., Inc.
The Andersons	Pennwalt Corporation
BASF Wyandotte Corporation	Pioneer Overseas Corporation
Cenex/Land O'Lakes	R & D Sprayers Inc.
Chang Farms, Inc.	Rhone Poulenc Inc.
Chevron Chemical Company	Rogers Engineering Inc.
CIBA-GEIGY Corporation	Rohm & Haas Company
Deere & Company	O. M. Scott & Sons Company
Dow Chemical USA	Spraying Systems Company
E. I. DuPont deNemours & Company	SSI Mobley Company, Inc.
Eli Lilly & Company	Stewart Agricultural Research Service Inc.
EPL Bio-Analytical Services, Inc.	Thomson Publications
Fermenta Plant Protection Co.	Uniroyal Chemical Corporation
FMC Corporation	Virginia Chemicals Inc.
Gandy Corporation	Wintersteiger America, Inc.
Griffin Corporation	