WEED SCIENCE SOCIETY OF AMERICA



VOLUME 29

JULY 1981

NUMBER 4

-CONTENTS-

- 371 Sites of Herbicidal Action on Photosynthesis: A Fluorescence Assay Study. H. Böhme, K. J. Kunert, and P. Böger
- 376 Control of Honey Mesquite (*Prosopis juliflora* var. *glandulosa*) with 3,6-Dichloropicolinic Acid. P. W. Jacoby, C. H. Meadors, and M. A. Foster
- 378 Evaluation of Herbicide Interactions Using Linear Regression Modeling, T. A. Campbell, W. A. Gentner, and L. L. Danielson
- 382 Quackgrass (Agropyron repens) Control with Fall-Applied Glyphosate and Other Herbicides. J. A. Ivany
- 386 Combinations of MSMA with Preemergence Herbicides for Large Crabgrass (Digitaria sanguinalis) Control in Turf. B. J. Johnson
- 389 Epicuticular Wax on Goldenweed (Isocoma spp.) Leaves: Variation with Species and Season. H. S. Mayeux, Jr., W. R. Jordan, R. E. Meyer, and S. M. Meola
- 394 Influence of Four Weed Species on the Growth, Yield, and Quality of Direct-Seeded Tomatoes *(Lycopersicon esculentum)*. T. J. Monaco, A. S. Grayson, and D. C. Sanders
- 397 Effect of Environment on the Translocation and Toxicity of Acifluorfen to Showy Crotalaria (Crotalaria spectabilis). Gene D. Wills and Chester G. McWhorter
- 402 Seed Dormancy in Red Rice (Oryza sativa) I. Effect of Temperature on Dry-Afterripening. Marc A. Cohn and J. A. Hughes
- 405 Effects of Weed Density on Herbicide Absorption and Bioactivity. M. E. Winkle, J.R.C. Leavitt, and O. C. Burnside
- 410 Wild Oat (Avena fatua) Competition in Soybean (Glycine max). Duane P. Rathmann and Stephen D. Miller
- 414 Response of Small-Grain Cultivars to Chlorsulfuron. Larry H. Hageman and Richard Behrens
- 420 Effects of Seed and Root Lipids on the Susceptibility of Plants to Trifluralin and Oryzalin. Bassey A. Ndon and R. G. Harvey
- 426 Effects of Diclofop on Growth, Mitotic Index, and Structure of Wheat (*Triticum aestivum*) and Wild Oat (*Avena fatua*) Adventitious Roots. I. N. Morrison, M. G. Owino, and E. H. Stobbe
- 433 Effects of Herbicides on Growth and Extractable Phenylalanine Ammonia-Lyase Activity in Light- and Dark-Grown Soybean (*Glycine max*) Seedlings. Robert E. Hoagland and Stephen O. Duke
- 440 The Enumeration of 2,4-D Degraders in Saskatchewan Soils. D. Roy Cullimore
- 444 Control of Annual Bluegrass (Poa annua) in Perennial Ryegrass (Lolium perenne) Seed Fields. W. O. Lee
- 448 Phenology of Salt Rabbitbrush (Chrysothamnus nauseosus ssp. consimilis) and Greasewood (Sarcobatus vermiculatus). Bruce A. Roundy, James A. Young, and Raymond A. Evans
- 455 Glyphosate and Paraquat Effectiveness in Woody Nursery Stock. J. Ray Frank and J. A. Simon

Contents continued-inside front cover

- 461 Interaction of Buthidazole and Acetanilide Herbicides. Alan C. York and Fred W. Slife
- 469 A Method for Determining the Biological Effect of Herbicide Mixtures. J. C. Streibig
- 474 Penetration, Translocation, and Metabolism of Acifluorfen in Soybean (*Glycine max*), Common Ragweed (*Ambrosia artemisiifolia*), and Common Cocklebur (*Xanthium pensylvanicum*). Ronald L. Ritter and Harold D. Coble
- 480 Influence of Temperature and Relative Humidity on the Activity of Acifluorfen. Ronald L. Ritter and Harold D. Coble
- 485 Velvetleaf (Abutilon theophrasti) Seed Populations in Six Continuous-Corn (Zea mays) Fields. K. D. Khedir and Fred W. Roeth
- 490 EPTC Effects in the Lettuce (Lactuca sativa) Hypocotyl Bioassay for Gibberellins. William W. Donald
- 500 Growth Analysis of Soybeans (*Glycine max*) in Competition with Jimsonweed (*Datura stramonium*). E. S. Hagood, Jr., T. T. Bauman, J. L. Williams, Jr., and M. M. Schreiber
- 505 Factors Affecting Biological Control of Spurred Anoda (Anoda cristata) with Alternaria macrospora. H. Lynn Walker
- 508 Effect of Herbicide and Manure Applications on Soil Chemistry and Growth of Fieldbeans (*Phaseolus vulgaris*), Laura S. Quakenbush and Robert G. Wilson
- 513 Inhibition of Chlorophyll Accumulation by Glyphosate. Lynn M. Kitchen, William W. Witt, and Charles E. Rieck
- 517 Major Actions of the Board of Directors Weed Science Society of America
- 518 Minutes of the Business Meeting Weed Science Society of America
- 519 Necrology Committee Report 1981

WEESA6 29(4) 371-520 (1981)

WEED SCIENCE

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

Charles R. Swanson, *Editor* 219 Valley View Drive Kerrville, TX 78028 AC/512-896-4783

Associate Editors

J. H. Dawson, USDA, Irrigated Agriculture Research and Extension Center, Prosser, WA 99350

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

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

D. L. Klingman, USDA, Beltsville Agricultural Research Center, Beltsville, MD 20705

B. Truelove, Botany and Microbiology Department, Auburn University, Auburn, AL 36830

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

Editorial Committee

P. G. Bartels	R. M. Menges	L. R. Oliver	J. R. Teasdale
F. D. Hess	I. Morrison	D. T. Patterson	R. D. Wauchope
A. E. Hiltbold	J. D. Nalewaja	D. Penner	H. P. Wilson
B. J. Johnson	R. F. Norris	A. E. Smith, Jr.	J. A. Young
T. N. Jordan	A. G. Ogg, Jr.	R. B. Taylorson	R. L. Zimdahl
T. N. Jordan	A. G. Ogg, Jr.	R. B. Taylorson	R. L. Zimdani

Officers of the Weed Science Society of America

D. E. Davis, President T. J. Sheets, President-Elect C. G. McWhorter, Vice-President W. D. Carpenter, Past-President J. D. Nalewaja, Secretary J. L. Hilton, Editor-in-Chief AC/301-344-3029 G. H. Bayer, Treasurer 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 bi-monthly, one volume per year, six issues per year beginning in January.

Membership is \$15 per year, student affiliate membership \$7.50, 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 \$25 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, Charles R. Swanson, 219 Valley View Drive, Kerrville, TX 78028. 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 1981 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 April 1, 1981

A & L Laboratories Aceto Agricultural Corp. Agchem Div. Agway, Inc. Alabana Farmers Coop Alice-Sidney Farms American Cyanamid Company American Hoechst Corporation Amoco Oil Company Applied Chemicals Div. Mobley Co., Inc. Atchison, Topeka & Santa Fe Railway Company Armak, Co. Balcom Chemicals, Inc. **BASF** Corporation R. H. Bogle Company Central Can Co. Chemagro Corporation Chevron Chemical Corp. **CIBA-GEIGY** Corporation Conrel Cornbelt Chemical Co. Deere & Company DeKalb Agric. Research Inc. Delavan Corp. Delta Distributors, Inc.

Diamond Shamrock Corporation E. I. DuPont deNemours & Company Ehrlich Chemical Co., Inc. Electro General Corporation Eli Lilly & Company Farm Press Publications Farmland Industries **Fisons** Corporation **FMC** Corporation **GAF** Corporation Garst & Thomas Hybrid Corn W. R. Grace & Co. Great Western Sugar Company Growmark, Inc. Hooker Chemical Corp. Hopkins Agric. Chemical Library ICI United States, Inc. Indiana Farm Bureau Co-Op Assoc. Inc. M&M Air Service of Beaument, Inc. 3M Company Micron West Inc. Mid-Florida Mining Co. Mobil Chemical Company Monsanto Company Nalco Chemical Company Nor-Am Agr. Products, Inc.

PBI Gordon Corp. Pennwalt Chemical Corporation PPG Industries, Inc. Puregro Co. Rhone-Poulenc Chemical Co. Rohm and Haas Company Sandoz, Inc. Sanex Chemicals Ltd. Shell Development Company Spraying Systems Company Stauffer Chemical Company Stoller Chemical Co., Inc. Stoneville Pedigreed Seed Co. Terra Chemicals Int'l Inc. Tex-Ag Co. Thompson-Hayward Chemical Company Tide Products, Inc. Union Carbide Corporation Union Oil Co. of California Uniroyal Chemical Co. The Upjohn Co. Valco Chemical Div. Valley Coop Oil Mill Valley Chemical Co. Velsicol Chemical Corporation Vistron Corp.

https://doi.org/10.1017/S0043174500040133 Published online by Cambridge University Press