

A Journal of the Weed Science Society of America
OCTOBER 1987

NUMBER 4



ISSN 0890-037X WETEE9 1(4)269-366 (1987)

WEED TECHNOLOGY

A Journal of the Weed Science Society of America

Weed Technology (ISSN 0890-037X) is a publication of the Weed Science Society of America, 309 West Clark Street, Champaign, IL 61820 (AC/217-356-3182). It is published quarterly, one volume of four issues per year beginning in January.

Membership in the Weed Science Society of America is \$40 per year, student affiliate membership \$20, which includes receipt of *Weed Science*, *Weed Technology*, and *WSSA Newsletter*. Dues should be sent to the WSSA, 309 West Clark Street, Champaign, IL 61820 not later than December 1 of each year. WSSA membership is on a calendar-year basis only.

Subscriptions for *Weed Technology* are \$20 per year (volume). New subscriptions begin with the first issue of the current volume and orders should be sent to WSSA, 309 West Clark Street, Champaign, IL 61820. Subscribers (institutions, libraries, etc.) can obtain both *Weed Science* (volume of 6 issues per year) and *Weed Technology* (volume of 4 issues per year) for \$50 per year.

Change of address affecting the mailing list, inquiries about copies lost in the mail, requests for back issues, and all matters pertaining to placement of advertisements and to receipt of journals, 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, Calvin G. Messersmith, Agronomy Dep., North Dakota State Univ., Fargo, ND 58105. Directions for contributors are published in the January 1987 issue of *Weed Technology*. Authors are charged \$50 per page to cover a portion of the publication cost. The Editor can make exceptions in advance when justified.

Weed Technology is published by the Weed Science Society of America. Second class postage paid at Champaign, IL. Copyright 1987 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.

WSSA OFFICERS

J. H. Dawson, President A. G. Dexter, Secretary
J. F. Ahrens, President Elect H. P. Wilson, Treasurer
H. M. LeBaron, Vice President B. Truelove, Editor-in-Chief

O. C. Burnside, Past President



Sustaining Members

October 16, 1987

ABC Laboratories, Inc.
ACRES Agric. Custom Research
A & L Agricultural Laboratories
Agri-Growth Research Inc.
Agway, Inc.

American Cyanamid Company American Hoechst Corporation The Andersons

Atchison, Topeka & Santa Fe Railway Company BASF Wyandotte Corporation

Cenex

Chevron Chemical Company
CIBA-GEIGY Corporation
Deere & Company
DeLavan Corporation
Dow Chemical USA
Eli Lilly & Company

Fermenta Plant Protection Co.

FMC Corporation
Gandy Corporation

Garst & Thomas Hybrid Corn

W. R. Grace & Company Griffin Corporation

Growmark, Inc.

ICI Americas, Inc.

Kincaid Equipment Mfg. W. R. Landis Associates, Inc. Midwest Research Farms, 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.

rioneer Overseas Corp R & D Sprayers Inc.

Rhone-Poulenc Ag Company Rogers Engineering Inc.

Rohm & Haas Company Sandoz Crop Protection

O. M. Scott & Sons Company Spraying Systems Company Stauffer Chemical Company

Stewart Agricultural Research Service Inc.

Thomson Publications
Union Carbide
Uniroyal Chemical Corporation
VanderSchaaf Agric Research Inc.
Virginia Chemicals Inc.
Watson Consulting & Enterprises



October 1987

Volume 1 Number 4

A Journal of the Weed Science Society of America

Table of Contents

Technology Notes
269 News Notes of General Weed Science Interest
Feature
270 Understanding the Mode of Action of the Chloroacetamide and Thiocarbamate Herbicides. E. Patrick Fuerst

Research =

- 278 Tomato (Lycopersicon esculentum) and Eastern Black Nightshade (Solanum ptycanthum) Tolerance to Aciflurofen. Stanley F. Gorski and Monica K. Wertz
- 282 Soybean (Glycine max) Cultivar Response to Fluchloralin, Metribuzin, and Vernolate. M. Daniel Martin, James P. Worthington, and Elmer Gray
- 286 Flax Response to Trifluralin. John D. Nalewaja, Eugeniusz Kolota, and Stephen D. Miller
- 290 Herbicide Combinations in Peanut (Arachis hypogaea). W. James Grichar and Thurman E. Boswell
- 294 Energy Requirements and the Effect of Rotary Tiller Configurations on Cyanazine Distribution on Ridges. Robert G. Wilson and John A. Smith
- 302 Germination of Two Foxtail (Setaria) Species. Diane R. Manthey and John D. Nalewaja
- 305 Turfgrass Species Response to Herbicides Applied Postemergence. Billy J. Johnson
- 312 Common Lambsquarters (Chenopodium album) Interference in Spring Barley. Jeffery S. Conn and Dana L. Thomas
- 314 Cattle Foraging Behavior in Leafy Spurge (Euphorbia esula)-Infested Rangeland. Rodney G. Lym and Donald R. Kirby
- 319 A Rotary Herbicide Wiper for Postemergence Weed Control in Perennial Horticultural Crops. William V. Welker, Jr. and Donald L. Peterson
- 323 Field-Scale Tebuthiuron Application on Brush-Infested Rangeland. Robert P. Gibbens, Carlton H. Herbel, and James M. Lenz
- 328 Influence of Inorganic Salts and Imazapyr on Control of Pitted Morningglory (*Ipomoea lacunosa*) with Imazaquin and Imazethapyr. Gene D. Wills and Chester G. McWhorter

Cover

Chloroacetamide herbicide injury symptoms in corn caused by soilapplied metazachlor (see feature article, p. 270). Photo by Thomas J. Hlavaty, USDA Metabolism and Radiation Research Lab, Fargo, ND 58105.

Symposium ———

- 332 Accelerated Biodegradation of Herbicides. Preface.
- 333 Methodology in Accelerated Biodegradation of Herbicides. Ravva V. Subba-Rao, Thomas H. Cromartie, and Reed A. Gray
- 341 Enhanced Biodegradation of Herbicides in Soil and Effects on Weed Control. R. Gordon Harvey, J. H. Dekker, Richard S. Fawcett, Fred W. Roeth, and Robert G. Wilson
- 350 Accelerated Degradation Potential of Selected Herbicides in the Southeastern United States. Clyde C. Dowler, Luz R. Marti, Craig S. Kvien, Horace D. Skipper, Dewitt T. Gooden, and Joe P. Zublena

Intriguing World of Weeds_____

359 Cockleburs. Larry W. Mitich

Helpful Hints for Technical Writing _____

361 Avoid Subjects Derived from Verbs. J. H. Dawson

WSSA Communications —————

362 Recognition of Reviewers and Associate Editors

363 Author Index

364 Subject Index

EDITOR
Calvin G. Messersmith

TECHNICAL EDITOR Charlene E. Lucken ASSOCIATE EDITORS Ronald E. Doersch Russell R. Hahn Larry W. Mitich

Alex G. Ogg, Jr. P. Charles Quimby Gerald R. Stephenson