

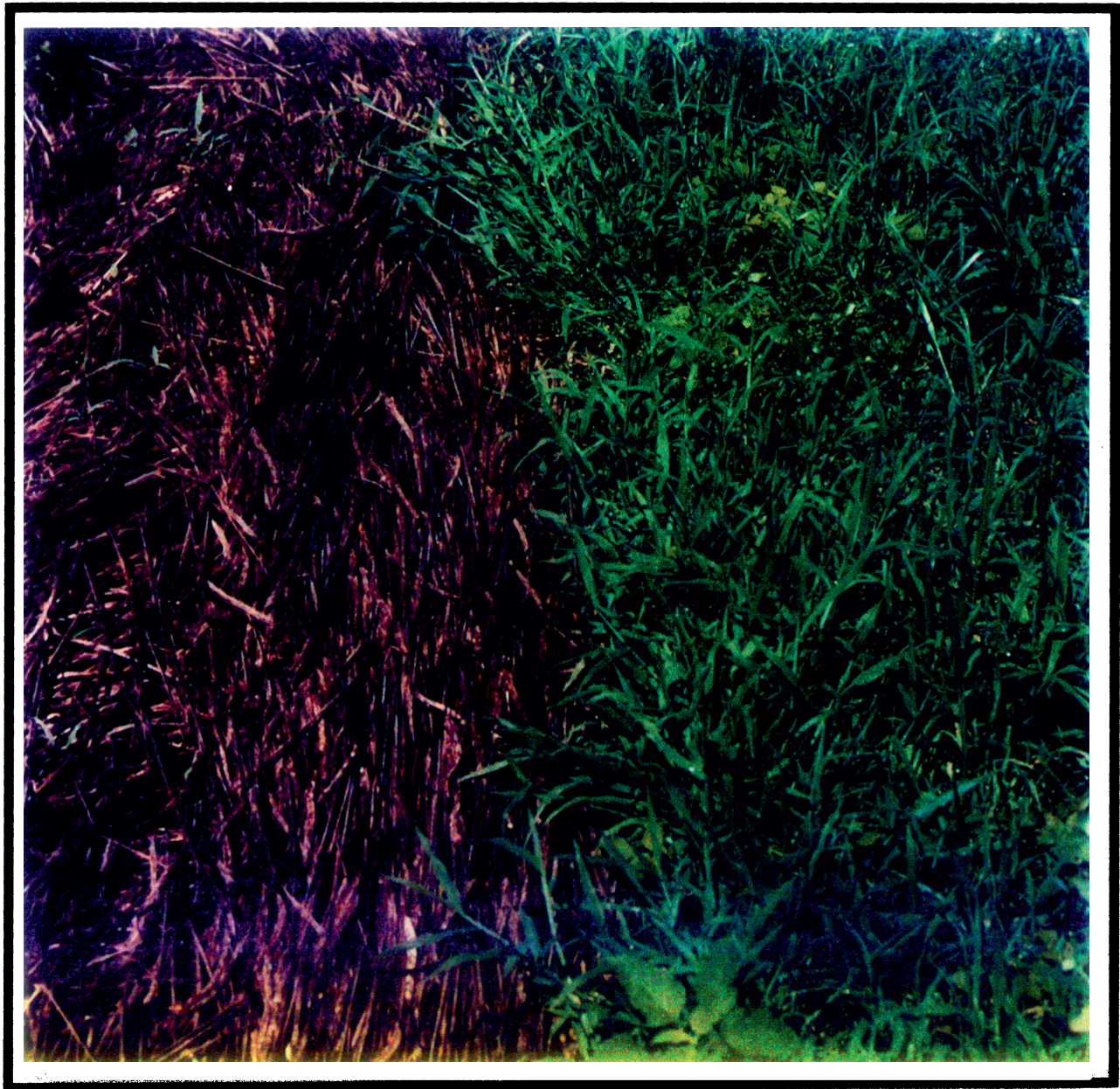
WEED TECHNOLOGY

A Journal of the Weed Science Society of America

VOLUME 4

OCTOBER–DECEMBER 1990

NUMBER 4



ISSN 0890-037X

WETEE9 4(4) 697–937 (1990)

WEED TECHNOLOGY

A Journal of the Weed Science Society of America

Weed Technology published quarterly beginning each January–March issue, is included along with *Weed Science* and *WSSA Newsletter* to Weed Science Society of America (WSSA) members. Annual membership costs \$50 with \$20 student affiliate memberships on a calendar year basis only.

Weed Technology, subscriptions are \$30 per year (four issues per volume). New subscriptions begin with the January–March issue. Subscribers, including libraries and institutions, can obtain both *Weed Science* (volume of six issues per year) and *Weed Technology* for \$80 annually.

Changes of mailing address, inquiries about copies lost in the mail, and requests for back issues and for information about placing advertisements and about receiving journals, membership and subscriptions should be sent to WSSA, 309 W. Clark St., Champaign, IL 61820. Send dues by December 1 each year. Claims for copies lost in the mail must be received within 30 days (90 days foreign) of the issue date to insure replacement at no charge.

Send manuscripts to Chester L. Foy, Editor, *Weed Technology*, Dept. of Plant Pathology, Physiology, and Weed Science, Virginia Polytech. Institute & State Univ., 503 Price Hall, Blacksburg, VA 24061-0331. Directions for contributors are published in the April–June issue of *Weed Technology*. Authors are charged \$50 per page (nonmembers \$100) to cover a portion of publication costs. The Editor can exempt page charges in advance when justified.

Weed Technology (ISSN 0890-037X) is published by the Weed Science Society of America. Copyright 1991 by the Weed Science Society of America. Printed in USA. All rights reserved. Reproduction in part or whole is prohibited. Return POD Form 3579 to WSSA, 309 W. Clark St., Champaign, IL 61820 (AC/217-356-3182).

WSSA OFFICERS

L. W. Mitich, President
J. R. Abernathy, President Elect
J. Antognini, Vice President
H. M. LeBaron, Past President
A. S. Hamill, Secretary
J. F. Ellis, Treasurer
B. Truelove, Editor-in-Chief



Sustaining Members

December 31, 1990

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

Table of Contents

Technology Notes

697 News Notes of General Weed Science Interest

•Feature

- 701 Effect of Selected Pesticides on Survival of *Colletotrichum gloeosporioides* f. sp. *malvae*, a Bioherbicide for Round-leaved Mallow (*Malva pusilla*). Nelson T. Grant, Elizabeth Prusinkiewicz, Roberte M.D. Makowski, Britt Holmstrom- Ruddick, and Knud Mortensen
- 716 Herbicide Interactions with *Colletotrichum gloeosporioides* f. sp. *malvae* a Bioherbicide for Round-leaved Mallow (*Malva pusilla*) Control. Nelson T. Grant, Elizabeth Prusinkiewicz, Knud Mortensen, and Roberte M.D. Makowski

•Research

- 724 Factors Influencing Winter Wheat (*Triticum aestivum*) Injury from Sulfonylurea Herbicides. Kenneth L. Ferreira, Thomas K. Baker, and Thomas F. Peeper
- 731 Weed Control in No-tillage and Conventional Corn (*Zea mays*) with ICIA-0051 and SC- 0774. John S. Wilson and Chester L. Foy
- 739 Effect of Seeding Depth, Herbicide, and Variety on Sugarbeet (*Beta vulgaris*) Emergence, Vigor, and Yield. Robert G. Wilson, John A. Smith, and C. Dean Yonts
- 743 Common Cocklebur (*Xanthium strumarium*) Interference in Snap Beans (*Phaseolus vulgaris*). Philip E. Neary and Bradley A. Majek
- 749 Improving the Efficiency of Sethoxydim in Flax. George H. Friesen and David A. Wall
- 754 Efficacy and Economic Analysis of Texas Panicum (*Panicum texanum*) Management Systems in Corn (*Zea mays*). W. Carroll Johnson, III, and Benjamin G. Mullinix, Jr.
- 759 Cotton (*Gossypium hirsutum*) Response to Glyphosate Spot Applied. R. Brent Westerman and Don S. Murray

• Peer reviewed papers.

Cover

Use of rye (*Secale cereale* L.) residues (left) to suppress weed emergence and growth. Rye was fall-planted and desiccated the following spring with 1.12 kg/ha⁻¹ glyphosate. The picture was taken more than 6 wk after treatment. Bare ground (right) was also treated with glyphosate. This photograph was awarded second place (Print Division) in the 1990 WSSA Photography Contest, Montreal, Canada, and was taken by Reid J. Smeda, USDA, ARS, Southern Weed Science Laboratory, Stoneville, MS 38776.

- 765 Imazethapyr Efficacy with Adjuvants and Environments. John D. Nalewaja, Jerzy Palczynski, and Frank A. Manthey
- 771 Field Bindweed (*Convolvulus arvensis*) Control with Imazapyr. Monty G. Schoenhals, Allen F. Wiese, and Mark L. Wood
- 776 Shattercane (*Sorghum bicolor*) Control in Soybeans (*Glycine max*) with Preplant and Postemergence Herbicides. Michael S. Defelice
- 781 Sequential Herbicide Treatments for Corn (*Zea mays*) Planted into Mixed-Species Perennial Sod. Douglas D. Buhler and Richard T. Proost
- 787 Inheritance of Sulfonylurea Herbicide Resistance in *Lactuca* spp. Carol A. Mallory-Smith, Donald C. Thill, Michael J. Dial, and Robert S. Zemetra
- 791 Performance of Imazethapyr on Pulse Crops. Najib Malik and Lawrence Townley-Smith
- 799 Velvetleaf (*Abutilon theophrasti*) Interference with Cotton (*Gossypium hirsutum*). Brenda S. Smith, Don S. Murray, and David L. Weeks
- 804 Growing Broomrape (*Orobancha* spp.) in a Soilless System. Reuven Jacobsohn, Chester L. Foy, and Kela Marton
- 808 Ethephon Reduction of Redroot Pigweed (*Amaranthus retroflexus*) Seed Populations. Grant H. Egley
- 814 Horseweed (*Conyza canadensis*) Control in Full-Season No-Till Soybeans (*Glycine max*). Carroll M. Moseley and Edward S. Hagood, Jr.
- 819 Lactofen Systems for Broadleaf Weed Control in Peanuts (*Arachis hypogaea*). John W. Wilcut, Charles W. Swann, and Henry B. Hagwood
- 824 Diffusive Resistance and Transpiration of Quackgrass (*Elytrigia repens*) Following Postemergence Herbicides. Mark C. Trimmer and Dean L. Linscott
- 828 Assessing Herbicide Phytotoxicity with Covariance Analysis. S. Kent Harrison and Emilie E. Regnier
- 833 Interference and Critical Time of Removal of Hemp Sesbania (*Sesbania exaltata*) in Cotton (*Gossypium hirsutum*). Charles T. Bryson
- 838 Crop Response and Weed Control from New Herbicide Combinations in Water-Seeded Rice (*Oryza sativa*). James E. Hill, Stacey R. Roberts, D. E. Bayer, and J. F. Williams
- 843 Growth and Development of Bulbous Oatgrass (*Arrhenatherum elatius* var. *bulbosum*). Karin Tanhiphat and Arnold P. Appleby
- 849 Growth and Development of Giant Burreed (*Sparganium eurycarpum*). John W. Leif III and Ervin A. Oelke
- 855 Carryover Injury of Clomazone Applied in Soybeans (*Glycine max*) and Fallow. William H. Ahrens and E. Patrick Fuerst
- 862 Woolly Croton (*Croton capitatus*) and Bitter Sneezeweed (*Helenium amarum*) Control in the Blackland Prairie of Texas. Rodney W. Bovey and Robert E. Meyer
- 866 Effect of Paraquat on Yield and Market Grade of Peanut (*Arachis hypogaea*) Genotypes. David A. Knauff, Daniel L. Colvin, and Daniel W. Gorbet
- 871 Italian Ryegrass (*Lolium multiflorum*) Control in Small Grains with Flurtamone. David C. Bridges
- 876 Newly Seeded Alfalfa (*Medicago sativa*) Tolerates Glyphosate and SC-0224 at Doses That Control Dodder (*Cuscuta* spp.). Jean H. Dawson
- 880 Dodder (*Cuscuta* spp.) Control in Newly Seeded Alfalfa (*Medicago sativa*) With Glyphosate. Jean H. Dawson
- 886 Seed Protectants Safen Sorghum (*Sorghum bicolor*) Against Chloroacetamide Herbicide Injury. Chester L. Foy and Harold L. Witt

- 892 Effects of Weed Control and Irrigation on the Growth of Young Pecans. Michael G. Patterson, Glenn Wehtje, and William D. Goff
- 895 Response of Bahiagrass (*Paspalum notatum*) to Plant Growth Regulators. B. Jack Johnson
- 900 Effect of Herbicide Application Timing on Johnsongrass (*Sorghum halepense*) and Pitted Morningglory (*Ipomoea lacunosa*) Control. David R. Shaw, Sunil Ratnayake, and Clyde A. Smith
- 904 Factors Affecting Chloroacetanilide Injury to Corn (*Zea mays*). Loston Rowe and Donald Penner

●Notes

- 907 Low Volume Invert Emulsions for Purple Nutsedge (*Cyperus rotundus*) Control. Charles T. Bryson, Gene D. Wills, and Paul C. Quimby
- 910 Effects of CO₂, N₂, Air, and Nitrogen Salts on Spray Solution pH. Ronald W. McCormick

●Education

- 913 A Tractor Mounted Sampler for Obtaining Large Soil Columns. David S. Walker, J. David O'Dell, Jeff D. Wolt, G. Neil Rhodes, Jr., and John G. Graveel

Intriguing World of Weeds

- 918 Baryardgrass. Larry W. Mitich

Helpful Hints for Technical Writing

- 921 Be Sure Pronouns and Antecedents Agree. J. H. Dawson

WSSA Communications

- 922 WSSA Position Statements on Timely Issues
- 928 Recognition of Reviewers and Associate Editors
- 930 Erratum
- 931 Author Index, Volume 4
- 933 Subject Index, Volume 4

EDITOR

Chester L. Foy

TECHNICAL EDITOR

Richard W. Rhoades

ASSOCIATE EDITORS

Jon P. Chemicky
 Clyde C. Dowler
 Joan Dusky
 Robert Hayes
 Kenneth J. Kirkland
 James R. Martin
 Tim Obrigawitch

Thomas F. Peeper
 Walter A. Skroch
 Phillip Stahlman
 Edward W. Stoller
 Joe Street
 Donald C. Thill