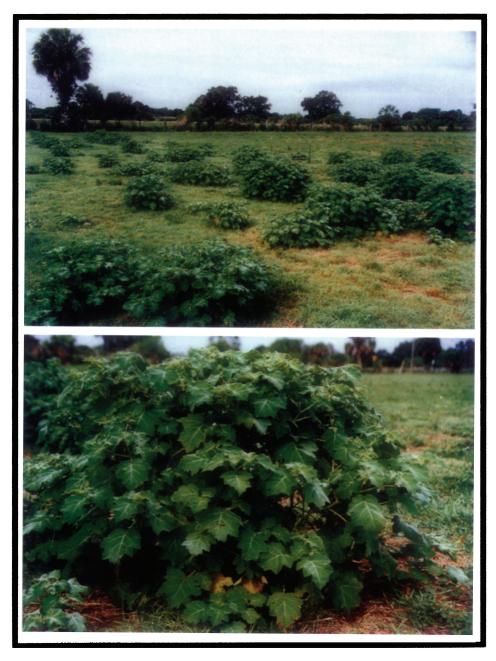


A Journal of the Weed Science Society of America

VOLUME 7

JULY-SEPTEMBER 1993

NUMBER 3



ISSN 0890-037X

WETEE9 7(3) 543-794 (1993)

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 \$60 with \$20 student affiliate memberships on a calendar year basis only.

Weed Technology, subscriptions are \$60 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 four issues per year) and Weed Technology for \$100 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. The Directions for Contributors were published in the April—June, 1992 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 1993 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).

The Weed Science Society of America fully subscribes to the belief that progress in science depends upon the sharing of ideas, information, and materials among qualified investigators. Authors of papers published in *Weed Technology* are therefore encouraged, whenever practicable and when state and federal laws permit, to share genotypically unique, propagative materials they might possess with other workers in that area who request such materials for the purpose of scientific research.

WSSA OFFICERS

H. D. Coble, President

A. G. Ogg, President Elect

J. L. Barrentine, Vice President

J. Antognini, Past President D. C. Thill, Secretary

J. M. Chandler, Treasurer

B. Truelove, Editor-in-Chief

H. D. Skipper, Chair,

Constitution and Operating Procedures



Sustaining Members October 1, 1993

ACDS Inc. Agri Diagnostics Associates Agri-Growth Research Inc. Agrolinz Inc. Agvise Allen Machine Works **ALMACO** American Agricultural Services Inc. American Cyanamid Company Andersons **BASF Corporation** Battelle Cedar Chemical Corporation Chemorse Ltd. CIBA-GEIGY Canada Inc. CIBA-GEIGY Corporation CIRTA Concord Inc. Deere & Company **DowElanco DuPont Agricultural Products Environmental Technologies** EPL Bio-Analytical Services **FMC** Corporation Farmland Industries **Gandy Corporation** Griffin Corporation Growmark Inc. Gylling Data Management, Inc. Harvest Master Hoechst-Roussel Agri Vet Ishihara Sangyo Kalsha Ltd. ISK Biotech Corporation Kincald Equipment Manufacturers Landis International Inc. Lehigh Agric. & Biological Service LI-COR, Inc. Mandel Scientific Company Ltd. MARATHON Ag/Environmental Miles Inc.
Minnesota Valley Testing Lab
Monsanto Company Mycogen Company Nissan Chemical America Corp. NOR-AM Chemical Company PBI/Gordon Corporation R & D Sprayers Inc. Research Development Alternatives Research Options Inc. Rhone-Poulenc Ag Company Ricerca Inc. Rohm & Haas Company Sandoz Crop Protection O. M. Scott & Sons Company Spraying Systems Company Springborn Laboratories Inc. Stewart Ag Research Services Sumitomo Chemical America Inc. Terra International Inc. Thomson Publications Uniroyal Chemical Corporation United Agri Products
Valent USA Corporation
Vaughn Agricultural Research Service
Weed Systems Equipment Inc.
Wintersteiger America Inc.

ZENECA Inc.



Volume 7 Number 3

A Journal of the Weed Science Society of America

Table of Contents	
•Tech	nnology Notes
	News Notes of General Weed Science Interest
•Feati	ure
550	SELOMA: Expert System for Weed Management in Herbicide-Intensive Crops. Lucia Stigliani and Cosimo Resina
560	An Index Model for Predicting Seed Germination and Emergence Rates. David M. Alm, Edward W. Stoller, and Loyd M. Wax
•Rese	arch
570	Horse Purslane (Tranthema portulacastrum) Control in Peanut (Arachis hypogaea). W. James Grichar
573	Imazaquin, Chlorimuron, and Fomesafen May Injure Rotational Vegetables and Sunflower (Helianthus annuus). David H. Johnson and Ronald E. Talbert
578	Preemergence Herbicide Effects on Bermudagrass (Cynodon dactylon) Interference in Sugarcane (Saccharum spp. hybrids). E. P. Richard, Jr.
585	Oxyfluorfen Under Clear Polyethylene Film Controlled Weeds in Transplanted Cucurbits. Robin R. Bellinder, Larry K. Binning, Kenneth S. Yourstone, A. Richard Bonano, Stanley F. Gorski, Bradley A. Majek, Phillip E. Neary, Jerry J. Baron, Jay Holmdal, and Russell W. Wallace
594	Weed and Corn (Zea mays) Responses to a Hairy Vetch (Vicia villosa) Cover Crop. Melinda L. Hoffman, Emilie E. Regnier, and John Cardina
600	Rice (Oryza sativa) Weed Control With Soil Applications of Quinclorac. Joe E. Street and Thomas C. Mueller

Cover

Top: Pasture infested with tropical soda apple.

Bottom: Close-up of individual clumps of tropical soda apple.

"Tropical Soda Apple (Solanum viarum): A New Threat in Subtropical Regions" is the third in a series of new Weed Alert! reports published in Weed Technology (see two articles on the subject later in this issue).

This broadleaf perennial weed has invaded pastures and replaced native plants in rangeland throughout south Florida. Introduced from Brazil and Argentina, weed populations have dramatically increased since 1990, primarily from seed dispersal. Numerous prickles on the plant make it unpalatable to livestock and wildlife, though these animals will eat the fruit and disperse the seed.

These photographs were submitted by J. Jeffrey Mullahey, Southwest Florida Research and Education Center, University of Florida, Immokalee, FL 33934.

- Interactions of DPX-PE350 with Fluazifop-P, Sethoxydim, Clethodim, and Quizalofop-P. David L. Jordan, Robert E. Frans, and Marilyn R. McClelland
- 611 Effect of Prior Year's Weed Control on Herbicide Effectiveness in Corn (Zea mays). Robert G. Hartzler and Greg W. Roth
- 615 A System for Morningglory (*Ipomoea* spp.) Control in Cotton (*Gossypium hirsutum* L.). Bryan R. Savoy, David L. Holshouser, Kenneth L. Smith, and James M. Chandler
- 619 Influence of Application Variables on Efficacy of Postemergence Applications of DPX-PE350.

 David L. Jordan, Robert E. Frans, and Marilyn R. McClelland
- 625 Soybean (Glycine max) Herbicide Carryover to Grain and Fiber Crops. Joseph D. Walsh, Michael S. Defelice, and Barry D. Sims
- 633 Surfactant Structure and Concentration Strongly Affect Rimsulfuron Activity. Jerry M. Green and John H. Green
- 641 Nicosulfuron, Primisulfuron, Imazethapyr, and DPX-PE350 Injury to Succeeding Crops. David H. Johnson, David L. Jordan, William G. Johnson, Ronald E. Talbert, and Robert E. Frans
- 645 Carryover of DPX-PE350 to Grain Sorghum (Sorghum bicolor) and Soybean (Glycine max) on Two Arkansas Soils. David L. Jordan, David H. Johnson, William G. Johnson, J. Andrew Kendig, Robert E. Frans, and Ronald E. Talbert
- Hogpotato (Hoffmanseggia glauca) Control with Herbicides and Rotational Crop Response. R. Brent Westerman, Don S. Murray, and Eric P. Castner
- Johnsongrass (Sorghum halepense) Control in Sugarcane (Saccharum sp.) with Asulam Applied Alone and in Mixtures. Edward P. Richard, Jr. and James L. Griffin
- Use of Activated Carbon to Reduce Phytotoxicity of Imazaquin to Tobacco (Nicotiana tabacum). Fred H. Yelverton, A. Douglas Worsham, and Gerald F. Peedin
- 670 Fertilizer and Downy Brome (Bromus tectorum) Effect on Russian Wheat Aphid (Diuraphis noxis) in Winter Wheat (Triticum aeștivum). James M. Krall, Stephen D. Miller, Larry E. Bennett, and David E. Legg
- 674 Sequential Herbicide Treatments for Crabgrass (Digitaria sanguinalis) and Goosegrass (Eleusine indica) Control in Bermudagrass (Cynodon dactylon) Turf. B. Jack Johnson
- Effect of Imazaquin and Chlorimuron Plus Metribuzin on Sicklepod (Cassia obtusfolia) Seed Production and Germination. David R. Shaw and David E. Hydrick
- 686 Control of Downy Brome (*Bromus tectorum*) and Volunteer Wheat (*Triticum aestivum*) in Fallow with Tillage and Pronamide. Alex G. Ogg, Jr.
- Interacting Effects on Absorption and Translocation from Tank Mixtures of ALS-Inhibiting and Diphenylether Herbicides. David R. Shaw and M. Todd Wesley
- 699 Influence of Tillage Systems on Weed Abundance in Southwestern Ontario. A. Gordon Thomas and Brenda L. Frick
- 706 Evaluation of Epicuticular Wax Removal from Whole Leaves with Chloroform. Thomas A. Bewick, Donn G. Shilling, and Robert Querns
- 717 Crop Residue Reduces Jointed Goatgrass (Aegilops cylindrica) Seedling Growth. Randy L. Anderson
- 723 Tropical Soda Apple (Solanum viarum) Control. J. Jeffrey Mullahey, John A. Cornell, and Danny L. Colvin
- 728 Effect of Preplant Tillage, Post-Plant Cultivation, and Herbicides on Weed Density in Corn (Zea mays). Robert G. Wilson
- 735 Tolerance of Three Annual Forage Legumes to Selected Postemergence Herbicides. Gerald W. Evers, W. James Grichar, Claude L. Pohler, and A. Michael Schubert
- 740 Soybean (Glycine max) Tolerance to Simulated Drift of Nicosulfuron and Primisulfuron. John A. Bailey and George Kapusta

746 Growth Regulation of Common Bermudagrass (Cynodon dactylon) with Imazaquin and AC 263,222. J. Michael Goatley, Jr., Victor L. Maddox, and Robert M. Watkins 751 Effects of Clethodim on Seedhead Density, Forage Yield, and Quality of Tall Fescue (Festuca arundinacea). John H. Reynolds, William A. Krueger, and Cynthia L. Walker •Notes _____ 756 Differential Bentazon Response in Cowpea (Vigna unguiculata). Howard F. Harrison, Jr. and 759 Use of Critical Nontarget Plants by the Russian Knapweed Nematode, (Subanguina picridis). Sara S. Rosenthal, Eric M. Coombs, Bill Haglan, and Gary L. Piper •Education/Survey _____ 763 Survey Results on Environmental Issues and Weed Science Research Priorities within the Corn Belt. Edward W. Stoller, Loyd M. Wax, and David M. Alm Extension = 771 Little Lovegrass (Eragrostis minor) Distribution in Idaho and Washington. Francis E. Northam, Richard R. Old, and Robert H. Callihan •Education/Extension —————— 776 Economic Assessments of Serrated Tussock (Nassella trichotoma) as a Pasture Weed. David T. Vere, Bruce A. Auld, and Malcolm H. Campbell •Weed Alert! ______ 783 Tropical Soda Apple (Solanum viarum): A New Weed Threat in Subtropical Regions. J. Jeffrey Mullahey, Michelle Nee, Richard P Wunderlin, and Kris R. Delaney •WSSA Communications _____ 787 Weed Science Challenges. Joe Antognini •Intriguing World of Weeds _____ 791 Yellow Toadflax. Larry W. Mitich •Helpful Hints for Technical Writing _____

EDITOR Chester L. Foy

TECHNICAL EDITOR Leanne Mitchell

ASSOCIATE EDITORS

794 Adding a Preposition Can Improve Readability and Avoid Ambiguity. J. H. Dawson

Thomas A. Bewick
Barry J. Brecke
John Cardina
William J. Chism
William W. Donald
Clyde C. Dowler
Joan Dusky
Neil Harker
Robert G. Harvey, Jr.
George Kapusta

James R. Martin Robert F. Norris Thomas F. Peeper Donald Penner Fred Roeth Phillip Stahlman Clarence J. Swanton Ronald E. Talbert Donald C. Thill Alan C. York