# AMERICAN JOURNAL OF ALTERNATIVE AGRICULTURE®

1999 Volume 14, Number 2

# TABLE OF CONTENTS

# **Articles**

- Globalization of pesticide technology and meeting the needs of low-input sustainable agriculture F. den Hond, P. Groenewegen, and W.T. Vorley
- An alternative, low-input production system for fresh market tomatoes D.O. Chellemi, F.M. Rhoads, S.M. Olson, J.R. Rich, D. Murray, G. Murray, and D.M. Sylvia
- Yields and returns from strip intercropping on six Iowa farms D.N. Exner, D.G. Davidson, M. Ghaffarzadeh, and R.M. Cruse
- **78** Geographic information systems for selection of CRP tracts to meet different management goals after contract expiration D.H. Rickerl, J.H. Gritzner, P.K. Wieland, and G. Rial
- Effect of conservation tillage on crop yields, soil erosion, and soil properties under furrow irrigation in western Colorado M. Ashraf, C.H. Pearson, D.G. Westfall, and R. Sharp

# **Departments**

Institute News—77 • Book Reviews—92

## Journal Editorial Board

Miguel A. Altieri, University of California at Berkeley • Molly D. Anderson, Tufts University • Lloyd A. Andres, USDA-ARS • M. (Charlie) Arshad, Agriculture and Agri-Food Canada • David F. Bezdicek, Washington State University • Harold F. Breimyer, University of Missouri • Michael C. Brumm, University of Nebraska • Frederick H. Buttel, University of Wisconsin • Eliot Coleman, Harborside, Maine • Kenneth A. Cook, Center for Resource Economics, Washington, DC • R. James Cook, USDA-ARS • John W. Doran, USDA-ARS • Sara Ebenreck, St. Mary's College • Thomas C. Edens, Michigan State University • Frank P. Eggert, University of Maine • Lloyd F. Elliot, USDA-ARS • A. Dale Flowerday, Lincoln, Nebraska • Charles A. Francis, University of Nebraska • Stephen R. Gliessman, University of California at Santa Cruz • Joan Gussow, Columbia University • Richard R. Harwood, Michigan State University • Glenn A. Helmers, University of Nebraska • Sharon B. Hornick, International Nature Farming Research Center, Bellingham, Washington • Larry D. King, North Carolina State University • Dietrich Knorr, University of Delaware • J. Patrick Madden, World Sustainable Agriculture Association • Robert H. Miller. University of Rhode Island • James F. Parr, International Nature Farming Research Center, Bellingham, Washington • Richard L. Ridgway, USDA-ARS • Douglas L. Young, Washington State University • Raymond R. Weil, University of Maryland

# Wallace Institute Board of Directors

Dr. Cornelia Butler Flora, President, Ames, Iowa • Mrs. Jean Wallace Douglas, Honorary President, Washington, DC • Dr. Frederick R. Magdoff, Vice President, Burlington, Vermont • Ms. Christine A. (Cass) Peterson, Secretary, Warfordsburg, Pennsylvania • Mr. Jose J. Montenegro, Treasurer, Salinas, California • Dr. Neil V. Anderson, Manhattan, Kansas • Dr. Jill Shore Auburn, Davis, California • Mr. Paul W. Johnson, Decorah, Iowa • Dr. Desmond A. Jolly, Davis, California • Dr. Frederick L. Kirschemann, Windsor, North Dakota • Dr. Deborah A. Neher, Toledo, Ohio • Dr. Robert I. Papendick, Pullman, Washington • Dr. Frederick V. Payton, Bainbridge, Georgia • Mr. James H. Stephenson, Washington, North Carolina

### Journal Staff

Editor in Chief—Garth Youngberg
Editor—Robert I. Papendick
Senior Consulting Editor—James F. Parr
Associate Technical Editors—Marion E. Simpson
—David E. Ervin
Assistant Editor—Suzanne P. DeMuth
Book Review Editor—Rick Welsh
Circulation—Joanna L. Hildebrand
—Michelle Seupaul
Art Director—Randy White

The American Journal of Alternative Agriculture (ISSN 0889-1893) is published quarterly by the Henry A. Wallace Institute for Alternative Agriculture, Inc., 9200 Edmonston Road, Suite 117, Greenbelt, Maryland 20770-1551, in collaboration with the Department of Crop and Soil Sciences, Washington State University, Pullman, Washington 99164-6420. Neither the Wallace Institute nor Washington State University is responsible for statements and opinions expressed by authors.

# Subscription Information

Annual Journal subscription rates: Library \$44—US; \$52—Canada and Mexico; \$54—all other countries. Individuals \$24—US; \$27—Canada and Mexico; \$28—all other countries. Students \$12—US; \$13.50—Canada and Mexico; \$14—all other countries. Second Class postage paid at Greenbelt, MD. Postmaster: Send address changes to American Journal of Alternative Agriculture, 9200 Edmonston Road, Suite 117, Greenbelt, MD 20770-1551.

### Wallace Institute Information

The Henry A. Wallace Institute for Alternative Agriculture is a nonprofit, tax-exempt research and education organization established in 1983 to encourage and facilitate the adoption of cost-effective, resource-conserving and environmentally-sound farming methods. It works closely with producer groups, public research and education institutions, and government agencies in promoting a sustainable agriculture system.

Its programs include providing a national information clearinghouse, serving as a voice for sustainable agriculture in Washington, and developing and implementing research and educational outreach programs. It holds an annual scientific symposium and publishes a monthly newsletter.

The Institute is governed by a grass roots Board of Directors, which includes several commercial-scale organic farmers, and maintains a small professional staff. It is supported by memberships and donations and grants from foundations, corporations, and individuals.

### Cover Photo

Side-by-side comparison of the alternative, lowinput production system and the standard raised bedplastic mulch system for fresh market tomatoes. Photograph taken during a grower field day on 19 June 1997 by Dan O. Chellemi.