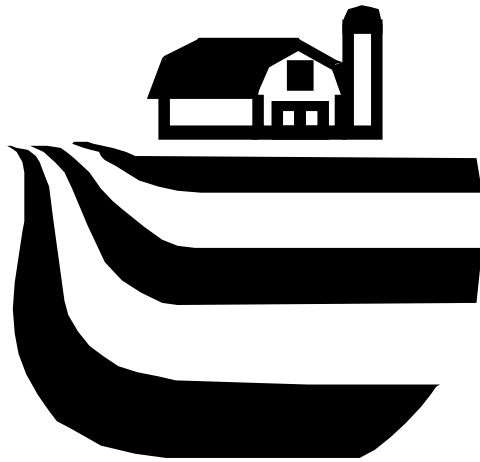


66, OCSI



Sustaining the Global Farm

**Selected papers from the 10th International Soil
Conservation Organization Meeting**

Edited by

**Diane E. Stott, Rabi H. Mohtar,
and Gary C. Steinhardt**

**Published by the
International Soil Conservation Organization
in cooperation with**

**United States Department of Agriculture
Agricultural Research Service**

**National Soil Erosion Research Laboratory
and**

Purdue University

Editors

Diane E. Stott, Ph.D.
Research Soil Microbiologist/Biochemist
USDA-ARS National Soil Erosion Research Laboratory
1196 Soil Building
West Lafayette IN 47907-1196 USA
Phone: 1-765-494-6657; Fax: 1-765-494-5948
destott@purdue.edu
<http://topsoil.nserl.purdue.edu/nserlweb/destott/default.htm>

Rabi H. Mohtar, Ph.D.
Assistant Professor
Environmental and Natural Resources Engineering
Department of Agricultural and Biological Engineering
1146 ABE Building, Purdue University
West Lafayette, IN 47907-1146
Phone: 1-765-494-1791; Fax: 1-765-496-1115
mohtar@purdue.edu
<http://pasture.ecn.purdue.edu/~mohtar/>

Gary C. Steinhardt, Ph.D.
Professor
Soil Management
Agronomy Department
1150 Lilly Hall of Life Sciences
Purdue University
West Lafayette, IN 47907-1150
Phone: 1-765-494-8063; FAX: 1-765-496-2926
gsteinhardt@purdue.edu

CD Cover Artwork

The art work used was from the USDA-NRCS Photo Gallery, Photo #NRCSIA99371. Please contact the USDA-NRCS directly for more information. Photo Gallery web site is <http://photogallery.nrcs.usda.gov/> (confirmed 2 May, 2002)

Disclaimer

The information and opinions herein are the responsibility of the individual paper authors. Neither the United States Department of Agriculture, Agricultural Research Service (USDA-ARS) nor Purdue University expressly guarantees the research presented here, nor endorses any equipment, product, or method used.

Citation Format

<<Paper Authors>>. 2001. <<Paper Title>>. <<Paper page numbers>> pgs. In: D.E. Stott, R.H. Mohtar, and G.C. Steinhardt (eds). Sustaining the Global Farm – Selected papers from the 10th International Soil Conservation Organization Meeting, May 24-29, 1999, West Lafayette, IN. International Soil Conservation Organization in cooperation with the USDA and Purdue University, West Lafayette, IN. CD-ROM available from the USDA-ARS National Soil Erosion Laboratory, West Lafayette, IN. Web site <http://topsoil.nserl.purdue.edu/nserlweb/isco99/pdf/isco99pdf.htm> (verified 2 May 2002).

ISCO 99 was sponsored by:

International Soil Conservation Organization
Agricultural Research Service, U.S. Department of Agriculture
Natural Resources Conservation Service, U.S. Department of Agriculture

In cooperation with:

Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture
U.S. Department of State
Foreign Agricultural Service, U.S. Department of Agriculture
Forest Service, U.S. Department of Agriculture
Geological Survey, U.S. Department of the Interior
Purdue University
The World Bank
U.S. Agency for International Development
U.S. Environmental Protection Agency

And:

Agriculture and Agri-Food Canada
American Society for Photogrammetry and Remote Sensing
American Water Resources Association
Association for Better Land Husbandry
Canadian Society of Soil Science
Conservation Technology Information Center
European Society for Soil Conservation
International Erosion Control Association
International Soil Science Society
International Soil Tillage Research Organization
Organization of American States
Society for Ecological Restoration
Society for Range Management
Soil Conservation Council of Canada
Soil and Water Conservation Society
Soil Science Society of America
World Association of Soil and Water Conservation

The sponsors of the 10th International Soil Conservation Organization Conference thank the following institutions for their generous financial support:

Agricultural Research Service, USDA
Agriculture and Agri-Food Canada
Conservation Technology Information Center
Cooperative State Research, Education, and Extension Service, USDA
Dow Elanco
Foreign Agricultural Service, USDA
Forest Service, USDA
Geological Survey, USDI
Monsanto Company
Natural Resources Conservation Service, USDA
U.S. Environmental Protection Agency

Organizing Committee for the 10th International Soil Conservation Organization Conference

Pearlie S. Reed (co-chair), USDA, Natural Resources Conservation Service (NRCS)
Mark Nearing (co-chair), USDA, Agricultural Research Service (ARS)
Andres Aguilar, Universidad Autonomia de Chapingo
Gene Alberts, USDA, ARS
C. Richard Amerman, USDA, ARS
Vincent Bralts, Purdue University
Ann Carey, USDA, NRCS
Maurice Cook, North Carolina State University
Dave Cressman, Ecologistics, Ltd.
Julian Dumanski, World Bank
Robert Eddleman, USDA, NRCS
Samir El-Swaify, University of Hawaii
Linda Elswick, International Partners for Sustainable Agriculture
Hari Eswaran, USDA-NRCS
Dennis Flanagan, USDA-ARS
Susan Gordon, U.S. Department of State
Guillermo Grajalcs, InterAmerican Institute for Cooperation in Agriculture
Jerry Hammond, USDA, NRCS
John Hebblethwaite, Conservation Technology Information Center
Mike Hickman, USDA, ARS
Chi-Hua Huang, USDA, ARS
Tom Huntington, U.S. Geological Survey
Chris Johannsen, Purdue University
Paul Johnson, Oneota Slopes Farm
Rattan Lal, Ohio State University
Leonard Lane, USDA, ARS
Gerry Luciuk, Agriculture and Agri-Food Canada
Kristen Martin, U.S. Environmental Protection Agency
Don McCool, USDA, ARS
William McFee, Purdue University
Rabi Mohtar, Purdue University
Henry Mount, USDA, NRCS
Curt Nissly, U.S. Agency for International Development
John Nordin, USDA, Forest Service
L. Darrell Norton, USDA, ARS
Christian Pieri, World Bank
Ken Renard, USDA, ARS (Retired)
David Sammons, Purdue University
Sara Scherr, University of Maryland
David Schertz, USDA, NRCS
Berlie Schmidt, USDA, Cooperative State Research, Education, and Extension Service
Max Schnepf, USDA, NRCS
Charles Sloger, U.S. Agency for International Development
Gary Steinhardt, Purdue University
Diane Stott, USDA, ARS
Dan Towery, Conservation Technology Information Center
Glenn Weesies, USDA, NRCS

PREVIOUS ISCO MEETINGS AND PUBLICATIONS

ISCO-10. West Lafayette, Indiana, USA. 24-29 May 1999 (Published 2001). *Sustaining the Global Farm – Selected papers from the 10th International Soil Conservation Organization Meeting* (Eds: D.E. Stott, R.H. Mohtar and G.C. Steinhardt). CD-ROM. West Lafayette (USA): ISCO in cooperation with the USDA-ARS National Soil Erosion Research Laboratory and Purdue University.
<http://topsoil.nserl.purdue.edu/nserlweb/isco99/pdf/isco99pdf.htm>. (last verified 2 May 2002)

ISCO-9. Bonn, Germany. 26-30 August 1996 (Published 1998) *Towards Sustainable Land Use: Furthering Cooperation between People and Institutions, Selected papers of the Conference of the International Soil Conservation Organisation* (Eds: Blume, Eger, Fleischhauer, Hebel, Rei, and Steiner. *Advances in Geolecology* 31. 2 vols. Reiskirchen (Germany): Catena Verlag. ISBN 3 923381 42 5.

ISCO-8. New Delhi. 4-8 December 1994 (Published 1998). *Soil and Water Conservation - Challenges and Opportunities* (Eds: L.S. Bhushan, I.P. Abrol, M.S. Rama, and M. Rao). 2 vols. 1700pp. Dehra Dun (India): Indian Assoc. of Soil & Water Conservation. ISBN 81 204 1082 x.

ISCO-7. Sydney, Australia. 27-30 September 1992.(published 1992). *People Protecting their Land* (Eds: P.G. Haskins and B.M. Murphy). 2 vols. 832pp. Sydney (Australia): ISCO and NSW Dept of Conservation and Land Management. . ISBN 0 7305 9977 9.

ISCO-6: Ethiopia and Kenya. 6-18 November 1989. (Published 1992). *Erosion, Conservation and Small-Scale Farming and 'Soil Conservation for Survival* (Eds H.Hurni and K Tato). 582 and 420pp. Bern (Switzerland): Geographica Bernensia, ISCO, and the World Assoc. Soil and Water Conservation. ISBN 3 906290 70 0 and 0 935734 27 9.

ISCO-5: Bangkok, Thailand. 18-29 January 1988. (Published 1989) *Land Conservation for Future Generations* (Ed: S. Rimwanich). 2 vols. 1312 pp. Bangkok (Thailand): Dept. of Land Development, Min. of Ag. & Coops. ISBN 974-7724-94-4.

ISCO-4: Maracay, Venezuela. 3-9 November 1985. (Published 1987). *Soil Conservation and Productivity*. (Ed: Pla Sentis I.) 2 vols, 1215pp. Maracay (Venezuela): Universidad Central and the Soc. Venezolana de la Ciencia del Suelo. ISBN 980 265 924 X.

ISCO-3: Honolulu, Hawaii, USA. (Malama Aina, first to be coined as an ISCO Conference), January 16-22 1983 (Published 1985). *Soil Erosion and Conservation* (Eds: S.A. El-Swaify, W.C. Moldenhauer, A. Lo). 793pp. Ankeny (USA): Soil & Water Consv Soc. ISBN 0 935734 11 2.

Pre-ISCO-2: Silsoe, UK. 21-25 July 1980. (Published 1981). *Soil Conservation: Problems and Prospects* (Ed: R.P.C. Morgan). 575pp. Chichester (UK): Wiley. ISBN 0 471 27882 3.

Pre-ISCO-1: Ghent, Belgium, 27 February to 3 March, 1978 (Published 1980). *Assessment of Erosion* (Eds: H. De Boodt and D. Gabriels), John Wiley and Sons, Chichester (UK). ISBN 0 471 27899 8.

Table of Contents

| | |
|---|----------|
| Title Page | i |
| Editor Contact Information | ii |
| Disclaimer and Citation Format | iii |
| Sponsors, Cooperating Organizations, and Financial Sponsors | iv |
| Conference Planning Committee | v |
| Previous ISCO Meetings and Publications | vi |
| Preface | vii-viii |
| Table of Contents | ix-xix |

| | |
|--|-----|
| Keynote: Opening Welcome to the Meeting | 001 |
| <i>Mark A. Nearing</i> | |
| Keynote: Sustaining the Global Farm – Conference Conclusions | 002 |
| <i>Samir El-Swaify</i> | |

I. Sustaining the Global Farm

| | |
|--|---------|
| Keynote: Achieving Sustainability - The Institutional Imperatives | 003-010 |
| <i>David Sanders</i> | |
| Keynote: Global Partnerships to Sustain Land Use | 011-014 |
| <i>Bruce H. Moore</i> | |
| Keynote: Sustaining the Global Farm – A Farmer’s View | 015-016 |
| <i>Michael Sutherland</i> | |
| Keynote: A Farmer’s View | 017-018 |
| <i>Saj Sibanyoni</i> | |
| Funding the Future: Are the Facts Correct? | 019-023 |
| <i>T.F. Shaxson</i> | |
| Global Desertification Tension Zones | 024-028 |
| <i>Hari Eswaran, Paul Reich, and Fred Beinroth</i> | |
| How and Why the Brazilian Zero Tillage Explosion Occurred | 029-039 |
| <i>John N. Landers</i> | |
| Estimating Soil Productivity Loss Due to Erosion in Uruguay in Terms of Beef and Wool Production on Natural Pastures | 040-045 |
| <i>Fernando García-Préchac and A. Durán</i> | |
| Factors that Cause Deterioration of the Land in Province “Los Andes” (North Bolivian High Plateau) | 046-048 |
| <i>Javier G. Villegas</i> | |
| Important and Controversial Watershed Management Issues in Developing Countries | 049-052 |
| <i>Ted C. Sheng</i> | |
| Participatory Land and Water Management: Silsoe Research Institute’s Experiences from Latin America and Sub-Saharan Africa | 053-060 |
| <i>Brian G. Sims, Steve J. Twomlow and Jim Ellis-Jones</i> | |
| Sustainable Soil Management: A Framework for Analysis | 061-067 |
| <i>Jennie Popp, Dana Hoag, and James Ascough, II</i> | |

II. Social, Economic and Policy Elements of Conservation

| | |
|--|---------|
| Keynote: Conservation is for Business - Self-Help Groups in Kenya | 068-074 |
| <i>R J Cheatle and T F Shaxson</i> | |
| Keynote: Environmental Protection versus Restoration: A Model for Policy Decisions | 075-086 |
| <i>Sara J. Scherr</i> | |

| | |
|--|---------|
| <u>Keynote: Soil Conservation Policies in the State of Parana, Brazil - The Role of Agricultural Research and Development to Attain Sustainability</u> | 087-089 |
| <i>Osmar Muzilli</i> | |
| <u>Paso del Norte Sustainable Water Use Strategy</u> | 090-094 |
| <i>Ed Hamlyn</i> | |
| <u>Ecologically Sustainable Soil: The Role of Environmental Policy and Legislation</u> | 095-100 |
| <i>Ian Hannam</i> | |
| <u>Enabling Long-Term impact of Soil Conservation Through Farmer-Driven Extension</u> | 101-105 |
| <i>Roland Bunch</i> | |
| <u>Environmental McCarthyism and the Precautionary Principle - Learning from the Past while Addressing Current Dilemmas</u> | 106-111 |
| <i>D. Brook Harker and Brian McConkey</i> | |
| <u>Agri-environmental Programs and the Use of Soil Conservation Measures in Germany</u> | 112-118 |
| <i>Bernhard Osterburg</i> | |
| <u>A Management System for Soil Conservation on the Hilly-Rolling Relief of Lithuania</u> | 119-124 |
| <i>B. Jankauskas</i> | |
| <u>Land Tenure and Soil Conservation Practices - Evidence From West Africa and Southeast Asia</u> | 125-130 |
| <i>Andreas Neef</i> | |
| <u>Structural Adjustment Program and Soil Erosion: A Bio-Economic Modeling Approach for Northern Benin</u> | 131-138 |
| <i>J. Senahoun, F. Heidhues, and D. Deybe</i> | |
| <u>Characteristics and Socio-Economic Evaluation of Two Indigenous Soil and Water Conservation Systems</u> | 139-146 |
| <i>B. Kayombo, H.O. Dihenga, and J.Ellis-Jones</i> | |
| <u>The Farmer's View: How Seeing the Local Landscape Defines On-Farm Conservation</u> | 147-151 |
| <i>R.I. Beilin</i> | |
| <u>Poverty Alleviation and Resource Conservation Through Integrated Watershed Management in a Fragile Foot-Hill Ecosystem</u> | 152-159 |
| <i>S.S. Grewel, A.S. Dogra, and T.C. Jai</i> | |

III. Local Action for Land Stewardship

| | |
|--|---------|
| <u>Keynote: Land Care In Australia</u> | 160-164 |
| <i>Michael Sutherland and Brian Scarsbrick</i> | |
| <u>Soil and Water Conservation Strategies on the Red and Yellow Soils of South China</u> | 165-170 |
| <i>Huaxing Li, Xinming Zhang, Xichong Chen, and Weisheng Lu</i> | |
| <u>Facilitating Better Linkages Between Hill-Tribe Communities and Government Agencies with Digitized Land Use Maps in Mae Hong Son Province, Thailand</u> | 171-178 |
| <i>Oliver Puginier</i> | |
| <u>Land Resource Constraints for Sustainable Agriculture in Thailand</u> | 179-185 |
| <i>P. Moncharoen, T. Vearasilp, and H. Eswaran</i> | |
| <u>Impact of Upland Agriculture and Conservation Project (UACP) on Sustainable Agriculture Development in Serang Watershed, Indonesia</u> | 186-190 |
| <i>Naik Sinukaban</i> | |
| <u>Participatory Soil and Water Conservation in India - Experiences from the KRIBHCO Indo-British Rainfed Farming Project</u> | 191-197 |
| <i>Paul D. Smith</i> | |
| <u>Selection of Soil Conservation Measures in the Indonesian Regreening Program</u> | 198-202 |
| <i>Fahmuddin Agus</i> | |
| <u>Fodder Dissemination for Soil Conservation and Cash Generation in the Central Kenyan Highlands</u> | 203-207 |
| <i>M.K. O'Neill, P.K. Tuwei, G.M. Karanja, and B. Okoba</i> | |

| | |
|---|---------|
| <u>Sustainable Agricultural Enterprises in Two Districts in Uganda</u> | 208-211 |
| <i>Nkuba R. Michael</i> | |
| <u>Soil Pollution Patterns in Terrestrial Ecosystems of the Kola Peninsula, Russia</u> | 212-216 |
| <i>Serguei V. Koptsik, and Galina N. Koptsik</i> | |
| <u>Spectral Reflectance as a Tool to Study Soils in Semi-Arid Regions</u> | 217-222 |
| <i>E.I. Karavanova</i> | |
| <u>Monitoring Water and Sediment Yield In Mediterranean Mountainous Watersheds: Preliminary Results</u> | 223-228 |
| <i>J. Rius, R. Batalla, and R.M. Poch</i> | |
| <u>Role of Kenyan Women's Groups in Community Based Soil and Water Conservation</u> | 229-233 |
| <i>Margaret J. Kamar</i> | |

IV. Land Use Influences

| | |
|---|---------|
| <u>Keynote: The Development and Future of Direct Seed Cropping Systems in Argentina. Explaining some of the Economic, Agronomic, Environmental, Social and Sustainability Benefits that Support the Process</u> | 234-247 |
| <i>Roberto A. Peiretti</i> | |
| <u>Keynote: Frontiers in Conservation Tillage and Advances in Conservation Practice</u> | 248-254 |
| <i>Rolf Derpsch</i> | |
| <u>Factors Affecting Agricultural Sustainability in the Pacific Northwest, USA: An Overview</u> | 255-260 |
| <i>D. K. McCool, D. R. Huggins, K. E. Saxton, and A. C. Kennedy</i> | |
| <u>Grazing, Burning, and Drought Influences on Rangeland Ecosystem Sustainability</u> | 261-265 |
| <i>W. E. Emmerich and R. K. Heitschmidt</i> | |
| <u>Effects of Erosion and Manure Applications on Corn Production</u> | 266-271 |
| <i>F.J. Arriaga and B. Lowery</i> | |
| <u>Relating Crop Yields to Physiographic Attributes in Ohio Through Principal Component Analysis</u> | 272-276 |
| <i>E. Salchow and R. Lal</i> | |
| <u>Crop Residue Management Increases Dryland Grain Sorghum Yields in a Semi-arid Region</u> | 277-282 |
| <i>Paul W. Unger and R. Louis Baumhardt</i> | |
| <u>Saturated Transport of Atrazine Under Two Tillage System</u> | 283-287 |
| <i>Alton B. Johnson</i> | |
| <u>Sustainable Land Use: An Interdisciplinary Demonstration Project in Northeast Germany</u> | 288-292 |
| <i>T. Kaletka, K. Helming, H. Kächele, A. Khorkov, K. Müller, and H.-J. Philipp</i> | |
| <u>Agricultural Field State and Runoff Risk: Proposal of a Simple Relation for the Silty-Loam-Soil Context of the Pays de Caux (France)</u> | 293-299 |
| <i>Philippe Martin, François Papy, and Alain Capillon</i> | |
| <u>Influence of Cultural Practices on Sheetflow, Sediment and Pesticide Transport: The Case of Corn Cultivation Under Plastic Mulching</u> | 300-304 |
| <i>C. Gascuel-Oudou, F. Garnier, and D. Heddadj</i> | |
| <u>Evaluating the Biodiversity of Almond Cultivars From a Germplasm Collection Field in Southern Italy</u> | 305-311 |
| <i>D. De Giorgio and G.B. Polnigano</i> | |
| <u>Soil Losses Caused by Chicory Root and Sugar Beet Harvesting in Belgium: Importance and Implications</u> | 312-316 |
| <i>Jean W.A. Poesen, Gert Verstraeten, Leen Seynaeve, and Ruben Soenens</i> | |
| <u>Feasibility of Agroforestry for Sugarcane Production and Soil Conservation in Brazil</u> | 317-320 |
| <i>L.F.G. Pinto, M.S. Bernardes, G. Sparovek, and G.M.S. Camara</i> | |
| <u>Monitoring the Sediment Loading of Itaipu Lake and Modeling of Sheet and Rill Erosion Hazards in the Watershed of Parana River: An Outline of the Project</u> | 321-323 |
| <i>L.D. Norton, C. Castro Filho, T.C. Cochrane, J.H. Caviglione, H.M. Fontes Jr., L.P. Johanson, and L.D. Marenda</i> | |

| | |
|--|---------|
| <u>Abstract Soil Conservation Perspectives of Road Infrastructure within a Development Context in South Africa</u> | 324-328 |
| <i>H.R. Beckedahl, T.R. Hill, and M. Moodley</i> | |
| <u>Influence of Cabbage Growth on Ridge Erosion</u> | 329-332 |
| <i>Takahiro Shiono, Azuma Takagi, Chikara Ogura, and Ken-ichiro Kamimura</i> | |
| <u>Biological Restoration of a Degraded Alfisol in the Humid Tropics Using Planted Woody Fallow: Synthesis of 8-Year-Results</u> | 333-337 |
| <i>G. Tian, F.K. Salako, F. Ishida, and J. Zhang</i> | |
| <u>Hydrological Implications of Planting Bluegum in Natural Shola and Grassland Watersheds of Southern India</u> | 338-343 |
| <i>J.S. Samra, A.K. Sikka, and V.N. Sharda</i> | |
| <u>Simulated Nitrogen Loading from Corn, Sorghum, and Soybean Production in the Upper Mississippi Valley</u> | 344-348 |
| <i>Jay D. Atwood, Verel W. Benson, R. Srinivasan, Clive Walker, and Erwin Schmid</i> | |
| <u>Monitoring land use changes in the Nam Phung Valley of Lom Kao District in Thailand</u> | 349-355 |
| <i>C.D. Dedzoe, B.A. Raji, and M. Staljanssens</i> | |
| <u>Factors Enhancing the Terrace Use in the Highlands of Kabale District, Uganda</u> | 356-361 |
| <i>Richard Miiro</i> | |
| <u>Reduced Tillage Problem in the New Conditions of Romanian Agriculture</u> | 362-365 |
| <i>Vergil Gangu, Mihail-Florian Neacsu, and Iosif Cojocar</i> | |
| <u>Conservation Tillage Systems for Spring Corn in the Semihumid to Arid Areas of China</u> | 366-370 |
| <i>Cai Dianxiong, Wang Xiaobin, Zhang Zhitian, Gao Xuke, and Zhang Jingqing</i> | |
| <u>Effects of Nitrification Inhibitor on Nitrate Leaching in Cotton Production Systems</u> | 371-377 |
| <i>R. K. Malik and K. C. Reddy</i> | |
| <u>Overwinter Changes to Vehicle Ruts and Natural Rills and Effects on Soil Erosion Potential</u> | 378-383 |
| <i>Lawrence W. Gatto</i> | |

V. Erosion Control

| | |
|--|---------|
| <u>Polyacrylamide: A Review of the Use, Effectiveness, and Cost of a Soil Erosion Control Amendment</u> | 384-389 |
| <i>V. Steven Green and D.E. Stott</i> | |
| <u>On-farm Assessment of Contour Hedges for Soil and Water Conservation in Central Kenya</u> | 390-394 |
| <i>S.D. Angima, M.K. O'Neill, and D.E. Stott</i> | |
| <u>Contour Hedgerows of <i>Calliandra calothyrsus</i> Meissn. for Soil and Water Conservation in the Blue Mountains of Jamaica</u> | 395-402 |
| <i>M.A. McDonald, P.A. Stevens, and J.R. Healey</i> | |
| <u>Research and practical experiences with vegetative barriers for water erosion control in Venezuela</u> | 403-411 |
| <i>Oscar S. Rodríguez and Onelia Andrade</i> | |
| <u>Early Growth Performance of Sixteen Populations of <i>Faidherbia albida</i> in Semi Arid Baringo District of Kenya</u> | 412-418 |
| <i>O.G. Dansasuk, S. Gudu, and J.R. Okalebo</i> | |
| <u>Land Application of Organic and Inorganic Fertilizer for Corn in Dryland Farming Region of North China</u> | 419-422 |
| <i>Wang Xiaobin, Cai Dianxiong, and Zhang Jingqing</i> | |
| <u>Mangrove Structure on the Eastern Coast of Samar Island, Philippines</u> | 423-425 |
| <i>Antonio B. Mendoza and Danilo P. Alura</i> | |
| <u>New Initiatives to Control Soil Erosion In England</u> | 426-430 |
| <i>Roger J. Unwin</i> | |
| <u>Rainfall-Runoff Harvesting for Controlling Erosion and Sustaining Upland Agriculture Development</u> | 431-439 |
| <i>I. Sumarjo Gatot, J. Duchesne, F. Forest, P. Perez, C. Cudennec, T. Prasetyo, and S. Karama</i> | |
| <u>Use of Compost and Sewage Sludge with Different Tillage Treatments for Sustained Soil Protection</u> | 440-446 |
| <i>Thorsten Hoss, Rolf-Alexander Düring, and Stefan Gäth</i> | |

| | |
|---|-----------|
| Designing Research to Improve Runoff and Erosion Control Practices: Example, Grass Hedges | 447-451 |
| <i>L. D. Meyer, S. M. Dabney, and W. D. Kemper</i> | |
| Use of Some Natural Plant Species for Erosion Control in Southern Turkey | 452-457 |
| <i>Mehmet Aydin, Ismail Celik, and Aytakin Berkman</i> | |
| See also: | |
| Erosion Control by Amending Soil with Synthetic Gypsum | 1158-1162 |
| <i>B.H. Wallace, L.D. Norton and R. Woodward</i> | |

VI. Carbon Sequestration

| | |
|--|---------|
| Keynote: Soil Conservation For C Sequestration | 459-465 |
| <i>R. Lal</i> | |
| Carbon Sequestration in a Plowed and No-Tillage Chronosequence in a Brazilian Oxisol | 466-471 |
| <i>João Carlos de M. Sá, Carlos C. Cerri, Warren A. Dick, Rattan Lal, Solismar P. Venske Filho, Marisa C. Piccolo, Brigitte E. Feigl</i> | |
| Erosion Effects on Soil Organic Carbon Pool in Soils of Iowa | 472-475 |
| <i>J.M. Kimble, R. Lal, and M. Mausbach</i> | |
| Soil and Crop Management and the Greenhouse Gas Budget of Agroecosystems in Canada | 476-480 |
| <i>R.L. Desjardins, W.N. Smith, B. Grant, H. Janzen, S. Gameda and J. Dumanski</i> | |
| Effects of Conservation Tillage on Soil Organic Carbon Dynamics: Field Experiments in the U.S. Corn Belt | 481-485 |
| <i>D.C. Reicosky</i> | |
| Regional-Scale Analysis of Soil Microbial Biomass and Soil Basal CO₂-Respiration in Northeastern Germany | 486-493 |
| <i>Stephan J. Wirth</i> | |
| Soil Carbon Enhancement in Graded and Ungraded Reclaimed Minesoil Under Forest and Pasture in Ohio, USA | 494-498 |
| <i>V.A. Akala and R. Lal</i> | |
| Land Use Effects on Soil Carbon Pools in Two Major Land Resource Areas of Ohio, USA | 499-502 |
| <i>A. Lantz, R. Lal, and J. Kimble</i> | |
| Carbon Concentrations and Transport in Sediment Leaving Small, Cropped Watersheds | 503-508 |
| <i>L.B. Owens, R.W. Malone, G.C. Starr, and R. Lal</i> | |
| Global Climate Change: Implications of Extreme Events for Soil Conservation Strategies and Crop Production in the Midwestern United States | 509-515 |
| <i>Anne N. Williams, Mark Nearing, Mike Habeck, Jane Southworth, Rebecca Pfeifer, Otto C. Doering, Jess Lowenberg-Deboer, J.C. Randolph, and Michael A. Mazzoc</i> | |
| See also: | |
| Potential of Conservation Tillage to Reduce Carbon Dioxide Emission in Australian Soils | 821-826 |
| <i>H.B. So; R.C. Dalal; K.Y. Chan; N.M. Menzies, and D.M. Freebairn</i> | |

VII. Biological, Chemical & Physical Properties of Soils

| | |
|--|---------|
| Keynote: The Secret to Making Soil Conservation Successful: Short-Term Benefits | 516-522 |
| <i>Roland Bunch</i> | |
| Keynote: Monitoring Progress Towards Sustainable Land Management | 523-528 |
| <i>Julian Dumanski and Christian Pieri</i> | |
| Locally Led Conservation Activities: Developing a Soil Quality Assessment Tool | 529-534 |
| <i>A. J. Tugel, S. Seiter, D. Friedman, J. Davis, R. P. Dick, D. McGrath, and R. R. Wei</i> | |
| Identification and Interpretation of Regional Soil Quality Factors for the Central High Plains of the Midwestern USA | 535-540 |
| <i>John J. Breyda and Thomas B. Moorman</i> | |

| | |
|---|---------|
| <u>Development of Soil Hydraulic Pedotransfer Functions on a European scale: their usefulness in the assessment of soil quality</u> | 541-549 |
| <i>A. Nemes, J.H.M. Wösten, and A. Lilly</i> | |
| <u>Development of a Soil Quality Index for the Chalmers Silty Clay Loam from the Midwest USA</u> | 550-555 |
| <i>M. Diack and D.E. Stott</i> | |
| <u>Quantifying the Spatial Patterns of Soil Redistribution and Soil Quality on two Contrasting Hillslopes</u> | 556-563 |
| <i>Y. Li, M.J. Lindstrom, M. Frielinghaus, and H.R. Bork</i> | |
| <u>Soil Quality of Very Fragile Sandy Soils From Southern Brazil</u> | 564-568 |
| <i>Telmo J.C. Amado, Dalvan J. Reinert, and J. Miguel Reichert</i> | |
| <u>Global Assessment of Land Quality</u> | 569-574 |
| <i>Fred H. Beinroth, Hari Eswaran, and Paul F. Reich</i> | |
| <u>Role of a Saprophytic Basidiomycete Soil Fungus in Aggregate Stabilization</u> | 575-579 |
| <i>T. C. Caesar-TonThat and V.L. Cochran</i> | |
| <u>Effects of Exchangeable Ca:Mg Ratio on Soil Clay Flocculation, Infiltration and Erosion</u> | 580-587 |
| <i>Katerina Dontsova and L. Darrell Norton</i> | |
| <u>Effects of Soil Strength, Texture, Slope Steepness and Rainfall Intensity on Interrill Erosion of Some Soils in Taiwan</u> | 588-593 |
| <i>Jen-Chen Fan and Min-Fon Wu</i> | |
| <u>Use of the Chain Set for Scale-Sensitive and Erosion-Relevant Measurement of Soil Surface Roughness</u> | 594-600 |
| <i>S.D. Merrill, C. Huang, T.M. Zobeck, and D.L. Tanaka</i> | |
| <u>Interrill and Rill Erosion on a Tropical Sandy Loam Soil Affected by Tillage and Consolidation</u> | 601-605 |
| <i>J. Miguel Reichert, Marcos J. Schäfer, Elemar A. Cassol, and L. Darrell Norton</i> | |
| <u>Characterization of the Stages of Soil Resilience to Degradative Stresses: Erosion</u> | 606-610 |
| <i>M.M. Tenywa, R. Lal, and M.J.G. Majaliwa</i> | |
| <u>Experimental Study of Nutrient Runoff from Purple Soils in the Three Gorges Area</u> | 611-616 |
| <i>Cai Chongfa, Ding Shuwen, Huang Li, and Cai Qiangguo</i> | |
| <u>Crop Productivity and Surface Soil Properties of a Severely Wind-Eroded Soil</u> | 617-622 |
| <i>T. M. Zobeck and J. D. Bilbro</i> | |
| <u>Organic Matter Formation in Post Mining Soils in Central Poland</u> | 623-626 |
| <i>Gilewska Mirosława, Bender Jan, and Drzymala Stanislaw</i> | |
| <u>Assessment of Soil Quality for Biodiversity Conservation in Boreal Forest Ecosystems</u> | 627-634 |
| <i>Galina N. Koptsik, Serguei V. Koptsik, and Svetlana Yu Livantsova</i> | |
| <u>The Impact of Deep Rooted Plants on the Qualities of Compacted Soils</u> | 632-636 |
| <i>Jaan Kuht and Endla Reintam</i> | |
| <u>A Morphology Index for Soil Quality Evaluation of Near-Surface Mineral Horizons</u> | 637-640 |
| <i>R.B. Grossman, D.S. Harms, C.A. Seybold, and M.T. Sucik</i> | |
| <u>Spatial Variability of Soil Properties along a Transect of CRP and Continuously Cropped Land</u> | 641-647 |
| <i>Xuewen Huang, E.L. Skidmore, and G. Tibke</i> | |
| <u>Rehabilitation of the Soil Quality of a Degraded Peat site</u> | 648-654 |
| <i>U. Schindler and L. Müller</i> | |
| <u>Changes in Physical and Chemical Properties of Fen Soils Induced by Long-term Drainage, Followed by Recent Rewetting</u> | 655-661 |
| <i>Jutta Zeitz and Andreas Gensior</i> | |
| <u>Spectral Reflectivity as a Diagnostic Criteria of the Degree of Erosion of the Gray Forest Soils</u> | 662-665 |
| <i>E.I. Karavanova, N. P. Sorokina, and E. A. Kudelina</i> | |
| <u>Erosion Intensity Evaluated from Microtopographic Soil Erosion Features, its Correlation with Conservation Practice, Presence of Fertilizer, and Erosion Development between Alley Cropping Hedges</u> | 666-675 |
| <i>Ir. Eelko Bergsma</i> | |

| | |
|--|---------|
| <u>Arbuscular Mycorrhizal Fungi (AMF) Spore Abundance is affected by Wastewater Pollution in Soils of Mezquital Valley in Central Mexico</u> | 676-681 |
| <i>M.P. Ortega-Larrocea</i> | |
| <u>Farmers' Resource Levels, Soil Properties and Productivity in Kenya's Central Highlands</u> | 682-687 |
| <i>Mira Ovuka and Anders Ekbohm</i> | |

VIII. Erosion Processes: Water, Wind, Irrigation, Tillage & Mechanical

| | |
|--|---------|
| <u>Developments in Measurement and Models for Suspension-Dominated Wind Erosion</u> | 688-692 |
| <i>David Chandler and Keith Saxton</i> | |
| <u>Evaluating WEPP Predicted On-field Furrow Irrigation Erosion</u> | 693-698 |
| <i>David L. Bjorneberg and Thomas J. Trout</i> | |
| <u>Hydraulic Modeling of Irrigation-Induced Furrow Erosion</u> | 699-705 |
| <i>Theodor S. Strelkoff and David L. Bjorneberg</i> | |
| <u>Influence of Irrigation Water Properties on Furrow Infiltration: Temperature Effects</u> | 705-709 |
| <i>R. D. Lentz and D.L. Bjorneberg</i> | |
| <u>Sediment Transport in Irrigation Furrows</u> | 710-716 |
| <i>Thomas J. Trout</i> | |
| <u>Study of Sediment Transport in Shallow Channel Flows</u> | 717-724 |
| <i>D. Pal, S. N. Prasad, and M. J. M. Römken</i> | |
| <u>Relation Between Soil Erosion and Sediment Yield in Catchment Scale</u> | 725-731 |
| <i>Ch. Seiberth</i> | |
| <u>Effect of Runoff and Sediment from Hillslope on Gully Slope In the Hilly Loess Region, North China</u> | 732-736 |
| <i>Cai Qiangguo</i> | |
| <u>Effects of Up-Slope Runoff on Erosion Processes At Down-Slope Shallow Gully Erosion Areas</u> | 737-741 |
| <i>Fen-Li Zheng and Xue-Tian Gao</i> | |
| <u>Assessment of Wind Erosion Parameters Using Wind Tunnels</u> | 742-746 |
| <i>Lawrence J. Hagen</i> | |
| <u>TEAM: The Texas Tech Wind Erosion Analysis Model</u> | 747-750 |
| <i>James M. Gregory, Roel Vining, Lawrence Peck, and. Kent Wofford</i> | |
| <u>Soil Born Dust Release from Polluted Industrial Derelict Land and Deposition in the Ruhr Area (Germany)</u> | 751-759 |
| <i>Silke Höke & Prof. Dr. Wolfgang Burghardt</i> | |
| <u>Wind Erosion Estimates with RWEQ and WEQ</u> | 760-765 |
| <i>D.W. Fryrear, P.L. Sutherland, G. Davis, G. Hardee, and M. Dollar</i> | |
| <u>Wind Erosion and Air Quality Research in the Northwest U.S. Columbia Plateau: Organization and Progress</u> | 766-770 |
| <i>Keith Saxton, David Chandler, and William Schillinger</i> | |
| <u>Wind Speed Effects on Rain Erosivity</u> | 771-776 |
| <i>Katharina Helming</i> | |
| <u>Tillage-Induced Erosion in the Humid Tropics: Rates, Effects on Soil Properties, and Approaches to Reduce It</u> | 777-783 |
| <i>B. B. Thapa, D. K. Cassel, and D. P. Garrity</i> | |
| <u>Slope Length Effects on Soil Loss for Steep Slopes</u> | 784-788 |
| <i>B.Y. Liu, M.A. Nearing, P.J. Shi, and Z.W. Jia</i> | |
| <u>Soil Erosion of an Indurated Volcanic Soil from the Semiarid Area of the Valley of Mexico</u> | 789-795 |
| <i>Eusebio Ventura, Jr., L. Darrell Norton; Jose L. Oropeza, and Benjamin Figueroa</i> | |
| <u>Rocks and Rills: The Impact of Rock Fragments on Soil Loss by Concentrated Flow Erosion in Laboratory Experiments</u> | 796-802 |
| <i>Dirk Rieke-Zapp, M.A. Nearing, and J. Poesen</i> | |
| <u>Measurement of Erodibility for Soils in Subtropical China by Simulated and Natural Rainfall</u> | 803-806 |
| <i>Shi Xuezheng and Yu Dongsheng</i> | |

| | |
|--|---------|
| Assessment of Erodibility, Runoff and Infiltration in an Uruguayan Vertisol <i>Carlos Victoria, Aarón Kacevas, and Héctor Fiori</i> | 807-811 |
| Impacts of Mechanization on Surface Erosion and Mass Movements in Vineyards of the Anoia-Alt-Penedes Area (Catalonia-Spain) <i>Ildefonso Pla Sentís and Silvana Nacci Sulbarán</i> | 812-816 |
| Soil Pollution by Acid Rains and Heavy Metals in Zlatna Region, Romania <i>R. Lacatusu, M. Dumitru, I. Risnoveanu, C. Ciobanu, Mihaela Lungu, S. Carstea, Beatrice Kovacovics, and Carmen Baciu</i> | 817-820 |
| Potential of Conservation Tillage to Reduce Carbon Dioxide Emission in Australian Soils <i>H.B. So; R.C. Dalal; K.Y. Chan; N.M. Menzies, and D.M. Freebairn</i> | 821-826 |
| Deposition Diagram studies - The Residual Erosion Potential of Soils <i>I. Sisak, M. Palkovics, and K. Plotar</i> | 827-833 |
| A Comparison of Rain Erosivity Parameters for Predicting Soil Detachment on Interrills <i>Christian Salles, Jean Poesen, and Gerard Govers</i> | 834-837 |
| Global Dimensions of Vulnerability to Wind and Water Erosion <i>Paul Reich, Hari Eswaran, and Fred Beinroth</i> | 838-846 |

IX. Erosion Models

| | |
|--|---------|
| Keynote: Soil Erosion Prediction Technology for Conservation Planning <i>George R. Foster</i> | 847-851 |
| Soil Erosion Models and Implications for Conservation of Sloping Tropical Lands <i>C.W. Rose</i> | 852-859 |
| From Plot to Continent: Reconciling Fine and Coarse Scale Erosion Models <i>Mike Kirkby</i> | 860-870 |
| How WEPP Model Responds to Different Cropping and Management Systems <i>X.C. Zhang, M.A. Nearing, and L.D. Norton</i> | 871-876 |
| WEPP Simulated Tillage Effects on Runoff and Sediment Losses in a Corn-Soybean Rotation <i>A.Z.H. Ranaivoson, S.C. Gupta, and J.F. Moncrief</i> | 877-881 |
| Updating Slope Topography During Erosion Simulations with the Water Erosion Prediction Project <i>Jingcai Zhu, Seth M. Dabney, and Dennis C. Flanagan</i> | 882-887 |
| Incorporating Surface Crusting and its Spatial Organization in Runoff and Erosion Modeling at the Watershed Scale <i>V. Souchere, O. Cerdan, Y. Le Bissonnais, A. Couturier, D. King, and F. Papy</i> | 888-895 |
| Quantitative Field Estimations of Stickiness and Plasticity for Predicting WEPP Model Parameters <i>Donald F. Post, RaeAnn Papp, and Laerte Ferreira</i> | 896-902 |
| Application and Adaptation of WEPP to the Traditional Farming Systems of the Ethiopian Highlands <i>Gete Zeleke</i> | 903-912 |
| RUSLE Estimates of Soil Erosion in Cotton Production Systems in North Alabama <i>E. Z. Nyakatawa, K.C. Reddy, and J.L. Lemunyon</i> | 913-918 |
| Using Fuzzy Logic-Based Modeling to Improve the Performance of the Revised Universal Soil Loss Equation <i>L.T. Tran, M.A. Ridgley, M.A. Nearing, L. Duckstein, and R. Sutherland</i> | 919-923 |
| The USLE-M and Modeling Erosion Within Catchments <i>Peter I.A. Kinnell</i> | 924-928 |
| Re-interpretation of USLE Datasets for Physically Based Erosion Models with Examples From Southern China and Northern Thailand <i>B. Yu, C.W. Rose, D. Yin, and C. Anecksamphat</i> | 929-934 |
| Application of WEPS Generated Soil Loss Components to Assess Off-site Impacts <i>L.E. Wagner and L. J. Hagen</i> | 935-939 |
| Wind Erosion Monitoring and Modeling Techniques in Australia <i>John Leys, Grant McTainsh, and Yaping Shaos</i> | 940-950 |

| | |
|---|-----------|
| <u>GPFARM: An Integrated Decision Support System for Sustainable Great Plains Agriculture</u> | 951-960 |
| <i>James C. Ascough II, Marvin J. Shaffer, Dana L. Hoag, Gregory S. McMaster, Lajpat R. Ahuja, and Mark A. Weltz</i> | |
| <u>Rapid Indicator-Based Soil Mapping for Regional Planning in Northern Thailand</u> | 961-965 |
| <i>Horst Vogel, Taweesak Vearasilp, Kanitasri Hoontrakul, Sumitra Wattana, and Dagmar Bolsmann</i> | |
| <u>GULTEM - The Model to Predict Gully Thermoerosion and Erosion (Theoretical Framework)</u> | 966-972 |
| <i>Aleksey Sidorchuk</i> | |
| <u>Actions Against Soil Erosion at The Single Field and the Catchment Scale Guided by Computer Simulation</u> | 973-978 |
| <i>J. Schmidt, W. Schmidt, M.v. Werner, and A. Michael</i> | |
| <u>A Non-parametric Analysis of Qualitative and Quantitative Data for Erosion Modeling: A Case Study for Ethiopia</u> | 979-993 |
| <i>B.G.J.S. Sonneveld, M.A. Keyzer and P.J. Albersen</i> | |
| <u>Applying the SWAT Model as a Decision Support Tool for Land Use Concepts in Peripheral Regions in Germany</u> | 994-999 |
| <i>N. Fohrer, K. Eckhardt, S. Haverkamp, and H.-G. Frede</i> | |
| <u>The Usefulness of a New Model for the Gully-Control Structures Effects Prediction</u> | 1000-1007 |
| <i>Lucia Otlacan Nedelcu</i> | |
| <u>Finite Element Modeling of Erosion on Agricultural Lands</u> | 1008-1017 |
| <i>V.N. Sharda and Mark Nearing</i> | |
| <u>Development of the Long Term Hydrologic Impact Assessment (LTHIA) WWW Systems</u> | 1018-1023 |
| <i>Kyoung Jae Lim, Bernard A. Engel, Youngsug Kim, Budhendra Bhaduri, and Jon Harbor</i> | |
| <u>Testing the Ephemeral Gully Erosion Model (EGEM) in Mediterranean Environments</u> | 1024-1028 |
| <i>J. Nachtergaele, J. Poesen, L. Vandekerckhove, D. Oostwoud Wijdenes, and M. Roxo</i> | |
| See also: | |
| <u>Multiscale Simulation of Land Use Impact on Soil Erosion and Deposition Patterns</u> | 1163-1169 |
| <i>Helena Mitasova, Lubos Mitas, and William M. Brown</i> | |

X. Soil Survey, Erosion Surveys, Tracers

| | |
|---|-----------|
| <u>The Early Soil Survey: Engine for the Soil Conservation Movement</u> | 1029-1033 |
| <i>Douglas Helms</i> | |
| <u>Assessment of Soil Erosion at the Watershed Scale From ¹³⁷Cs Measurements</u> | 1034-1038 |
| <i>Claude Bernard and Marc R. Laverdière</i> | |
| <u>Comparing Erosion and Redeposition Rates and Patterns Upslope of a Grass Hedge Determined Using ¹³⁷Cesium and Field Survey Techniques</u> | 1039-1043 |
| <i>Jerry C. Ritchie</i> | |
| <u>New Nuclear Methods for Studies of Soil Dynamics Utilizing Cosmic Ray Produced Radionuclides</u> | 1044-1052 |
| <i>Devendra Lal</i> | |
| <u>Predicting Hillslope Scale Erosion on Disturbed Landscapes From Laboratory Scale Measurements</u> | 1053-1058 |
| <i>H.B. So, G.J. Sheridan, C.P. Horn, and N. Currey</i> | |
| <u>Use of Fly Ash as Time Marker in Soil Erosion and Sedimentation Studies</u> | 1059-1061 |
| <i>By K. R. Olson and R. L. Jones</i> | |
| <u>Regionalization Methods for Watershed Management - Hydrology and Soil Erosion from Point to Regional Scales</u> | 1062-1067 |
| <i>Chris S. Renschler, Tom Cochrane, Jon Harbor, Bernd Diekkrüger</i> | |
| <u>Map of Soil Vulnerability and Degradation in Estonia</u> | 1068-1074 |
| <i>Loit Reintam, Igna Rooma, and Ain Kull</i> | |
| <u>Identification of Severely Eroded Soils From Remote Sensing Data Tested in Rišňovce, Slovakia</u> | 1075-1081 |
| <i>Emil Fulajtar</i> | |
| <u>A GIS-based Methodology for Soil Degradation Evaluation</u> | 1082-1089 |
| <i>Rami Zurayk, Faraj el Awar Christine Sayegh, Shady Hamadeh and Abdel Ghani Chehab</i> | |

| | |
|---|-----------|
| Estimation of Soil Erosion Using Remote Sensing and GIS, its Valuation and Economic Implications on Agricultural Production | 1090-1093 |
| <i>Manzul Kumar Hazarika and Kiyoshi Honda</i> | |

XI. Water Conservation and Quality

| | |
|--|-----------|
| The Mississippi Delta MSEA Program | 1094-1110 |
| <i>S.M. Dabney, R. A. Rebich, and J.W. Pote</i> | |
| Linking Intensive Monitoring Sites to Conservation Planning | 1101-1105 |
| <i>J.L. Hatfield, P. Heilman, and M. Adkins</i> | |
| Cooperation Between USDA and Bulgaria in Agro-environmental Water Quality Programs | 1106-1111 |
| <i>Dimitar Stoichev, Marvin Shaffer, James Starr, Jerrell Lemunyon, Dimitranka Stoicheva, Milena Kercheva, and Venelina Kolev</i> | |
| Comparison of Root-Water-Uptake Models | 1112-1117 |
| <i>K.Y. Li, R. De Jong, and J.B. Boisvert</i> | |
| A Comparison of Manual and Computer-Assisted Drainage Delineation Methods for Hydrologic-Unit Map Development | 1118-1127 |
| <i>Gregory P. Stanton</i> | |
| Spatial Patterns in Water Use Efficiency Created by Intensive Cultivation on Semi-arid Hillslopes | 1128-1133 |
| <i>Bas van Wesemael, Mark Mulligan, and Jean Poesen</i> | |
| Rationally Utilizing Water Resources to Control Soil Salinity in Irrigation Districts | 1134-1138 |
| <i>Fang Sheng Chen Xiuling</i> | |
| Water Conservation, Harvesting and Management (WCHM) - Kenyan Experience | 1139-1143 |
| <i>Kithinji Mutunga</i> | |
| Water Balance Components in the Canadian Mixed Wood Ecozone | 1144-1151 |
| <i>R. De Jong and K.B. MacDonald</i> | |
| Participatory Evaluation of Water Harvesting Techniques for Establishing Improved Mango Varieties in Smallholder Farms of Mbeere District, Kenya | 1152-1157 |
| <i>Jayne Mugwe, Mick O'Neill, Samuel Gachanja, Jonathan Muriuki, and Jack Mwangi</i> | |

XII. Late Arriving Papers

| | |
|--|-----------|
| Erosion Control by Amending Soil with Synthetic Gypsum | 1158-1162 |
| <i>B.H. Wallace, L.D. Norton and R. Woodward</i> | |
| Multiscale Simulation of Land Use Impact on Soil Erosion and Deposition Patterns | 1163-1169 |
| <i>Helena Mitasova, Lubos Mitas, and William M. Brown</i> | |

Supplemental Documents

[Abstracts of Papers Presented at the 10th Meeting of the International Soil Conservation Organization](#)

[Guidebook for the Mid-week Field tour](#)