



ISTRO INFO

**A Publication of the
International Soil Tillage Research Organization**

July 2004

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ISTRO INFO – 2004 NUMBER 2

I received several email messages indicating that the April mailing of *ISTRO INFO* successfully reached many past and present ISTRO members. As I stated in that issue, my goal as your Assistant Secretary General is to help facilitate communication and the exchange of ideas among our members. Please feel free to circulate this to non-members who may be interested in ISTRO activities and be sure to invite them to see our website www.ISTRO.org and to join our organization.

This issue contains information sent to me by several members whom I thank for their input. Once again, I invite each of the Branch and Working Group Chairs to send me E-mail reports sharing what is happening in your group and raising concerns or questions that other people striving to develop better soil management systems (tilled and non-tilled) may be interested in. I will do my best to incorporate all of the information that I receive into future issues of *ISTRO INFO* so that we can have a truly “world-wide” discussion of the critical Soil and Tillage issues facing all of us.

Doug Karlen

Assistant Secretary General

THANK YOU JUDITH TAYLOR!

After serving several years at Elsevier as Publishing Editor for Soil and Tillage Research, Judith Taylor has taken on a new position within Elsevier. For those who did not know it, Judith has been our primary contact with Elsevier for many, many years and was an important, constant factor helping our organization maintain its relationship with the publishing company. During her long period as Publishing Editor for Soil and Tillage Research Judith has contributed considerably to guard the quality and continuity of “our” ISTRO journal. During the past few years, Soil & Tillage Research has become one of the most important journals on soil tillage and soil technology and their effects on soil properties and crop establishment. The increasing importance of Soil & Tillage Research was demonstrated by an increasing number of papers published and by an increasing citation index rating. Most recently, Judith helped ensure that changes were

smooth for the appointment of Rattan Lal as one of the Editors-in-Chief and that the transition to online submission of Soil & Tillage Research manuscripts went smoothly.

Many of us know Judith personally because she attended many ISTRO conferences to meet the Editorial Board of Soil & Tillage Research and to represent Elsevier at those conferences. There may still be chances to meet her at ISTRO or other conferences because in her new position she will work full time on books and intends to increase the Elsevier's booklist in plant and soil science.

On behalf of the entire ISTRO organization, thank you Judith and best wishes for success in you new position at Elsevier!

Jan van den Akker
Secretary-General ISTRO

NEW PUBLISHING EDITOR FOR SOIL & TILLAGE RESEARCH

Anne Ultee has been appointed Publishing Editor for Soil and Tillage Research at Elsevier. Anne studied Scandinavian Languages and Literature at the Universities of Groningen (Netherlands) and Bergen (Norway). After this study, she obtained her MBA degree at the University of Bradford (UK). Then, after a bit of traveling, she joined Kluwer Academic Publishers as Senior Publishing Editor Philosophy, Phenomenology and Applied Ethics.

We congratulate Anne with her new job and are looking forward to working with her to continue our good collaboration with Elsevier.

Jan van den Akker
Secretary-General ISTRO

UNIVERSITY OF MINNESOTA ESTABLISHES LECTURE SERIES

The Department of Soil, Water, & Climate at the University of Minnesota has started a lecture series to honor two of its distinguished Soil Scientists, Bill Larson and Ray Allmaras. It will be known as the "William E. Larson and Raymond R. Allmaras Lecture Series on Emerging Issues in Soil and Water." The lecture series was

established in 2003 to “educate our students, faculty, and the public on emerging issues related to soil and water” and was sponsored by the Minnesota Board of Water and Soil Resources and the USDA-North Central Sustainable Agriculture Research and Education (SARE) Program. The inaugural lecture was given by Dr. Rattan Lal of the Ohio State University on "Controlling Greenhouse Gases and Feeding the Globe through Soil Management". The 2004 lecture was given by Dr. R. Eugene Turner of Louisiana State University on "Linking Landscape and Water Quality in the Mississippi River Basin for 200 years". Departmental members are hoping to convert this lecture series into an endowed lecture in future. Therefore, additional sponsors and contributions that will facilitate the continuation of this lecture series are welcome. For more information, please contact Dr. Satish C. Gupta, Professor, Dept. of Soil, Water, and Climate, 1991 Upper Buford Circle, University of Minnesota, St. Paul, MN 55108 [Telephone: (612) 625-1241 Fax: (612) 625-2208 or E-mail: gupta002@umn.edu].

SOIL QUALITY NEWSLETTERS AVAILABLE

The North Carolina (USA) Soil Quality Team has developed and distributed a series of newsletters during the past few years. The team is made up of Federal, State and Local employees from Natural Resources Conservation Service, Division of Soil and Water, and Conservation Districts. The team leader is Mr. Bobby G. Brock, NRCS-USDA, NC State Agronomist. The Soil Quality Team strives to increase understanding of soil quality, keep abreast of the new research, and assist conservation partners with improved soil management techniques. The newsletters contain information showing how soil management practices such as no-tillage have affected soil quality on both Piedmont and Coastal Plain soils. Some of the recent issues have featured articles discussing how cover crops, seasonal grazing, nematodes, no-tillage tobacco (*Nicotiana tabacum* L.) production, incorporation of sod into extended crop rotations, and other tillage practices affect soil quality. Information from farmers is also incorporated into the newsletters. For copies of the newsletters please use the following website <http://www.nc.nrcs.usda.gov/technical/TechRef/soilqualitynewsletter.html>.

IRANIAN SCIENTISTS REQUEST FORMATION OF ISTRO BRANCH

Dr. M.A. Hajabbasi has submitted a request to form an Iranian ISTRO Branch and is working with his government officials to get the necessary non-government organization (NGO) application completed. The country has an area of 1.65 M km², a predominantly arid climate and a population of over 65 M. However, only 9% of the area is suitable for agriculture. The northern and western region of the country is mostly mountainous with hilly slopes and relatively high precipitation. The south, east and central region has an almost flat topography and much lower precipitation. As a result, these two regions have different factors affecting soil degradation processes and thus require specific site treatments against soil loss. Tillage is an important factor among the many soil management components that need to be considered. In the northern and western areas conservation tillage is needed to protect the soil against water erosion while in the south and central areas it can help conserve water and at the same time protect the soil from wind erosion.

There currently is a lack of information and an inadequate research base regarding the influence of conventional tillage practices on soil properties throughout the country. This results in intensive conventional tillage being the dominant practice and results in a continuous loss of soil organic matter, soil degradation and erosion. More research in both regions is needed to identify potential soil degradation factors and processes and to suggest scientific ways to reduce soil degradation. Proposed goals and impacts are to:

1. Specify and define potential factors and processes of tillage induced soil degradation.
2. Specify and suggest ways to reduce tillage induced soil loss.
3. Present our findings to international scientists and researchers
4. Exchange knowledge between national and international scientists
5. Arrange annual meeting to interchange the ideas about the researches in future

Proposed outputs that will enhance knowledge leading to more sustainable management of the land, water and air resources in Iran would include:

1. Developing knowledge about effectiveness of tillage and spatial and temporal effects of different soil tillage managements; and
2. Providing strategies for scientifically defensible and cost-effective soil quality monitoring.

For more information please contact Dr. Hajabbasi at hajabbas@cc.iut.ac.ir

ISTRO BRANCH – CZECH REPUBLIC TO HOST CONFERENCE

The Department of Soil Management within the Research Institute for Fodder Plants Ltd., in Troubsko along with the Research Institute for Crop Production in Praha and Mendel University of Agriculture and Forestry in Brno invites ISTRO members to the International Soil Conference that will take place on June 29 – July 1, 2005 in Brno, Czech Republic. The conference will provide opportunities for exchange of the latest results on soil management in natural and agricultural systems. The scientific programme will include 2 days for paper presentations addressing 5 topics and a 1-day professional field trip. The conference topics are:

1. New methods of soil tillage systems (mechanization of agriculture, energy inputs, economy)
2. Changes of soil fertility (physical, chemical and biological aspects)
3. Development of deleterious factors (plants conditions, pests)
4. Ecological aspects (risk elements in soils, remediation and revitalization of soils)
5. Information systems (informatics, biometrics, GIS)

The language for the conference will be English. The registration fee will be 250 € for ISTRO members and 280 € for non-members. Fees for participants include: participation in the scientific programme, conference proceedings, CD, welcome reception, programmed lunches, coffee breaks, professional field trip. Accommodations will be available in a 4-star hotel or student hostels. Hotel rates will be approximately 46 € per night (economy class - single) to 72 € (superior class – double). Student hostels will be available for approximately 20 € per night for single or double occupancy in

double bedroom. All participants are expected to pay their own expenses. For more information, please contact Barbora Badalíková, Research Institute for Fodder Crops, Ltd., Zahradní 1, 664 41 Troubsko, Czech Republic, badalikova@vupt.cz
Fax: +420 547 227 385

VISUAL SOIL EXAMINATION & EVALUATION WORKING GROUP

The visual soil examination & evaluation (VSEE) working group received an excellent boost during the 16th ISTRO Conference in Brisbane because of the number of people who attended presentations reporting on the Group's research efforts. It was also pleasing to find that regular and detailed soil evaluation was a key component in the innovative tillage methods demonstrated during the pre-Conference Tour.

Since Brisbane, the VSEE Working Group can report that:

1. Membership has expanded to 34 with member's names and locations available from the WG secretary.
2. A Progress Note was circulated in April to members and a Newsletter is planned for later in the year. The Working Group is developing a page for the ISTRO website.
3. A compendium of visual assessment methods for evaluating soil in the field has been compiled by Dr. Tom Batey and sent to members. This gives brief details of 11 techniques from seven countries.
4. Plans are being developed for a methods comparison workshop in France in May 2005. The intention is to limit attendance to about 10 to maximize the benefits of the workshop. There is also the possibility for a special issue of either *Soil Use and Management* or *Soil & Tillage Research* to publish the methods demonstrated. We hope to make recommendations on which methods prove to be most successful.
5. The development of visual assessment methods for evaluating soils is an exciting and valuable development in soil science that has the potential to greatly improve the management, productivity, and sustainability of soil resources. The work of this group can greatly

improve soil management related to all land management decisions, but has perhaps the greatest potential in areas of limited resources, where costs and availability of technical facilities prevent the use of many traditional soil testing procedures to make soil management decisions. Several members of VSEE working group have wide experience in running courses on the field evaluation of soils and are willing to offer their services to run courses at the request of other ISTRO members.

For more information about VSEE or to join in these efforts, please contact either the Chairman: Dr. David McKenzie – d.mckenzie@soilmgt.com.au or the Working Group Secretary: Dr. Brian Murphy – Brian.W.Murphy@dipnr.nsw.gov.au

TILLAGE EROSION WORKING GROUP (TEWG)

Tillage erosion, along with water and wind erosion have changed our natural landscapes to "anthropogenic landscapes" as a result of a lack of understanding of the processes involved. In many cases, tillage erosion has also been the primary culprit in exacerbating soil variability and causing severe soil degradation within our landscapes. The need to develop a better understanding of tillage erosion and the associated soil management practices required to maintain sustainable production systems around the world led to the formation of the TEWG at the 2000 ISTRO meeting in Fort Worth, TX. The two primary objectives for TEWG are to facilitate awareness and understanding of tillage translocation and tillage erosion processes and their agricultural, environmental, socio-economic impacts and to facilitate collaboration in international research and development initiatives.

Within a relatively short time, the TEWG has progressed from the identification of the problem to development of models that can be combined with current water erosion models to give a better understanding of the total erosion processes within fields or landscapes. Knowledge of soil translocation processes was shown to be instrumental in identifying the source of soil variability over landscapes and to be a major concern for long-term soil sustainability. However, it was pointed out that the TEWG has to do more in the area of spreading our knowledge base to scientific and policy groups that are not

familiar with the process of tillage erosion or its consequences. The question arose regarding how the TEWG could most effectively accomplish this task. Determining the best approaches to accomplish this task is proving to be difficult. Presenting research results at as many meetings as possible and continued publications of our research in respected journals seems to be the course of action. It is imperative that efforts be directed toward showing the importance of tillage erosion and related carbon loss on global warming and environmental quality issues. The economics of long-term impact of tillage erosion on sustainable food production systems also needs immediate attention because of the long time required to develop quality soils for crop production.

Recently, Dr. Tom Schumacher (Thomas.schumacher@sdstate.edu) and Dr. Goswin Heckrath (Goswin.Heckrath@agrsci.dk) agreed to serve as the new chairman and secretary, respectively, for this ISTRO Working Group. Future activities of the TWEG will depend on the interests and participation of group members. One project is the development of an updated website for the group. Suggestions and information for the website which is www.umanitoba.ca/outreach/tillage_erosion can be sent to Dr. David Lobb lobbda@Ms.UManitoba.CA.

SOIL QUALITY CONFERENCE IN IRAN

The Department of Soil Science at Isfahan University of Technology in Iran is planning an international conference entitled "Human Impacts on Soil Quality Attributes in the Arid and Semi-arid Regions" for September 12-16, 2005. The IUSS and ETH in Switzerland are helping to sponsor this event. For more information about the conference, please see the website www.itu.ac.ir/cesoil or contact Dr. Mohammad Ali Hajabbasi, Associate Professor of Soil Science, Isfahan University of Technology, Isfahan, Iran 84154. Phone: +98-311-3913477; FAX: +98-311-3913471; E-mail: hajabbas@cc.iut.ac.ir

ISTRO MEMBERS PUBLISH NEW BOOK

Two long standing ISTRO members (Mike Goss from the University of Guelph in Canada and Wilfried Ehlers from the Georg-August-University in Göttingen, Germany), who met first in 1976 at the 7th ISTRO Conference in Uppsala, Sweden have developed

a new text book dealing with soil-plant-water relations. Entitled *Water Dynamics in Plant Production* the book was published in England in November 2003. The authors state that they have tried to outline in a comprehensible way the basic principles of water transport in the soil-plant-atmosphere continuum and to describe the relations between water use and yield production within arable farming systems. Some of the applied topics are tillage techniques and tillage systems for maximizing water in the soil root zone and crop management strategies for optimum water use by plants. For more information see www.cabi-publishing.org/bookshop.

Respectfully submitted,
Michael Goss and Wilfried Ehlers

SOIL QUALITY AND TILLAGE INTERACTIONS

For those interested in the concept of soil quality, I would like to bring your attention the special Issue of Soil & Tillage Research (Vol. 78, No. 2) that will be published in August of 2004. The special issue entitled "Soil Quality as an Indicator of Sustainable Tillage Practices" includes contributions from Canada, Croatia, Hungary, Switzerland, Portugal, and the United States. Effects of tillage and cropping systems, tillage effects on earthworms and other soil quality indicators, tillage-induced soil erosion, and effects of tillage in field-scale watersheds are addressed. Comments and feedback regarding these articles are welcome for future issues of ISTRO INFO.

ADDRESS CORRECTION

In the April 2004 edition of ISTRO INFO, the wrong email address was given for Dr. Engin Cakir in the Branch Update from Turkey. The correct email addresses are: ecakir@ziraat.ege.edu.tr or ecakir@agr.ege.edu.tr. Please contact Dr. Cakir if you have any questions about the Branch workshop being planned for 2005.

FINAL COMMENTS

In closing, I want to again stress that the quality of *ISTRO INFO* will depend on the sharing of information among all of us. Please send any announcements of workshops or meetings, ISTRO Branch Activities, or Working Group findings that you would like distributed to me as soon as possible. I will do my best to distribute the information that I receive in a timely and efficient manner, thus enabling us to truly function as an “**INTERNATIONAL SOIL TILLAGE RESEARCH ORGANIZATION.**”