



ISTRO INFO

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

June 2008

Dr. Douglas L. Karlen
Assistant Secretary General, ISTRO
2110 University Blvd.
Ames, IA USA 50011

Table of Contents

ISTRO INFO – June 2008	1
18th Triennial Conference Information	2
Scholarships For Young Researchers.....	3
Have You Heard of SOWAP?	4
Beyond T: Guiding Sustainable Soil Management	5
Controlled Traffic Farming Working Group Conference Report.....	7
Twin-Row Planting For Increased Bioenergy Feedstock Production ...	8
Final Comments	9

ISTRO INFO – June 2008

I send my greetings to everyone from a very wet area within the U.S. Corn & Soybean Belt. The long, snowy Midwestern Winter has been followed by several weeks of very rainy weather and many corn and soybean fields are once again dotted with shallow ponds. I recently noted some major soil compaction in an urban construction site where it appears there is a real lack of understanding of what is being done to the soil as the construction materials are moved around the worksites. Unfortunately, other areas such as the southeastern U.S. are experiencing severe drought as is the case in Australia, Russia, and elsewhere where ISTRO members are located. Hopefully some of you will be able to share information for the newsletter regarding the situations you are facing in your countries.

With regard to research and development, bioenergy continues to be a high priority throughout the U.S. Fortunately, there is an increasing emphasis to be sure the systems are sustainable and do not have an unintended negative impact on our fragile soil resources. Within ISTRO, your Board has had a good email exchange regarding the need for everyone to do their part by agreeing to review manuscripts for our journal – Soil and Tillage Research – whenever you are asked to help out by our Editors. This is a very important way to be sure the excellent research being conducted by your peers is communicated and used throughout the world.

I hope that each of you is working on your abstract for the 18th ISTRO triennial conference which will be held June 15-19, 2009, in Izmir, Turkey. It is also time to begin preparing your nominations for the various scholarships that are available to help cover some of the conference expenses. Finally, please remember that if you would like to translate this newsletter into other languages for better communication, please feel free to do so.

Doug Karlen
Assistant Secretary General

18th Triennial Conference Information

Hopefully you have already received your copy of the first call for submissions to the 18th Triennial ISTRO Conference that will be held June 15-19, 2009, in Izmir, Turkey. The conference will last five days and include various technical sessions, Working Group meetings, tours, and displays. Two different tours will be offered. They are a Field Day & City Tour on June 17th and Historical Site: Ephesus – House of Virgin Mary on June 18th. Critical times to remember include:

Date	Critical Action
October 15, 2008	Deadline for abstract submission
December 1, 2008	Notification of authors
December 15, 2008	Deadline for early registration
January 31, 2009	Deadline for submission of full papers
March 15, 2009	Notification of Oral and Poster venues

Conference Themes under which oral and poster presentations are to be submitted are:

1. Conservation tillage, direct seeding, & no-till applications
2. Sustainable forest management
3. Rehabilitation of degraded areas
4. Soil compaction: Causes, effects, & control
5. Soil dynamics & traction
6. Soil Management as a tool to reduce erosion, nutrient leaching, and greenhouse gas emission
7. Production of bio-fuel
8. Soil biological quality & health

Abstracts of 250 words or less should be submitted by **October 15, 2009**, as a Microsoft Word file on the Congress website (www.istddro2009.ege.edu.tr) or in an email to istro2009@mail.ege.edu.tr. Please name the file attachment with your last and first name.

The Conference will be held at Surmeli Efes Hotel & Resort in Selcuk, Izmir. This site is located about 60 km from the Adnan Menderes International Airport and is very close to the city centre. For more information about the venue, please view their website at:

<http://www.surmelihotels.com/eng/SurmeliEfes/default.asp>. Registration and lodging as a package that also includes meals, banquet dinner, field day tour, and CD is:

Registration for:	Conference Only		Lodging & Conference	
	Early*	Late	Early*	Late
Members	€350	€450	€650	€750
Non-members	€400	€500	€700	€800
Students	€250	€350	€550	€650
Partners			€500	€600
Children (age 6-12)			€400	€500

*Early registration ends 12/15/2008. Also, hotel room prices are for one bed shared in double bed rooms. For single room, please add €25 per day to the room price.

Registration fees should be paid through the website (<http://www.istro2009.ege.edu.tr>) or directly to the following banking account: **AKBANK** (Euro Account) (Office of Ege University, **Office Code: 940**), Account Number: **940-07772**; IBAN Number: **TR40 0004 6009 4003 6000 0077 72**.

Scholarships For Young Researchers

The ISTRO Board unanimously agreed to once again help young researchers attend the 18th Triennial ISTRO conference by sponsoring four (4) scholarships. Note that young scientists are defined as those being under the age of 40 and having demonstrated superior research accomplishments. The Cees van Ouwerkerk scholarship is open to young scientists from all countries. The other three scholarships are open to researchers from all countries except those classified as being "high-income." See www.worldbank.org/data/countryclass/classgroups.htm#Low_income for a

list of the eligible “low-income” countries. Nominating your former students, young scientists within your laboratories or institutions, or other colleagues is a wonderful way to provide recognition of others within our organization and to also increase the overall membership in ISTRO.

The scholarships will cover the costs of airfare (lowest cost possible) and the package deal of the ISTRO2009 conference (www.istro2009.ege.edu.tr). This package deal for registration and lodging (shared double room), all meals, banquet dinner, field day tour and CD is valued at €650. Scholarship candidates must be current members of ISTRO themselves and be nominated by current members of ISTRO. Nominations including supporting material documenting their research activities (e.g., two recent journal or conference publications), a curriculum vitae listing education and all publications, presentations, and teaching activities, and the Abstract for a paper to be presented at the 2009 ISTRO Conference must be submitted to the Assistant Secretary-General (Doug Karlen, doug.karlen@ars.usda.gov) by **December 31, 2008**. The selection committee will consist of the three new Board Members (Totka Mitova-Trifonova, John Fielke, and Mekhlis Suleimenov). After the selection, all applicants will be informed by the Assistant Secretary-General, who will also notify the Conference Organizers to help make the final arrangements.

Have You Heard of SOWAP?

SOWAP (**SO**il and **WA**ter **P**rotection) represents a collaborative attempt by industry, NGOs, academic institutions, and farmers to address the environmental, economic, and social concerns arising from the practice of conventional agriculture. Working in the UK, Belgium, Hungary, and the Czech Republic over the next three years, SOWAP will test a range of site-specific soil management methods, based on the concept of conservation tillage. It will look at the economics of the operations as well as effects on soil erosion and pesticide and fertilizer run-off. Birds, earthworms, and aquatic invertebrates are just some of the biodiversity indicators the project will measure. The demonstration and dissemination of information is of key importance to the SOWAP project. Regularly updated SOWAP data will be freely available on their website <http://www.sowap.org/>.

For example, the April 2008 newsletter contained the following summary for an Aquatic Ecology project. Under the headline of “**Conservation tillage tends to lower nitrogen levels in UK streams but not in Hungary**” they reported that:

- UK streams in conservation tillage catchments tended to have lower background nitrogen levels than mouldboard plough catchments.
- The situation in Hungary was different, with streams draining mouldboard plough fields having better water quality rather than those in conservation tillage catchments.
- In both countries, levels of stream nitrate were below 50mg/l.
- Stream phosphate levels were ‘high’ in Hungary.

They also reported that “**Conservation tillage benefits biodiversity in UK streams but not in Hungary**” stating that:

- In the UK, the streams draining conservation tillage fields were significantly richer in invertebrate and plant species than mouldboard plough catchments.
- For diatoms, there were no significant differences between the two tillage types in the UK, although diatom indices based on diversity suggested a tendency for conservation tillage streams to be of better quality than streams in mouldboard plough catchments.
- In Hungary again, the situation was reversed with a tendency towards greater invertebrate diversity in streams draining mouldboard plough fields

For more information please see: <http://www.sowap.org/results/aquatic.htm>

Beyond T: Guiding Sustainable Soil Management

Scientists, conservation advisors, and producers recognize the need for a more comprehensive and integrated approach to soil management that (1) considers the multiple production and ecological functions soil provides, (2) evaluates multiple factors of soil degradation, (3) provides standards or thresholds for managing soil to sustain its multiple production and ecological functions, and (4) results in more comprehensive recommendations for soil management and conservation.

Recently, the Soil and Water Conservation Society (SWCS) undertook a project, funded by the Wallace Genetic Foundation, to help accelerate the development of more comprehensive soil assessment, management, and planning tools. Final documents from the project include (1) a report from an expert consultation that reviewed the strengths and weakness of the Soil Conditioning Index and the Soil Management Assessment Framework and made recommendations for action to develop tools to support a more comprehensive and integrated approach to soil management, and (2) a review and synthesis of the scientific literature regarding definitions of soil quality, soil functions, soil attributes and indicators, attempts to set threshold levels for indicators, and attempts to construct frameworks for more comprehensive soil management. Links to both documents can be found at: www.swcs.org

Eurosoil 2008

Soil – Society – Environment is the theme for the 2008 Eurosoil Congress that will be held at Technical University, Vienna, Austria on August 25-29, 2008. The Congress will feature approximately 30 symposia, 10 workshops, 24 technical excursions, and 2 social events. For detailed information about the scientific and organising committees, registration and abstract deadlines, registration fees and other details, please see the Congress website at: <http://www.ecsss.net>.

Registration Category	February 1 through 31 May 2008	After 31 May 2008 and onsite
Regular participants	EUR 300.-	EUR 350.-
Student	EUR 150.-	EUR 200.-
Accompanying Guests	EUR 55.-	EUR 55.-

Controlled Traffic Farming Working Group Conference Report

An ISTRO Controlled Traffic Farming (CTF) workshop was organized in partnership with the Slovak University of Agriculture, Agrio and CTF Europe. The event was held on April 23-24, 2008, at the Slovak University of Agriculture, Nitra, Slovakia. The workshop was preceded by a one day conference for Slovakian farmers that included an introduction to CTF.



Our field trips concentrated on soil inspection, but due to excessive soil strength this shovel became modified during the task!

ISTRO aims for the workshop were to draw together researchers interested in collaborative CTF research and to create a European network. Additionally the aim was to provide transparency across all research efforts and to formulate ideas that could provide the basis for an EU funded project under FP7.

Short, research-orientated presentations were made by participants from Slovakia, Switzerland, Czech Republic, Finland, Greece, Germany, Romania, Denmark, and the UK. These were followed by a brainstorming session with a guideline questionnaire whose principal outcomes were:

- Common research and measurement methodologies should be targeted.
- Gaps in research should be identified.
- There should be transparency in planning and ongoing CTF research.
- Implementation plans and results from practicing farms should be made available.
- There should be collaboration with publications and good dissemination of knowledge in different languages.

Actions were planned to address these issues, most of which would be undertaken by the ISTRO CTF working group and CTF Europe. In particular, a spreadsheet would be developed that would allow proposed, agreed, and ongoing CTF-orientated research to be identified.

The remainder of the workshop was taken up with farm visits and informal discussions between participants. The farm visits were designed to introduce us to a range of farming systems and as an opportunity to inspect local soil conditions. Included were the University farm at Oponice, a commercial farm at Jelšovce and a further large farm at Selice. The soils we saw were highly productive and crops were consistent, but there was widespread evidence that soil conditions could be improved by adopting CTF. A spreadsheet and a full report will be circulated to all working group members. For more information, please contact Tim Chamen, Chairman CTF Working Group.

Twin-Row Planting For Increased Bioenergy Feedstock Production

As part of an on-going partnership between USDA-ARS, Iowa State University (ISU), John Deere, and the Idaho National Laboratory, one of my “old” research interests was incorporated into our new bioenergy feedstock production study. To increase plant population and hopefully grain and harvestable stover yield, we implemented a twin-row planting concept that I successfully used to increase corn yields in the southeastern

U.S. several years ago. This time, however, we did not have a twin-row planter so we used an AutoTrac guidance system to control the tractor's steering system based on Global Positioning System (GPS) coordinates and in-cab controls. Below are pictures of the planting system and our biomass production study on the ISU research farm near Ames, IA. The desired planting configuration was achieved by offsetting a standard planter by 9 cm and using the AutoTrac system to double back and precisely plant the twin-row pattern.



Final Comments

As always, I want to encourage each of you to continue sending information that can be shared with your fellow ISTRO members and to share your copy of this newsletter with others who may be interested in ISTRO activities. The Working Group reports and last article about my personal biomass research are included to show that this newsletter is open to any and all types of input and ideas. Please continue to let me know if there are specific types of items that you would like to see in future newsletters. Information from ISTRO Branches, Working Groups, and individual scientists is always welcome and appreciated, because a Newsletter is only as good as the News it contains.

Cheers,

Doug Karlen

Assistant Secretary General