



ISTRO INFO

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

September 2010

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Table of Contents

ISTRO INFO – September 2010	3
Nigerian Branch Conference Tillage for Agricultural Productivity and Environmental Sustainability 21-23 February 2011	4
Announcement of Working Group F meeting – Applications of Visual Soil Evaluation 16-18 May 2011	5
Report on the ISTRO Uruguay and SUCS conference.....	8
ISTRO Board mid-term meeting.....	10
Official invitation for next ISTRO congress.....	11
Report on the CTF working group meeting in Switzerland	12
Report on the Croatia Branch Conference 9-11 September 2010.....	14
Snippets.....	18
New Publication from Catena	19
Other conferences and events.....	20
Final Comments	20

ISTRO INFO – September 2010

I have the luxury for this issue of ISTROINFO of simply assembling all the conference announcements, conference reports, news, and other information that people have sent to me. There is little I need to do aside from putting the pieces together. I thank all the ISTRO members who have sent me text and photos of the events and happenings, not only because they have made my task easy, but also because they are helping all ISTRO members learn about the range of activities that are taking place. Thanks also to all those that have and are participating, promoting and organizing activities – it is your hard work that is making it a pleasure for me to simply find out what is going on and report it.

There will be more on the outcomes of the mid-term board meeting later in this issue, but one thing that is clearly happening is that our website is undergoing a major makeover and update (see www.istro.org). Erik van den Elsen is to be commended for his efforts. Like ISTROINFO, our website can only reflect and report the information that is provided. If you have information, notices or other things for the website please let me know and I can forward it to Erik.

With an issue packed with news I shall keep this introduction very brief and let you, the ISTRO members, get on with reading.

Blair M. McKenzie

Assistant Secretary General

Nigerian Branch Conference Tillage for Agricultural Productivity and Environmental Sustainability 21-23 February 2011

Members, and others interested, are invited to attend the ISTRO Nigerian symposium at the University Auditorium, University of Ilorin, Ilorin, Kwara State, Nigeria. Details, including a poster for display on notice boards are at: (
http://iworx5.webxtra.net/~istroorg/download/Istro_Nigeria_Symposium_2011_Poster.pdf)

The organizing committee are calling for papers under the sub-theme headings of :
 Effects of Climate Change on Crop Production,
 Soil Management for Sustainable Crop Production,
 Soil Compaction and Agricultural Production,
 Bio-Energy and Environmental Sustainability,
 Conservation Tillage, and
 Soil Dynamics for Soil Conservation.

Original papers on research under the conference title or sub-headings are invited. An abstract of not more than 200 words should be sent by post to Prof A.O. Ogunlela (full contact details can be found at the URL above on the ISTRO website). Submission of abstracts is by 15 October 2010. The abstract and full length paper can be sent as an attachment by e-mail to the Technical Secretary (ISTRO-Nigeria), Dr J.O. Olaoye (olaoyejo@yahoo.com) with submission of a full paper by 3 December 2010.

Lead papers include:

Tillage in Nigerian Agriculture by Prof K.C. Oni, University of Ilorin

Tillage, Crop Production and Environmental Conservation by Prof S.O. Ojeniyi, Federal University of Technology

Soil Dynamics in Tillage by Prof A.P. Onwualu, Director General Raw Materials R&D Council

Soil and Tillage Equipment by Prof C.I. Ijoma, Federal University of Technology and

Conservation Tillage for Sustainable Agricultural Productivity by Prof P.O. Aina, Obafemi Awolowo University.

Objectives: Exchanging ideas and information on soil and tillage studies that contribute to agricultural productivity and environmental sustainability, appropriate soil tillage practices for Nigerian and other soils, use of environmentally friendly chemicals and equipment and hydrological and soil processes as related to tillage.

Registration: Pre-registration fee N 8,500.00 on or before 3 December 2010; registration after that date N10,000.00.

Travel: The closest point of entry (by air) to Nigeria is Murtala Mohammed International Airport (MMIA), Lagos, Nigeria. Connections to Ilorin are from the domestic terminal with daily flights by Overland Airways and Arik Air. To facilitate travel to Nigeria intending participants are advised to contact their travel agents.

Accommodation: Several hotels in Ilorin are offering accommodation for participants and contact details can be found on the web address above.

Announcement of Working Group F meeting – Applications of Visual Soil Evaluation 16-18 May 2011

Monday and Tuesday 16th and 17th May 2011, Research Centre Flakkebjerg, Denmark

With a follow-up day Knowledge Transfer day for advisors, farmers and policy makers on 18th May 2011

There has been strong interest for a proposed Visual Soil Examination and Evaluation (VSEE) meeting in Denmark. For the first two days, 16th and 17th May, VSEE members, ISTRO members and colleagues and are invited. A more general invitation to relevant advisors, consultants etc. will be made for the Knowledge Transfer meeting on Wednesday 18th May. Please note that on Wednesday only those involved in the methods chosen for demonstration need attend.

Background:

At the previous meeting in Peronne in May 2005, ten visual and tactile methods of assessing soil structure were compared. The methods were assessed on 3 contrasting

tillage treatments on a silt loam and suggestions given for amalgamation of parts of, or entire, methods. The report of the meeting is at:

http://iworx5.webextra.net/~istroorg/download/WG%20Visual%20Soil%20Structure%20Assessment_Field%20meeting.pdf . One of the recommendations was to combine 3

topsoil assessments into 1 spade test and this has borne fruit in the shape of the Visual Evaluation of Soil Structure guide (VESS) and web page

<http://www.sac.ac.uk/knowledge/soils/vess> . The meeting recommended that further

links are established between methods. Having established the VESS, we felt that a method of evaluating subsoil structure would be useful to help ISTRO members,

farmers and others decide on subsoiling and this was discussed at an intermediate

meeting at Edinburgh in January 2009. A subsoil quality assessment was drafted. A

common theme for both topsoil and subsoil was to use a harmonized scale or similar to identify conditions where loosening was required. Another point raised at the Peronne

meeting was the need to relate sampling location to vegetation and crop conditions and the results of visual evaluation to crop performance. This has been done successfully

with the New Zealand VSA test which has now been extended to the assessment of environmental conditions such as potential greenhouse gas emissions and potential

carbon sequestration. The other recommendation from the Peronne meeting was that

we work on sandy soils and from the Edinburgh meeting that we consider controlled

traffic. The meeting will be held at Aarhus University, Research Centre Flakkebjerg,

which is located 1h drive from Copenhagen.

http://agrsci.au.dk/en/om_djf/centre/forskningscenter_flakkebjerg/

The soil is sandy loam developed on till moraine with a low concentration of organic matter and will have treatments of contrasting tillage and controlled traffic levels where methods can be evaluated.

Objectives: (that are clearly within the working group guidelines) :

To discuss subsoil methods,

To exchange experiences in using different visual methods,

To begin to harmonize their scales and to relate visual methods to environmental losses.

Draft programme:

Monday 16th May Volunteered presentations on method descriptions and the relationship of visual soil structure to crop and environmental conditions and other soil qualities

Tuesday 17th May Field demonstrations of methods, with the main emphasis on subsoil characterization and a summary at the end of the day

Wednesday 18th May Knowledge Transfer day. Field demonstrations of the Visual Evaluation of Soil Structure method (VESS) and the Graham Shepherd Visual Soil Analysis (VSA) method plus one subsoil method (tba) to advisors, farmers and policy makers.

Offers of presentations in the form of one page abstracts should be sent to the organisers by December 31st. If you intend to demonstrate a method on Tuesday, please send details of the method, including any web description, and how you intend to demonstrate it by December 31st. We aim to publish presentations and descriptions of demonstrated techniques in a special issue of Soil & Tillage Research.

Accommodation should be available at a reasonable price at Hotel Antvorskov (www.hotelantvorskov.dk). The hotel is located 10 km from Flakkebjerg Research Centre. Single rooms cost 575 DKK (75 Euro) and double rooms 725 DKK (95 Euro). Booking can be done via the website.

Please let us know (bruce.ball@sac.ac.uk or lars.munkholm@agrsci.dk or 2033@tombatey.f2s.com) if you intend to come asap, and preferably before 31st December. The registration fee for the meeting will be around 150 - 200 Euro.

Report on the ISTRO Uruguay and SUCS conference

Last 12-14th July 2010, the Uruguayan Society of Soil Science (SUCS) and the Uruguayan ISTRO Branch organized a Workshop in ***“Soil properties dynamics under different land uses”***.

The meeting was held in the city of Colonia del Sacramento, Uruguay, and was co-organized by the College of Agronomy of the University of the Republic and by the National Institute of Agriculture Research (INIA).

The 3 day meeting was attended by 230 people including, researchers from several countries, graduate students, crop consultants and agriculture technicians that discussed and exchanged information and ideas regarding the impact of different soil use and management, particularly on the dynamics of its functional properties, productivity and sustainability.

The most recent results of research projects on agriculture, livestock, forestry, horticulture and intensive livestock production were presented as well as primary results on the effect on soil of production systems for biomass for biofuel.

Themes included: 1) fertilization strategies of cereal and oil crops, 2) Site specific agriculture, 3) Biofuel production impacts on soil quality, 4) soil organic matter and global warming potential gases emissions, 5) forestry management impacts on soil quality, 6) soil quality indicators in cropping systems, 7) soil erosion and conservation, 8) Intensive livestock and horticulture systems on soil properties.

The workshop was carried out in the mode of Plenary Conferences and Round Tables, counting with the participation of national and international expert's. It included 10 plenary conferences with key note speakers from universities and research centers around the world (USA, UK, Spain, Brazil, Argentina, Uruguay), 23 oral presentations of full papers and 40 poster presentations from scientists and graduate students. Five ISTRO board members attended the meeting with three delivering oral presentations.

Editor's notes: Even though this meeting was held in the southern hemisphere in winter it was a great time to be in Uruguay. With the football world cup just concluding and the Uruguayan team performing so well the organizers did an excellent job of focusing on making sure things ran smoothly. I thank them for their efforts, they are to be applauded. To have 230 people attending this smoothly run meeting is an excellent

sign that the ISTRO conference in Montevideo in 2012 will have every chance of success!



Coffee break – a chance to discuss and review posters



Members of the organizing committee and some of the speakers.

ISTRO Board mid-term meeting

The Board of ISTRO held its mid-term meeting in Montevideo immediately following the workshop organized by the Uruguayan Branch. There was a full agenda with a range of items to review, discuss and decide. As well as the usual meeting business of reports and updates from the President, Secretary-General and Treasurer (all of which were in order) several matters of general interest were discussed. I will not report here all the minutes of the meeting, but there are several things that may be of interest to members. As I mentioned at the start of this issue the website is being updated. The last ISTRO conference in Izmir was reviewed and the Turkish branch was congratulated for their performance. The branch was only formed in 2000 – so in less than 10 years from creation it was a great triumph to have held a major international meeting.

Several ISTRO branches have been operating on an informal basis until they can be registered by an official institution in their country (as required by the ISTRO constitution – see the website). In some cases this registration can take time. Two more branches have now achieved official recognition within their countries and the ISTRO board has been able to now recognize them as official branches. Congratulations to the Uruguayan and Iranian Branches on achieving this status. The Secretary-General has confirmed this with the presidents of each branch.

ISTRO president Oswaldo Ernest received unanimous support from the board for the 19th Triennial Conference of ISTRO to be held in Montevideo from 23-28 September 2012 with the Radisson Hotel as the venue. More information will follow – but get the dates in diaries now. If you have, or know of students that will be wanting to attend information of scholarships will be circulated well in advance of the conference.

The 20th Triennial conference in 2015 Triennial Conference will be in Nanjing, China.



Members of the ISTRO board at the mid-term meeting.

Official invitation for next ISTRO congress

To make the above descriptions absolutely clear: Oswaldo Ernst the President of ISTRO and all the organizing team invite members and other interested parties to attend and actively participate in the 19th ISTRO conference at the Radisson Hotel, Montevideo, Uruguay, from 23-28 September 2012. Further information, including details of conference tours will be released shortly.

Report on the CTF working group meeting in Switzerland

Working group “Controlled traffic farming”: Workshop 17/18 August 2010

Controlled traffic farming and minimum tillage in the framework of small scale farming

Twenty-five people were curious to see why a small Grassland country like Switzerland is dealing with questions like no-till and controlled traffic farming (CTF). Switzerland is certainly known for its chocolate or cheese but not for crops. Apart of 1 Million hectares of grassland, 300'000 hectares are covered by crops. The annual amount of rainfall of 800 - > 1200 mm shows that under such moist situations soil erosion and compaction are a challenging issue. In the 1970-ies the first no-till trials were started. Actually about 15'000 hectares are under no-till, 4'000 hectares are strip tilled maize and about 60 % of the surface is still ploughed. Yield decreases are one main reason why minimum and no-tillage have still a big potential to be exploited in Switzerland. Soil compaction which leads to unsatisfactory plant emergence and yield decreases was the reason to start first trials with CTF. For the last two years a trial has been located in Tänikon and this was visited by the participants of the workshop. The actual results are not spectacular, but the soil structure of untrafficked areas seems to improve slowly. Technically the trial is based on a system with 4.5 m working width leading to 63 % of untrafficked soil, 27 % medium traffic soil (seeder, combine) and 10 % intensively trafficked soil (seeder, fertilizer, sprayer, combine).

Apart from Switzerland several other CTF-trials have been started in Great Britain, Denmark, Germany, Slovakia, Czech Republic, Sweden and Holland. Details of some of these were reported in short presentations. CTF has reached Europe – now slowly and hopefully steadily expanding! Another meeting of the CTF working group is likely to be held in southern Germany in 2011.

Thomas Anken, Agroscope ART, Tänikon, CH-Ettenhausen,
thomas.anken@art.admin.ch



Peter Weisskopf explained the spade test of trafficked and untrafficked locations of the CTF trial in Tänikon.



Dölf Steinmann, a no-till contractor presented his fields which haven't seen a tillage tool in more than 10 years.



The Rheinfall near Schaffhausen – relaxing after intense presentations and discussions.

Report on the Croatia Branch Conference 9-11 September 2010

Summary/Conclusions

from 1st International Scientific Conference: „Soil Tillage – Open Approach“, CROSTRO-Croatian Soil Tillage Research Organization, 09-11 September 2010, Osijek, Croatia. 1st International Scientific Conference „Soil Tillage – Open Approach“, was held under CROSTRO organization (Croatian Soil Tillage Research Organization) which is branch of ISTRO (International Soil Tillage Research), from 09-11 September, 2010, Osijek, Croatia. President of organizing committee: prof. dr. sc. Bojan Stipešević (Croatia) President of scientific committee: prof. dr. sc. Danijel Jug (Croatia)

The conference was attended by about 50 scientists and advisors from 7 countries, with papers divided into 4 main topics or sessions:

1. Soil tillage functions for environmental protection
2. Conservation tillage – direct seeding – no-tillage
3. Soil biotic and abiotic degradation – causes and consequences

4. Soil tillage – new approach – technologies – perspectives

After the scientific part of conference a field trip was organized to two experimental stations at National Lipizzaner farm and St. Peter's Cathedral in Đakovo (where a guided tour was conducted). This was followed by a visit to a local wine cellar.

Conclusions and actions from the Conference

At present, we increasingly feel the impact of the energy crisis, and climate, social and economic changes at global, regional and local levels. Due to these changes, agricultural production is becoming increasingly complex and difficult. Science should be imposed as a leader in finding the best possible solutions and capabilities in the production of sufficient quantities of food, while respecting and abiding by the conditions of ecological sustainability and acceptability. In this complex chain soil tillage plays a very important role.



Delegates focused on an oral presentation

Traditional approaches with conventional tillage, with all the advantages for growing crops, have negative sides, especially in the domains of physical, chemical and

biological complexities of soil fertility, causing increased degradation and pollution of both the soil and wider environment. Regarding this, the most important changes that occur using conventional crop production, primarily tillage may be the following: anthropogenic soil compaction, loss of humus and stable soil structure, undesirable changes in soil reaction, cation exchange capacity and soil microbial activity, external and internal erosion, etc. Furthermore, conventional tillage is expensive requiring a lot of time from human and machine involvement, more rigorous organization of work in the optimum period, etc. It is clear therefore that today's agriculture needs to be increasingly understood from an ecological perspective, taking into account the risks of environmental pollution and economic costs, to find long-term solutions that can prevent soil degradation, and thus preserve the environment.

Different concepts of reduced / conservation tillage have developed to cope with the different challenges of settlement, erosion by wind and water, the need for soil and water conservation in dry areas, prevention of groundwater pollution, and the need to decrease the consumption of energy, primarily oil and oil products. Leading from this, it follows that the more developed countries have been generally more accepting of reduced tillage technologies. Reduced tillage approaches have seen major advances in resolving the threats to the environment and in decreasing energy consumption while maintaining economically viable food production.

The conference noted that in most European countries the uptake of reduced tillage systems has not been as fast as could be hoped for based on the inherent advantages and the climate and soil conditions. Suggested possible reasons or culprits for this slower uptake include lack of economic incentives in individual countries and a failure to recognize the implications of new scientific knowledge and new technical achievements. The burden of tradition in Europe, especially eastern Europe, has led to a reluctance to change, but there was a clear view that some of the greatest potential for expansion of this reduced tillage systems is in eastern Europe.

In order to apply new technologies for soil tillage (and beyond) and for these to be accepted, much greater openness and connection between farmers and scientific institutions are required.

Accordingly the following was postulated “Science oriented to practice and practice oriented to science” and with this in mind the main conclusions and topics for further action from the conference were:

- Closer approach of scientists and farmers to the soil;
- Climate oriented crop production;
- Consider to climate changes;
- Environmental and water aspects of crop production;
- Selecting the best options for soil tillage;
- Approaching changes to soil tillage as step-by-step;
- Soil tillage – Open approach



Delegates on the field excursion



Marta Birkas and Danijel Jug in serious discussion

Snippets

Former ISTRO president Jeff Tullberg and others have been in contact with some updates about Australian ISTRO members. Nilantha Hulugalle, a long time ISTRO member and regular participant in ISTRO post conference tours, has been announced as the Australian Cotton Seed Distributors Researcher of the year for his work over nearly 20 years. In particular, Nilantha has been involved in the development of management practices for stubble-mulched, raised-bed, furrow-irrigated cotton production that includes minimum tillage for pupae busting. Well done to Nilantha!

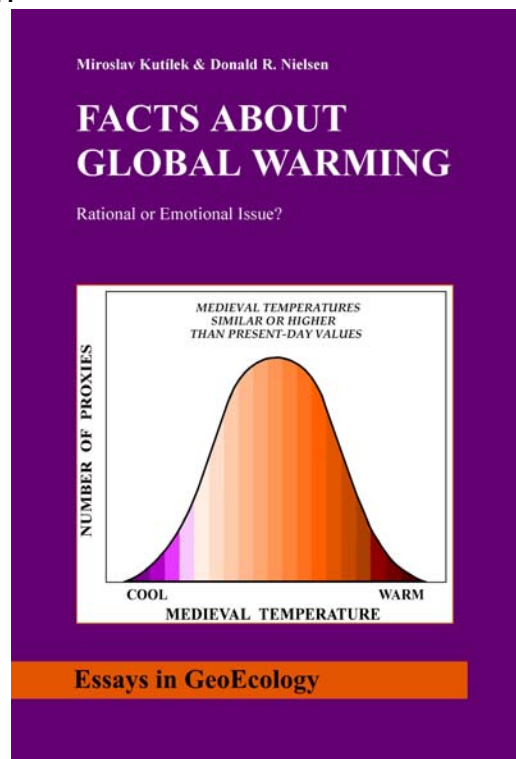
Yin Chan, another long-term ISTRO member from New South Wales joined the local Department of Agriculture in 1979. While the department has had several name changes since then Yin continued his research on seedbeds, soil carbon, hardsetting soils and cultivation techniques. Yin retired earlier this month – we wish him well.

Note: that by letting us know of his change in circumstance we have updated email and other contact details for Yin and the treasurer can ensure that his membership fees are charged at the retired members rate.

Jeff also asked that ISTRO member's attention is drawn to the upcoming World Congress of Conservation Agriculture in Brisbane in September 2011. For more information see <http://www.wcca2011.org/index.htm> . The call for papers is now on.

New Publication from Catena

While I have not yet read or seen a copy this new book it seems likely that it will be a good conversation starter.



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Other conferences and events

ASA-CSSA-SSSA International Annual Meeting is in Long Beach California, U.S.A. 31 October – 4 November 2010.

16th Congress of the International Soil Conservation Organization (ISCO 16) Santiago, Chile 8 – 12 November 2010 (<http://www.iscochile2010.cl/>)

46th Croatian and 6th International Symposium on Agriculture at the Grand Hotel Adriatic, Opatija, 14-18 February 2011 (<http://sa.agr.hr>)

6th International Congress of the European Society for Soil Conservation in Thessaloniki, Greece titled “Innovative strategies and policies for soil conservation”, 9-14 May 2011. Website to be launched soon.

Land quality and Land Use Information in the EU, 26-27 May 2011 Keszthely, Hungary (<http://landq2011.uni-pannon.hu/>)

World Congress of Conservation Agriculture in Brisbane in September 2011. For more information see <http://www.wcca2011.org/index.htm> .

Final Comments

At the Triennial conference in 2012 some members of the ISTRO board will step down having served their terms of office. Prior to that there will be a call for nominations and a ballot of members for board positions. While everyone I know seems to say that they are increasingly busy, I also know that I am very much enjoying and certainly find rewarding my ISTRO activities. So while there is time to reflect before the call for nominations I urge members to consider whether they would be willing to nominate to serve on the ISTRO board.

Blair M. McKenzie

Assistant Secretary General