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EXPO
MILANO 2015

ACTION
NETWORK

THE ROLE OF ORGANIC AGRICULTURE IN FIGHTING CLIMATE CHANGE

AUGUST 24TH, 2015, 2:30 PM

EXPO Milan 2015, Biodiversity Park, Theater of the Earth

Thanks to the exclusion of synthetic chemicals and optimal use of farming practices, organic agriculture boasts an excellent potential in climate change mitigation, since it can reduce GHG emissions and help sequester carbon in soil.

Globally, the combined advantages of organic practices – including non-use of synthetic fertilizers, reduced nitrous oxide emissions on farms, and soil carbon sequestration – have a GHG reduction potential of 5.1 to 6.1 GT CO₂ equivalents. This means that a global conversion to organic management would transform agriculture from being a main cause of climate change to being a carbon-neutral activity that is more resilient against weather vagaries. Additionally, energy use by organic

farms is reduced by one-third compared to conventional enterprises due to a higher efficiency in biological nitrogen fixation. Decreased energy use is paramount with peak oil and corresponding energy price fluctuations that impact the economy at all levels.

The conference, organized by the Action Network “Organic can feed the planet”, aims at reviewing the ongoing international debate on this topic, and in particular on the role organic agriculture could have in mitigating and adapting to climate change, by comparing important, reliable international and national experiences.



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La collocazione dell'agricoltura biologica all'interno del **Parco tematico di EXPO sulla Biodiversità**, l'unico dedicato all'agricoltura, ci chiede di rendere evidente che il biologico non è solo una categoria merceologica di prodotto, ma un sistema agricolo e alimentare innovativo che si candida, anche attraverso la biodiversità, a nutrire e nel contempo salvaguardare il Pianeta.

Per questo e per consentire a tutta la comunità del biologico e biodinamico, a livello internazionale e nazionale, di contribuire a questa sfida, le associazioni firmatarie, con il sostegno di Bologna Fiere (che ha realizzato e gestisce il Parco tematico della Biodiversità e il Padiglione del Biologico di EXPO Milano 2015), hanno dato vita al forum internazionale 'Il biologico nutrirà il Pianeta', costituito dalle organizzazioni che rappresentano questa comunità e aperto anche alle organizzazioni vicine, nonché alle imprese, alle donne e agli uomini che lavorano in questo settore, su tutti i livelli e in ogni ambito, o che semplicemente credono nel ruolo fondamentale dell'agricoltura e dell'alimentazione biologica nel dibattito sul futuro della sicurezza alimentare del Pianeta. Il forum ha il patrocinio di IFOAM, IFOAM EU, IFOAM AgriBioMediterraneo e di ISO FAR e il supporto di Navdanya International, la cui Presidente Vandana Shiva ha partecipato all'evento di avvio del forum il 16 maggio in EXPO. Il forum intende collaborare con il ministero delle Politiche agricole, alimentari e forestali del Governo italiano per organizzare un grande evento dedicato al biologico all'interno di EXPO.



I TEMI

Su scala globale il tema del forum è la risposta alla sfida che è al centro dell'esposizione universale, ovvero la capacità del modello di agricoltura e alimentazione biologica di contribuire in futuro a nutrire il Pianeta, provvedendo al fabbisogno nutrizionale ed economico dei suoi abitanti, preservando le risorse naturali e mitigando gli effetti dell'attività umana sul clima.

La nostra visione è quella di un sistema alimentare e agricolo equo, eco-consapevole, sano, che sappia rispondere alla sfida di nutrire il Pianeta custodendolo. Il biologico è l'innovazione agricola e alimentare più importante della fine del XX secolo, basata sulla riscoperta di un approccio ecosistemico, socialmente inclusivo ed economicamente resiliente per la produzione di alimenti e materie prime rinnovabili.

Il forum rappresenta anche un'occasione per rendere partecipi i cittadini del nostro obiettivo di essere il modello per un futuro basato su sistemi di produzione sostenibili, equi e resilienti. Il forum sostiene, infatti, la ricerca e l'innovazione rivolte al miglioramento di varietà di sementi e razze adattate alle tecniche di agricoltura biologica e alle condizioni locali in un mondo in cui tutti gli esseri umani e gli animali devono essere trattati con cura e dignità. Queste ricerca e innovazione mettono al primo posto il benessere del nostro pianeta e la qualità della vita, in un sistema in cui gli agricoltori e lavoratori agricoli ricevono un giusto riconoscimento economico per il loro lavoro.

The RTOACC is a multi-stakeholder initiative. It was founded on December 16, 2009 in Copenhagen, at the United Nations Climate Change Conference. RTOACC brings together stakeholders and partners along the organic food production chain. The activities are funded by the Food and Agriculture Organization FAO.

The principal objectives of RTOACC are to:

Initiate, support and facilitate research on organic agriculture and climate change.

Advise the international community on organic agriculture and climate change issues. Develop a measurement method to enable reliable quantification and certification of carbon sequestration in organic agriculture.

Members:

Intergovernmental organisations

[Food and Agriculture Organisation of the United Nations FAO](#)

Institutions

[FiBL - Research Institute of Organic Agriculture, Switzerland](#)

[International Centre for Research in Organic Food Systems ICROFS, DK](#)

[Louis Bolk Institute, The Netherlands](#)

[Organic Research Centre Elm Farm, UK](#)

[Rodale Institute, U.S.](#)

Advocacy Organisations, Networks and Standard Setters and Certification Bodies of the Organic Movement

[Agricultural&Processed Food Products Export Development Authority APEDA, India](#)

[bio.inspecta, Switzerland](#)

[CAAE Association, Spain](#)

[CEDECO, Costa Rica](#)

[Institute for Ethical and Environmental Certification ICEA, Italy](#)

[International Federation of Organic Agriculture Movements IFOAM, Germany](#)

[KRAV, Sweden](#)

[Organic Federation of Australia OFA, Australia](#)

[Soil Association, UK](#)

[Spanish Society of Organic farming \(SEAE\), Spain](#)

Meetings 2010

2nd RTOACC Meeting: Life Cycle Assessment (LCA) - methods, models and databases with focus on GHG emission and sequestration potential of organic farming systems and organic food, Expert Workshop & RTOACC Meeting, 21-22 Sept 2010, in Bari/I combined with the LCA Food Congress

Aims of the Meeting

- to exchange in-depth scientific knowledge on improved Life Cycle Assessment (LCA) methods, models and databases focusing on GHG emissions and sequestration potential of organic farming systems and organic food to be used by organic sector organisations and operators for the development of certification of energy and carbon labels and for improvement of the organic sector's climate impact.

Outcome of the Workshop

- Agreement on common research agenda for development of LCA methodology and inventories consistent to organic farming systems.
- Substantial inputs to a comprehensive report on LCA method development and databases and LCA research agenda to close the current gaps.

Meetings 2010

3rd Meeting of the Round Table on Organic Agriculture and Climate Change (RTOACC),
22nd November 2010, FAO, Rome/I together with Climate Camp by IFOAM

Aims of the Workshop

- Finalizing activities of 2010 and compilation of end reports on 1) In-depth scientific exchange on the available data on GHG emissions and the carbon sequestration potential of organic crop and livestock systems incl. gaps in the available data and ideas on how these could be filled, 2) The climate change mitigation potential of organic farming systems and the development of a methodology for the carbon market and 3) Life Cycle Assessment (LCA) - methods, models and databases with focus on GHG emission and sequestration potential of organic farming systems and organic food.
- Developing mid- and longterm concepts for the RTOACC/organizational aspects
- Defining activities for 2011



Round Table on Organic Agriculture and Climate Change

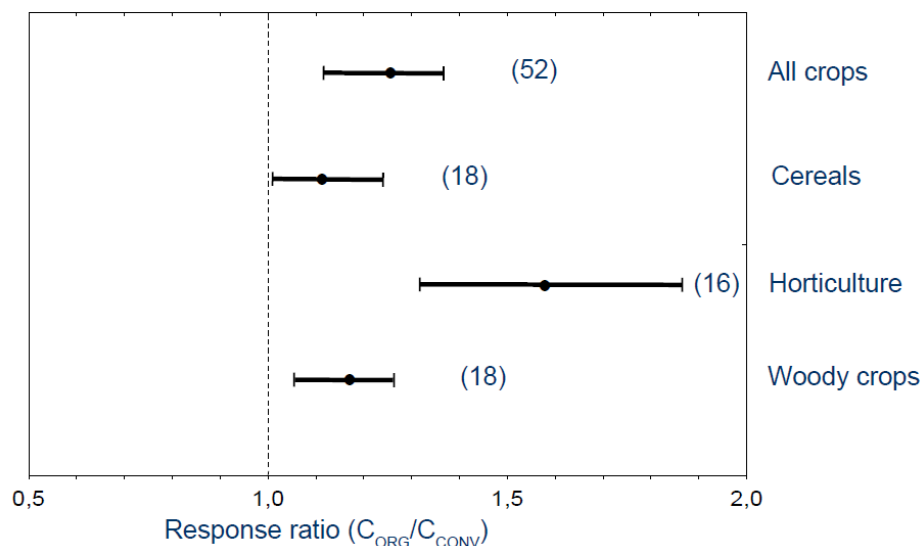


Frick, Switzerland, May 2010



Bari, Italy, September 21, 2010

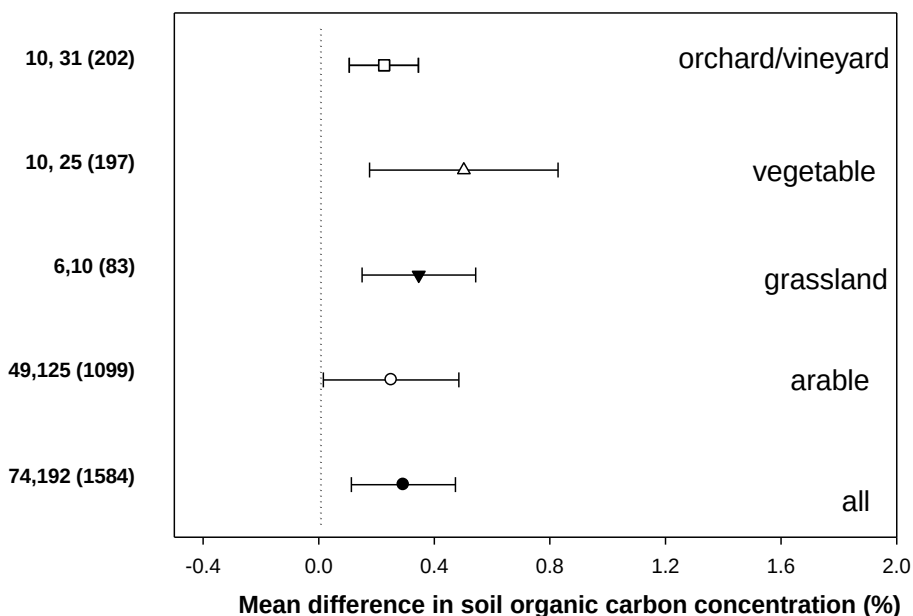
1a) Higher soil organic carbon levels and sequestration rates in soils under organic farming management – results of 2 meta studies



Farming system comparisons (org vs. non-org) under mediterranean climate

Aguilera et al. 2011 (in prep.)

Nr. of studies, comparisons (data points per treatment)



Farming system comparisons (org vs. non-org) based on global data sets

Gattinger et al. 2011 (in prep.)

2. Climate change assessment of complex, organic farming systems

LIFE CYCLE ASSESSMENT OF ORGANIC FOOD AND FARMING SYSTEMS: METHODOLOGICAL CHALLENGES RELATED TO GREENHOUSE GAS EMISSIONS AND CARBON SEQUESTRATION

Marie Trydeman Knudsen¹, John E. Hermansen¹,
Niels Halberg¹, Lise Andreasen² and Adrian Williams³

Affiliations:

1. Department of Agroecology and Environment, Aarhus University, Denmark
2. International Centre for Research in Organic Food Systems (ICROPS), Denmark
3. Cranfield University, United Kingdom



Meeting 2011

- 4th Meeting of the Round Table on Organic Agriculture and Climate Change (RTOACC), 18th and 19th October 2011, Brussels (organised by IFOAM EU) together with the public seminar “Agriculture in times of climate change – organic farming approaches to face the challenge” *Under the patronage of Elisabeth Köstinger (MEP, EPP)*

Aims of the Meeting

- Updating of current activities within member institutions
- Discussing with representatives from EU commission
- Future tasks and role of RTOACC

Meeting 2012

5th Meeting of the Round Table on Organic Agriculture and Climate Change (RTOACC), 29th of February and 1st of March 2012, ORC, Elm Farm/UK

Aims of the Meeting

Discussing and ascertaining the potential of organic agriculture to contribute to climate change adaptation; Discussing the representation of organic agriculture at Rio+20

Future tasks and role of RTOACC

6th Meeting of the Round Table on Organic Agriculture and Climate Change (RTOACC), 11th and 12th of July 2013, at IFOAM Head Office, Bonn/D

Aims of the Meeting

In the topical part of the meeting on the first day (Carbon Credits and Sustainable Agriculture) we will focus on opportunities and challenges for carbon credits for



ORGANIC AGRICULTURE

A Strategy for Climate Change Adaptation

Edited and published by



New CDM methodology (monitoring based on organic certification)

CLEAN DEVELOPMENT MECHANISM

CDM-EB70-A25

Small-scale Methodology

AMS-III.BE: Avoidance of methane and
nitrous oxide emissions from sugarcane
pre-harvest open burning through mulching

Version 01.0

Sectoral scope(s): 13

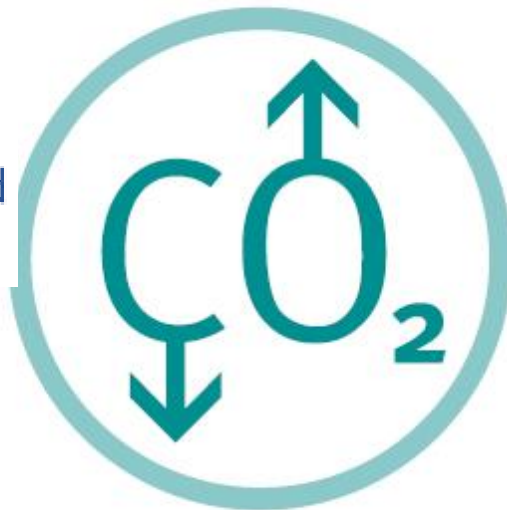


United Nations
Framework Convention on
Climate Change

https://cdm.unfccc.int/filestorage/y/2/GI5RNF9PJ08OLTYWMCA3D1V2ZE47KS.pdf/eb70_repan25.pdf?t=U0F8bW1zczM1fDB-GcVDcoc4zDzOV3ZRY7x1



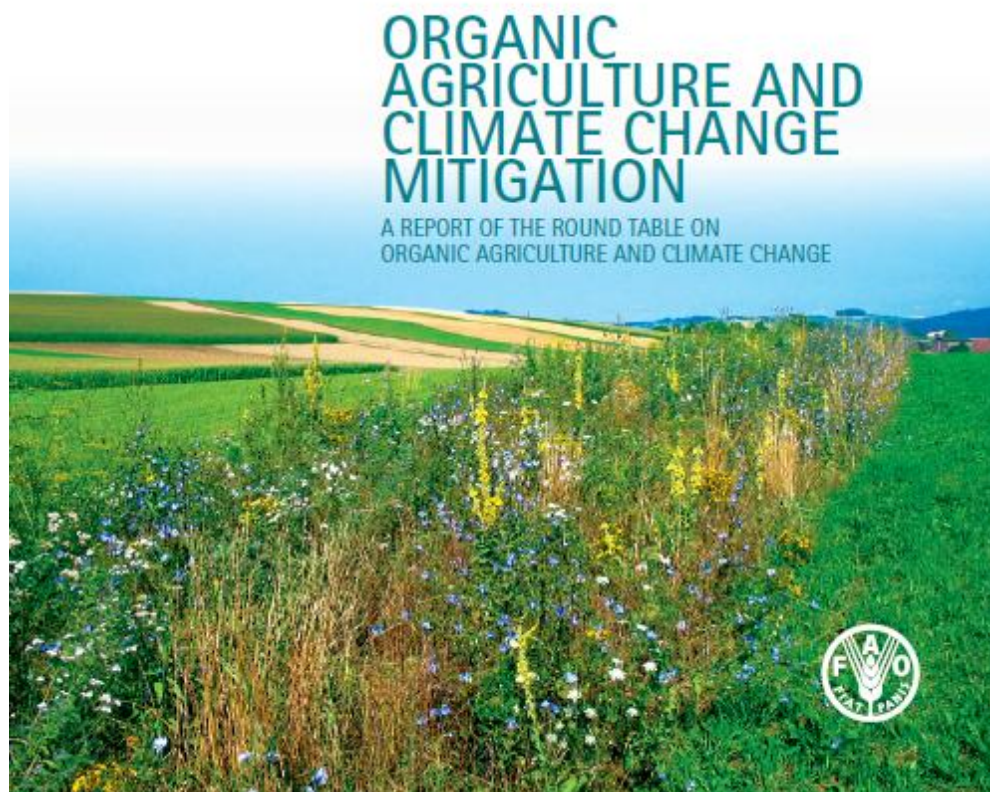
Round Table on
Organic Agriculture and
Climate Change



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ORGANIC AGRICULTURE AND CLIMATE CHANGE MITIGATION

A REPORT OF THE ROUND TABLE ON
ORGANIC AGRICULTURE AND CLIMATE CHANGE





Round Table on Organic Agriculture and Climate Change



On November 11, 2014, the meeting "Countering Climate Change with Organic Agriculture" took place in Brussels. Organized by IFOAM EU Group and the RTOACC

The background to this meeting is the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (2013/2014), which reaffirmed the pending threat of climate change to our food and farming systems - showing that even a 1°C rise in global temperatures will have a devastating impact on food production and crop yields.

Civil society groups have been successful in convincing the Subsidiary Body for Scientific and Technological Advice (SBSTA), one of the two permanent subsidiary bodies of the United Nations Framework Convention on Climate Change (UNFCCC:) to begin to address issues related to agriculture in June 2014. Meetings of the SBSTA in 2014 and 2015 will be crucial to the development of an official work programme for agriculture. However the recent launch of the Global Alliance for Climate-Smart Agriculture in September 2014 - whose membership comprises multinational corporations, heavily invested in the status quo - risks undermining attempts at real change and simply greenwashing industrialised food and farming systems.

Response to ‘Does certified organic farming reduce greenhouse gas emissions from agricultural production?’

August 4, 2015

The article published in the mail online on the paper ‘[Does certified organic farming reduce greenhouse gas emissions from agricultural production?](#)’ presents no scientific evidence that organic farms put out more greenhouse gases than other farming systems and uses unfounded assumptions to form conclusions. The published peer-reviewed science shows that these assumptions and conclusions are clearly wrong.

The simplistic analysis concludes that because there has been an increase in the amount of acres of organic farming in the US and an increase in the amount of greenhouse gases from farming in the US, organic agriculture increases greenhouse gases. Correlation does not prove causation. Most correlations are coincidences. Causation needs to be proved to show that the correlation is not a coincidence. The paper offers no proof of causation; only data-free assumptions.

It would be more logical to use the same methodology to show that the rise in GMO farming in the US correlates with the increase in greenhouse gases from farming; given that GMO farming now comprises a substantial part of US production while organic farming is only one percent.

There is a good body of peer-reviewed science clearly showing that not only does organic farming emit less greenhouse gases, because it captures CO₂ and stores it in the ground as soil organic matter, organic farming also reduces greenhouse gas emissions.

Energy Used in Different Corn Production Systems Expressed in Litres of Diesel per Hectare:

- Conventional Tillage: 231 litres per hectare
- Conventional No-till: 199 litres per hectare
- Organic Tillage: 121 litres per hectare
- Organic No-till: 77 litres per hectare (Pimentel et al. 2005)



AIAB Emilia Romagna



Città
di Vignola

**CELEBRATING 25 YEARS
1990 VIGNOLA 2015
International Conference
"Agroecology for organic agriculture
in the Mediterranean "**

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13 September (1030-1330) SANA (Bologna)**