

QLIF subproject 7: Horizontal Activities



Photo: ICROFS

Horizontal Activities

QLIF subproject 7 represents four horizontal activities common to the project, namely:

- Environmental and sustainability audits
- Cost-benefit analyses and socio-economic impact assessments
- Dissemination and technology transfer
- Training of graduate and postgraduate researchers

Activities in the horizontal research have shown that organic crop production systems generally are more energy-efficient and have lower greenhouse gas emissions than the conventional production. In terms of dissemination the QLIF website has been central and the QLIF newsletter has attracted more than 1000 subscribers. Coupling of the website with the open access database Organic Eprints provides a prospective source of project information that can be accessed also by future stakeholders in organic and low-input systems. Training events arranged annually for students have contributed to proliferation of skills and knowledge gained in QLIF. Also, these events have served to mediate the attitude needed for research in organic and low-input farming.

Subproject 7 focused on horizontal issues such as resource efficiencies, socio-economics and dissemination activities

Resource efficiency of low-input systems

Within QLIF subproject 7 the resource efficiency was studied through detailed analyses of actual rotation experiments, and model simulation studies of N and C dynamics. The results show that organic production systems generally have lower greenhouse gas emissions per unit of product than conventional systems (Fig. 1). Differences are largely due to the energy use and CO₂ emissions associated with N fertilizer manufacture. In terms of energy efficiency the picture is more complex as conventional systems are more productive and the 'cost' of organic fertilizer from green manure and animal manure would need to be accounted for.

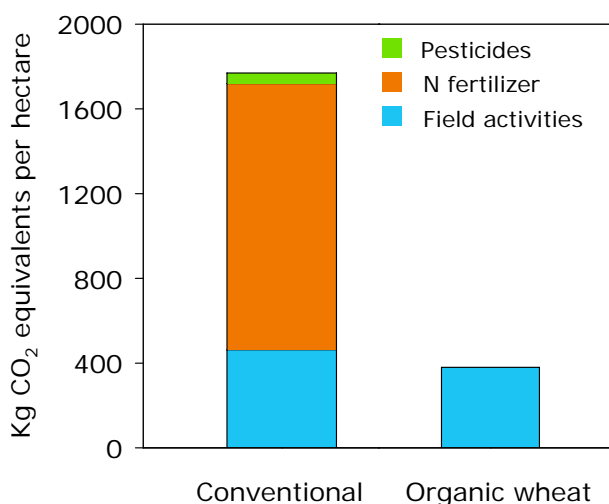


Fig 1. Relative emissions of CO₂ equivalents by field operations and external inputs for organic and conventionally produced wheat.

With animal production systems conclusions are more variable, and in some cases organic methods use more energy than conventional production. Organic pork production is clearly less energy-efficient and has higher nitrate leaching losses and higher N₂O losses by denitrification, because of the free range systems.

The conclusion that organic farming tends to show better energy balances and less greenhouse gas emissions, is based on a number of assumptions which should be kept in mind. While energy use in organic systems is often lower than conventional systems on an area basis, energy use per calorie of food produced

may be higher in organic systems, because these systems often have lower yields. The significance of needing more land to produce organic crops because of lower yields is one challenge that needs to be discussed and addressed by the organic industry.

Socio-economic impacts of QLIF research

The financial and socio-economic outcomes of the QLIF project were assessed by means of a partial cost-benefit analysis of the research outcomes (such as increased yields, improved quality and safety, or reduced production costs) of individual QLIF projects and by a qualitative expert assessment of the broader policy and consumer-relevant socio-economic impacts. Five reports on dairy, wheat, pork, vegetables and poultry were produced, where the results of all projects relevant to a particular commodity were integrated. In some cases, notably the dairy projects, clear results demonstrating quality and other benefits of organic and low-input systems were obtained which could be translated into financial benefits for producers. However, in many others, either no significant differences were obtained, or the results were not sufficiently near market to demonstrate a potential financial benefit. Many of the projects did generate results which were likely to be rated as positive by policy-makers and consumers in terms of their societal impact, but these outcomes were not necessarily associated in their minds as outcomes of organic production, indicating a need for further communication of the results to these groups.



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Dissemination through the QLIF website

The website www.qlif.org was established at the start of the QLIF project as a platform for public dissemination of background information and news from the project. The number of visits to the website increased steadily during the project with a maximum of 678 daily visits recorded in August 2008 (Fig. 2).

Through the website, QLIF offered free subscription to a biannual newsletter and news briefs. More than 1000 subscribers from 68 countries made use of this subscription. Next to research colleagues, the most frequent groups of subscribers were students, advisors and farmers. On a country basis, Germany, UK, and the Netherlands were the top three in terms of most subscribers. Information and research news published in the newsletters are available at the library of website and is accessible beyond the QLIF project period.

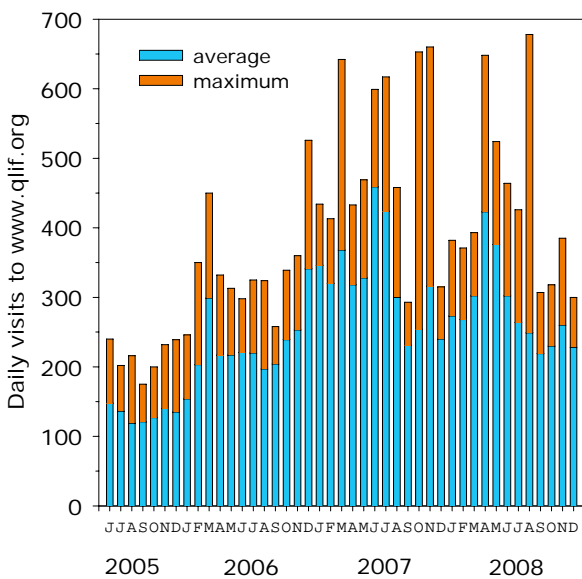


Fig. 2. Daily visits to the QLIF website during 2005-2008

In terms of dissemination of research output the QLIF website serves as an entrance to the open access database Organic Eprints, which has more than 10.000 registered users worldwide. QLIF so far have deposited more than 100 publications in the open access archive. Yet, a significant advantage of coupling the web-site to the database is that all research results published after termination of the project period will automatically be accessible through the QLIF website. Thus, a dynamic update of the research output will appear on the project website even after termination of the project.



Training of graduates and postgraduates

Proliferation of knowledge, skills and attitude was part of the QLIF project. To this end, a yearly workshop was organised, covering different aspects related to quality:

- Healthy soil, healthy crops, healthy people (2005)
- Towards animal-oriented rearing methods in organic production systems (2006)
- Measuring food quality: concepts, methods and challenges (2007)
- Soil N: research and extension (2008)
- Towards improved quality in organic food production (2009).

In each workshop, QLIF researchers presented their work for an audience of 20-30 participants consisting of students, junior scientists and others. The contributions came from several European countries, the majority from QLIF-related institutions. The audience came from a wider area including UK, Netherlands, Italy Germany, Denmark, Norway, Poland, France, Belgium, Greece, Turkey, India, Malaysia, Georgia, and USA.

In the QLIF training workshops much time was planned for discussion to enhance the interaction between lecturers and participants. Besides transfer of knowledge, this interaction served to exchange the attitude needed for research in organic and low-input farming. Something like an organic science does not exist, but research in low-input agricultural systems requires an open attitude and a willingness to look for broader coherences in agricultural, economic and social systems. During each workshop an excursion was organised in which the theme of the meeting was illustrated and placed in real life. The proceedings of the workshops are published at Organic Eprints (www.orgprints.org).

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1. Environmental and sustainability audits
2. Cost benefit analyses and socio-economic impact assessments
3. Dissemination and technology transfer
4. Training of graduate and postgraduate researchers

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Links

Find more information at www.qlif.org

Selected publications

Hospers-Brands M and Burgt GJHM van der, eds. (2009) Towards improved quality in organic food production. Proceedings of the 5th QLIF workshop, Driebergen, the Netherlands, 21-23 January 2009

Thorup-Kristensen K (2007). Effect of crop management practices on the sustainability and environmental impact of organic and low input food production systems. In: *Improving Sustainability in Organic and Low Input Food Production Systems* (Niggli U, Leifert C, Alföldi T, Lück L and Willer H, eds). Proceedings of the 3rd International Congress of the European Integrated Project Quality Low Input Food (QLIF), March 20-23, 2007, Hohenheim, Germany, pp 432-438

About QLIF

The Integrated Project QualityLowInputFood aims to improve quality, ensure safety and reduce costs along the organic and low-input food supply chains through research, dissemination and training activities. The project focuses on increasing value to both consumers and producers using a fork-to-farm approach. The project is funded by the European Union and runs from March 2004 to March 2009. The research involves thirty-one research institutions, companies and universities throughout Europe and beyond.

QLIF comprises seven subprojects on:

- 1) Consumer expectations and attitudes
- 2) Effects of production methods
- 3) Crop production systems
- 4) Livestock production systems
- 5) Processing strategies
- 6) Transport, trading and retailing
- 7) Horizontal activities



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Information on partners and subprojects is found at the project website www.qlif.org. The website also holds the library for project newsletters and serves as entry to Organic Eprints, where more than 100 publications from the QLIF project are available: http://orgprints.org/view/projects/eu_qlif.html