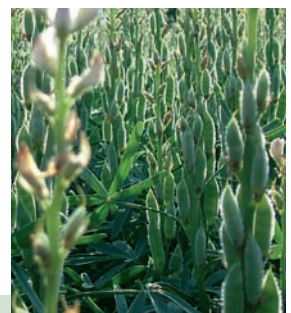
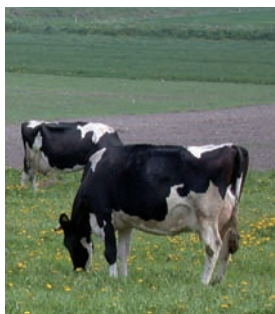


# DARCOF III



## Research to strengthen organic food and farming

International Centre for Research in Organic Food Systems



## Research to strengthen organic food and farming

ICROFS presently coordinates the third consecutive Danish research programme in organic food and farming systems. The objective of this research programme - DARCOF III - is to contribute to a sustainable development of organic food systems and to the enhancement of the sector integrity in relation to the organic principles.

The research focuses on food quality and safety, environment and nature, animal health and welfare in organic food systems. Moreover, the DARCOF III programme includes a global perspective on the organic food systems and a focus on international cooperation.

# The challenge

Consumers expect organic food to be healthy, safe and of a higher quality than the corresponding conventional foods. At the same time, some consumers take it for granted that the production of organic foods is beneficial to nature, the environment and to animal welfare.

Thus, in order to promote the sale of organic food and the conversion to organic farming an important challenge is to obtain more knowledge on how to improve the health, safety and nutritional aspects of organic food. Another challenge is to provide more knowledge on the sensoric quality aspects of organic foods. This applies to the raw materials, the manufacturing process, and the sale and distribution stages (the final quality). Moreover there is a need for a better understanding of consumer behaviour, demands and attitudes towards organic food and farming.

A high price premium can be a considerable barrier to the sale of organic products. Therefore, it is a challenge to develop production methods, which ensures both the necessary productivity, competitiveness and a fair profit for the organic farmers, without compromising on the organic principles.

Thus, it is crucial that the organic sector maintains a high level of integrity. Consequently, products must have been produced and manufactured in agreement with organic farming objectives, i.e. low environmental impact, a natural quality, high animal welfare, and the organic farming principles.

## Contribution to a sustainable development of society

In the years to come, political reforms, trade agreements and technological developments will challenge the existing farm structure and change the overall framework for European farming and food production. EU and national policies provide an opportunity to promote multifunctional agriculture including organic farming. This includes objectives such as protection of nature and the environment, a balanced development of rural areas, and production of sustainable bioenergy as part of farming systems which also produce high quality food.

Research in these areas should provide knowledge of the effects of organic farming and food systems at the production level and knowledge of the consequences for the entire sector and for society as a whole. And research should support a further development of organic food systems, which deliver high quality food and the positive externalities.

## Organic farming in a global perspective

Globalisation can provide benefits for many third world countries, but for many poor smallholder farmers it is often difficult to access the technology and the market, which are the key to the benefits of globalisation.

Organic agriculture may benefit smallholder farmers by improving farm productivity based on improved



use of locally available resources, agro ecological methods, crop diversity and building soil fertility. Moreover, participation in certified production may improve farmers' livelihood by creating market access and income.

## **The research**

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The research is carried out via research programmes financed by the Danish Ministry of Food, Agriculture and Fisheries. The international Centre for Research in Organic Food Systems (ICROFS – the former DARCOF) coordinates research in organic food and farming in Denmark and internationally.

## **DARCOF III**

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The current research programme, DARCOF III, encompasses the entire organic food chain – from production in the field and in the stable, to processing and to the consumers. The aim is to provide more knowledge about the potential for enhancing quality and competitiveness of organic foods and the possibilities for strengthening the consideration for nature, the environment, animal welfare and the social conditions in organic production.

DARCOF III consists of 15 projects with a total budget of approx. 23 million Euro for the period 2006-2010:

- ▶ Content, bioavailability and health effects of trace elements and bioactive components in organic agricultural systems (**ORGTRACE**)
- ▶ Organic milk of high quality – development of production concepts based on grazing of the dairy cows and gentle treatment of the milk during handling and processing (**ORMILKQUAL**)
- ▶ Quality and integrity of organic eggs, chicken meat and pork (**QEMP**)
- ▶ Organic aquaculture – the linkage between sustainable production and superior products (**ORAQUA**)
- ▶ Organic cropping systems for vegetable production – product quality, natural regulation and environmental effects (**VEGQUIRE**)
- ▶ The viability and stability of demand: The future outlook for the organic market in Denmark (**CONCEPTS**)
- ▶ Grass-clover in organic dairy farming – options to reduce costs and improve nutrient utilization (**ORGGRASS**)
- ▶ Effective control of perennial weeds and intra-row weeds in organic cropping through novel technology and new management strategies (**WEEDS**)
- ▶ Increased integrity in organic dairy production through natural sources of vitamins and minerals and non-antibiotic health control (**ECOVIT**)
- ▶ High quality seeds – maintaining integrity in organic farming (**SEED**)
- ▶ The effect of cropping systems on production and the environment (**CROPSYS**)
- ▶ The role of organic farms as refugia for biodiversity (**REFUGIA**)
- ▶ Biomass and bio-energy production in organic agriculture: Consequences for soil fertility, environment, spread of animal parasites and socio-economy (**BIOCONCENS**)
- ▶ Public policies and demand for organic food: An international comparison of policy effects and policy determinants (**COP**)
- ▶ Sustainability of organic farming in a global food chains perspective (**GLOBALORG**)

On [www.icrofs.org](http://www.icrofs.org) you can find links to websites for each of the individual projects.

## Further information

### International cooperation

An important task in ICROFS is to coordinate the Danish research in an international context. Thus, Danish and international research should be complementary and seek a high level of synergy. Successful cooperations are established in e.g. the large EU project QLIF (Improving quality, food safety and reducing costs in organic and "low input" food production systems) and the EU ERA-Net CORE Organic (Coordination of European Transnational Research in Organic Food and Farming). More information on these projects is found at [www.qlif.org](http://www.qlif.org) and [www.coreorganic.org](http://www.coreorganic.org).

### Homepage

On [www.icrofs.org](http://www.icrofs.org) you can find detailed information about all ICROFS research programmes and research projects. You will also find reports, articles and newsletters issued as a result of the research activities.

### Open access via Organic Eprints

Publications from the Danish research in organic food and farming are freely available via the open access archive, Organic Eprints, located at [www.orgprints.org](http://www.orgprints.org).

The archive was established by DARCOF in 2002. Since 2003 it has been operated in cooperation with the Research Institute of Organic Agriculture, FiBL in Switzerland and Bundesprogramm Ökologischer Landbau in Germany.

The archive is open to researchers, students, and others from all countries. Individual authors deposit their documents in the archive using the Internet. Editors ensure the relevance of the publications and that the minimum quality demands are met. Each country, or organisation, can choose its own editor; so far 11 countries have appointed editors.

By June 2008, the archive contained approx. 7.500 publications and it had approx. 9.000 registered users and 5.000 daily visitors.

### Contact

The secretariat of ICROFS welcomes contacts from colleagues, stakeholders and others with interest in organic food and farming systems. Please contact us at [icrofs@icrofs.org](mailto:icrofs@icrofs.org). Contacts can also be directed to Head of Centre Niels Halberg at [niels.halberg@icrofs.org](mailto:niels.halberg@icrofs.org).

### About ICROFS

The International Centre for Research in Organic Food Systems (ICROFS) is a "centre without walls" where the research is performed in interdisciplinary collaboration between research groups in different institutions. The centre is an expansion of the former research centre DARCOF, which the Danish Government in 2008 decided to give an international mandate and an international board.

The main purpose of ICROFS is to coordinate and monitor international research in organic food and farming systems in order to achieve optimum benefit from the allocated resources. Further, the aim of ICROFS is to initiate research and create impact of the research results through support and dissemination of high quality research of international standard.

More information at [www.icrofs.org](http://www.icrofs.org)

