

Organic for the future

Organic research and innovation moves the organic food sector from a niche to a general reference model for sustainable agriculture

By Simon Olling Rebsdorf, PhD, information officer at ICROFS

Europe faces major challenges to conserve biodiversity, secure soil, and promote animal welfare and there is an urgent need to ensure global food security. Organic food and farming paves the way to meet these challenges; but to succeed a further development of organic food and farming is key.

It is a major challenge in Europe to conserve biodiversity, of which a large part, including birds and bees, can be found in agricultural land. Also, securing soil quality, promoting animal welfare and reducing the use of antibiotics to decrease the development of antimicrobial resistance are other chief challenges calling for answers. By following the ideas and principles of organic agriculture, which are included in the European Regulation (EC regulation 834, 2007), organic agriculture has already been proven to make a positive difference in all these areas, while at the same time being a part of a competitive food system. Moreover, it is urgently needed to ensure economically viable rural areas and long-term food security in light of climate change. Methods of organic agriculture will play a crucial role in meeting these challenges.



An example of new knowledge for eco-functional intensification is the Danish research project VegQure, coordinated by ICROFS. It shows that productive organic cropping systems can be developed, yielding high quality at low levels of fertilizer. The picture shows intercropping, where a mixture of salad burnet and birdsfoot trefoil is grown between rows of carrot. The mixture serves as a habitat supporting a higher biodiversity in the crop to improve natural pest control in the carrot crop. The intercrop contributes to reduce nutrient losses and maintain soil fertility (Photo: Kristian Thorup-Kristensen).

However, this requires the further development of organic food and farming based on research and innovation.

Vision: Securing food and ecosystems

In several European countries, organic agriculture is now seen as an attractive niche for a high-value food market. It is also viewed as a reference model providing innovative solutions for developing sustainable food systems in general. And ensuring new research as well as supporting the impact of new knowledge of organic food systems is the cornerstone of the International Centre for Research in Organic Food Systems, ICROFS.

One area calling for such future research and development is eco-functional intensification. This is a new growing area of agricultural research aiming at harnessing beneficial activities of the ecosystem to increase productivity in agriculture. Eco-functional intensification means intensifying the beneficial activities of the ecosystem, e.g. biomass production, functional biodiversity, water cleaning, and recycling of organic material.

ICROFS has contributed to the vision of the technology platform, TP Organics, that knowledge among farmers about how to manage ecosystem services in a sustainable way will be much greater. This can improve



The International Centre for Research in Organic Food and Farming

For 15 years, ICROFS has worked for initiation, coordination, and communication of high-quality research in organic food systems in Denmark – and since 2005 at an international level. By coordinating R&D programmes, ICROFS contributes to supporting the impact of new knowledge for public, private, and scientific stakeholders in the organic sector. The centre is funded by the Danish Ministry of Food, Agriculture and Fisheries.



ICROFS' vision

The principles of organic agriculture have become a global reference for sustainability in agriculture and food systems due to evidence based on research and adaptive management.

stability of food supply in light of climate change. Still, to realize such a vision, more research-based knowledge is needed.

Current organic R&D programmes

Denmark has one of the strongest organic markets worldwide with an increasing market share, now of seven percent. Ensuring a knowledge-base for future development calls for a continued funding for research and innovation. In this way, the organic sector can continue to increase productivity, diversity and product development and at the same time maintain the integrity with the consumers. Denmark has invested in organic research and innovation programmes with approx. 5.3 million Euros/year since 1996.

The current Danish organic research, development and demonstration programme, Organic RDD of 4.2 million Euros/year runs for three years. It was launched in 2011 with 11 new projects under the Danish Green Development and Demonstration Programme, GDDP. Organic RDD is coordinated by ICROFS and has three cross-cutting themes: growth, integrity and robust systems (www.icrofs.org/organicrdd).

ICROFS also coordinates the transnational organic research cooperation project, CORE Organic II, supported by the EC. It consists of 26 partners from 21 European countries collaborating on the funding of transnational research projects. Eleven new research projects of 9 million Euros were launched in 2011, covering the three important organic research areas, cropping systems, monogastric animal production

and food quality; and the next call focuses on plant breeding and the support of organic markets (www.coreorganic2.org).

Future organic development in the horizon

In tackling future societal challenges in the EU, the new funding programme for research and innovation in Europe, Horizon 2020, has earmarked funding for e.g. food security, sustainable agriculture and the bio-based economy. Together with European partners, ICROFS will work to ensure funding for high-quality research and innovation of organic food and farming to deliver the best possible answers to societal challenges.



Photo: Organic Denmark

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