



INTRODUCING

**ORGANIC  
RESEARCH  
CENTRE  
ALLIANCE**

A GLOBAL  
RESEARCH CONSORTIUM  
DEDICATED TO  
**ORGANIC AGRICULTURE**



## GLOBAL CHALLENGES IN THE FOOD SYSTEM

- More than 1 billion people in the world do not have enough to eat. Despite all development programmes and good intentions, that number is increasing.
- Three-quarters of the poor people in developing countries live in rural areas and most of them depend on agriculture for their livelihoods. These smallholder producers have great potential to contribute to increasing the world's food production and reducing poverty – yet they do not benefit from conventional, and often expensive, technologies such as purchased agricultural inputs such as seeds, fertilizers and pesticides.
- Climate change and the parallel increases in environmental variability, coupled with global economic instability, result in increased vulnerability for smallholders. Agricultural systems based on crop and livestock uniformity are unable to cope with unexpected problems arising on the farm or in volatile food markets.
- Reserves of fossil fuels are decreasing, causing intermittent spikes in oil prices, plus degradation of natural resources is on the increase. This means that agriculture no longer can depend on fossil fuel-based inputs to produce food.



The Codex Alimentarius Commission defines organic agriculture as *a holistic production management system that promotes and enhances agro-ecosystem health, including biodiversity, biological cycles and soil biological activity. These goals are accomplished by using, where possible, agronomic, biological, and mechanical methods, as opposed to using synthetic materials, to fulfill any specific function within the system.*

## ORGANIC AGRICULTURE TODAY

- More than 1.2 million farmers around the world currently practice organic food production. Most of them live in developing countries.
- The market value of organically certified produce, now more than US\$46 billion annually, has sustained steady annual growth for two decades, increasing by 10 percent in 2009 despite the global financial crisis.
- Market-marginalized farmers are increasingly adopting organic agricultural practices, as they seek food self-sufficiency through a better use of existing resources.
- Global consumer demand for organic food production is increasing, creating lucrative markets for smallholders and expanding the right to choose healthy foods.

## Harvesting the benefits of organic agriculture

The benefits that organic food systems provide to farmers, consumers and the environment are well documented. The goal of ORCA is to support further expansion in order to improve opportunities for more producers in more countries.

For example, organic agriculture:

- gives **smallholders** a fair chance to access an economically attractive market while also improving household food security;
- optimizes farm **output** while using fewer capital inputs and increasing labour productivity and employment in marginalized market areas and those with low-potential;
- attracts **women** farmers who build on their traditional and indigenous knowledge and take advantage of engaging in commercial food production while also producing food for their families;
- produces **nutritious** and diversified food and celebrates culinary traditions;
- uses **biodiversity** to decrease agricultural inputs and increase outputs, thus supporting broader environmental conservation goals at gene, species and landscape levels and ensuring that organic producers receive premium market value in return for their environmental efforts;
- stabilizes the farm ecological balance, which increase the adaptive and risk management capacity needed to cope with **climate change**;
- reduces greenhouse gas emissions and increases soil carbon sequestration, thus contributing to climate change mitigation and reducing fossil-based **energy** requirements.

# ORCA PRESENTS AN ALTERNATIVE RESEARCH MODEL: SCIENCE ACROSS DISCIPLINES AND WITH FARMERS

ORCA sets itself apart from other efforts aimed at improving agricultural production. Its participatory design puts farmers first while its approach is from the broadest possible position – across the entire food system. Too often, current research focuses on narrow aspects of specific problems without consideration of the entire context of the issue. Organic-based research focuses on diversity and mutual help, thus ensuring that producers can better manage risks and uncertainties posed by climate change and restricted economic conditions.

There is an urgent need, particularly in the developing world, to support the development of the emerging organic sector. This requires increasing collaboration and seeking innovative ways to merge traditional and scientific knowledge in organic production systems. ORCA is in a position to establish international networks, strengthen existing scientific institutions and empower them as centres of greater excellence in transdisciplinary organic agricultural research. These centres will draw on traditional knowledge, improve it with scientific research and share it widely.

Looking to the future, ORCA defines its mission and vision in terms of building a global research network that has impact at all levels of agricultural production, trade and consumption.



**ORCA mission: establish collaboration among research centres focused on producing high quality research in organic agricultural systems relevant to the needs of farmers and processors in developing countries.**

**ORCA vision: an organic research network that is mainstream, robust and valued by farmers and policy-makers worldwide by 2025.**



## The ORCA research model will:

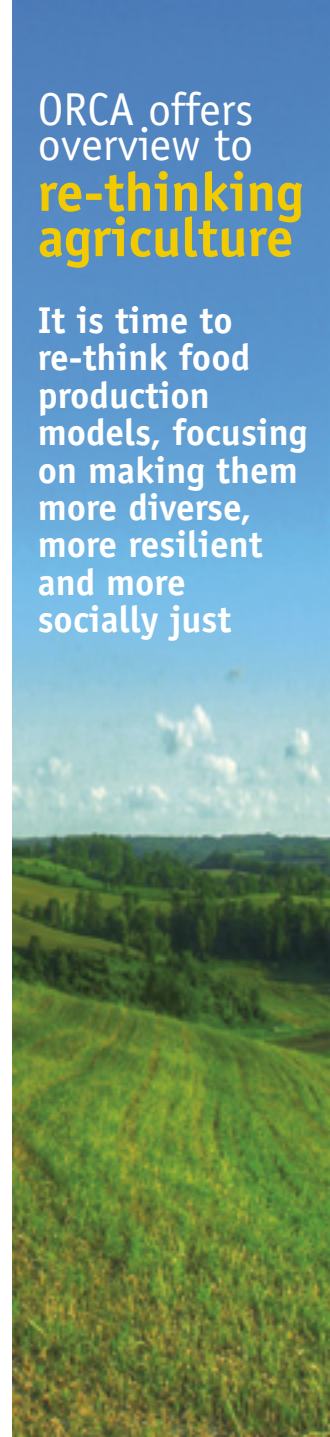
- create centres of excellence in organic and biodynamic agriculture by networking and strengthening existing human and institutional resources;
- maintain an electronic platform where all knowledge on organic and biodynamic agriculture can be accessed;
- establish attractive research farms for demonstration and training;
- conduct in-farm research with farmers and involve practitioners in the whole innovation process;
- train and mentor young scientists through fellowship programmes;
- publish peer-reviewed organic research papers;
- compete for external funding for joint research programmes, while also reallocating and pooling existing resources to improve efficiency.

## Partners to date who have agreed to support ORCA with their knowledge:

- Agro Eco Louis Bolk Institute
- Danish International Centre for Research in Organic Food Systems (ICROFS)
- Food and Agriculture Organization of the United Nations (FAO)
- German Federal Research Institute von Thunen (vTI)
- Institute of Organic Agriculture of the University of Bonn (IOL)
- International Society of Organic Farming Research (ISOFAR)
- International Federation of Organic Agriculture Movements (IFOAM)
- Swiss Research Institute of Organic Agriculture (FiBL)
- Vienna University of Natural Resources and Applied Life Sciences (BOKU)

ORCA offers  
overview to  
**re-thinking  
agriculture**

It is time to  
re-think food  
production  
models, focusing  
on making them  
more diverse,  
more resilient  
and more  
socially just



# INCREASED COLLABORATION IN ORGANIC AGRICULTURE RESEARCH

## EXAMPLES OF IMPACT

### What organic research means

#### to plant breeding and seed production

**It means a joint project that includes farmers, breeders, an organic seed company that was founded and is partly owned by farmers, and an association that deals with biodynamic vegetable plant breeding.** Through this project undertaken in Germany, farmers have been able to share knowledge on botanical and breeding issues, develop new ideas, and exchange experiences and breeding lines. As a result, farmers have developed broader breeding programmes and research, and generated new varieties that they have then shared with breeders and farmers in other areas for adaptation to different growing conditions. The seed company oversees cleaning, quality testing and distribution. The association (Kultursaat) coordinates plant breeding and provides financial support, payment of registration and testing fees. To date, Kultursaat has bred more than 20 new registered varieties and, most importantly, has maintained full ownership rights, ensuring common ownership and benefit sharing among all participants.

#### to strawberry farmers dealing with grey mould

**It means that discoveries such as using bees as “flying doctors” to provide organic control of grey mould – the worst disease affecting strawberry crops – can be shared easily around the world.**

When a bee leaves its hive, it passes through a footbath containing a harmless fungus that also serves as an antidote to grey mould. When the bees pollinate the strawberry blossoms, they deliver the fungus into the blossoms, precisely where it is needed, preventing grey mould infection. Recent studies have shown that strawberry yields more than double with the help of these “flying doctors”.

#### to people who suffer from celiacs disease

**It means that people in many countries who cannot tolerate foods containing gluten can benefit from the collaborative efforts of a group of Peruvian farmers.** In La Unión, Peru, farmers are working to increase production of quinoa, a grain that has been a vital part of the Andean diet since at least 3000 BC. Quinoa does not contain gluten and, thus, provides a nutritious alternative to wheat, rye, barley and other products. These organic farmers, members of the Association of Organic Crop Growers (APCO) produce quinoa in a wide rotation that includes many other crops using organic methods of fertilization and pest control.



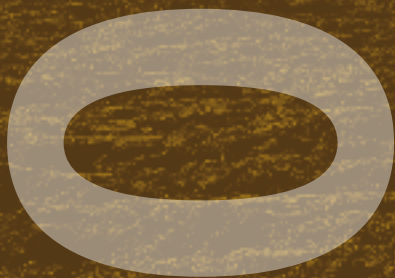
A



C



R



O

Organic Research Centre Alliance (ORCA)

Contact: [Nadia.Scialabba@fao.org](mailto:Nadia.Scialabba@fao.org)

[www.fao.org/organicag](http://www.fao.org/organicag)