

Organic production and consumption in Norway – new knowledge through research and dissemination

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Implications

The Norwegian government has since 2006 had a goal of 15 % organic food production and consumption, initially by 2015 and later adjusted to 2020. The goal has primarily been justified by consumer demands, and to some extent by environmental benefits. Organic farming is said to be a “spear point” in the development of a more environmental friendly and sustainable agriculture in Norway, but the government’s policy lacks thorough political support and the goal is far from achieved.

In 2012, certified land and land area under conversion to organic farming comprised 5.6 % of the agricultural area (Debio 2013). The turnover of organic products was more than 1.1 billion NOK in 2012; an increase of 11 % from 2011 (NAA 2012). In 2009, organic food represented 1.3 % of total food turnover in Norway (Willer and Kilcher 2011). The share of grassland in organic managed land comprised 77 % in 2012 (Debio 2013). Strong efforts are needed to reach the official goal in 2020 and to diversify the organic production. The Action Plan for Organic Farming (MAF 2009) points out actions to reach the governmental goal, including research and dissemination of knowledge.

Background and objectives

Research and knowledge dissemination on organic farming in Norway started in the eighties. The Research Council of Norway has funded a large part of this research at a national level. In 1992-1996 there was a specific research program for organic farming (Løes and Schjøth 2006), but since 1996 funding of research on organic food and farming has been included in the general agricultural research programs. No specific body coordinates research priorities or evaluates proposals relevant for organic agriculture. Bioforsk, with its Organic Food and Farming Division, has been particularly active within organic food and farming research in Norway, but other actors have also conducted research on organic production and consumption.

Future research

An evaluation of the research and development on organic agriculture in Norway for the period 1999-2009 (RCN 2010) recommends that research on organic production should include both primary production as well as the rest of the production chain. To develop organic food and farming systems and to fulfill the main goals of organic farming, including the 15% goal, further research is needed and many topics are relevant. Many of the research areas important for the development of organic agriculture are also applicable for conventional agriculture. Hence, increased research on sustainability, reduced negative environmental impact and better animal welfare, which are the current strategic research areas for Bioforsk Organic Food and Farming Division, would be beneficial for both organic and conventional agriculture.

Nutrient management is a key to sustainable farming systems, and has been thoroughly studied in several Norwegian projects. Efficient utilization of available nutrients is essential for the plant nutrient supply, to minimize pollution and reduce emissions of greenhouse gases from agriculture. It is also important for an ecological intensification of the farming systems. Reduction of climate impact and mitigation of changing climate effects have received considerable attention in recent years. Anaerobic digestion of organic matter is a “hot topic”, with much on-going research activity. Carbon

sequestration in the soil is an important ecosystem service, and should be an integrated part of a sustainable farming system. More research is required here. Effects of various nutrient sources, including food safety issues, also needs further study.

Cultivated grasslands and forest and mountain pastures represent a significant and local feed resource, and knowledge is required on the management of such areas. Research projects have covered topics like milk, meat and forage quality related to grassland management, and vitamin and micronutrient supply to ruminants. Changing climatic conditions demand further knowledge on healthy and robust animals that can thrive and produce in various environments. Vector borne diseases, i.e. tick-borne diseases, represent an increasing challenge in grazing systems in tick infested areas and have been given considerable attention in recent years particularly in sheep production. Furthermore, research to improve feed and feed protein self-sufficiency in organic livestock farming is urgent.

Animal welfare is an important ethical attribute for organic food. The potential of the organic standards to promote good welfare is high due to the focus on natural behavior and environmental enrichment. There are, however, still animal welfare problems that are common in organic production that must be acknowledged in research. Using animals that fit the production system is of great importance for animal welfare as well as production economy. This makes gene-environment interactions for welfare traits a key topic for future research.

Projects with a system approach, like on-farm case studies and long-term field experiments designed to develop organic cropping systems are highly useful and have been much utilized in Norwegian organic research. Knowledge extracted from developmental projects within public procurement and small scale gardening is valuable especially to increase organic consumption.

International collaboration is necessary for a small country like Norway. From the Norwegian Research Council it is a clear strategy to support the CORE Organic partnership, in order to strengthen the research capacity and quality of organic research in Norway (RCN 2012).

Dissemination of knowledge

Norwegian Agricultural Extension Service (NLR) have organic divisions inside their regional extension bodies. The dairy, meat and poultry industry have their own extensionists, some of them educated and trained in organic animal husbandry. Bioforsk Organic Food and Farming cooperates closely with these advisers, providing printed and web-based materials (www.agropub.no), conferences and training. Knowledge dissemination is also a crucial part of all developmental projects, e.g. within solar- and bioenergy, organic gardening and public procurement, which are areas where Bioforsk Organic Food and Farming Division has its most comprehensive activities.

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