

Climate effects of the Austrian pork meat production

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Topic

Resources

Title of the Paper

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Form of Presentation

Presentation

Short Description (maximum 2500 characters)

Background

The worldwide overuse of several significant resources accelerates the depletion of resource stocks and causes negative environmental impacts on ecosystems and related ecosystem services (OECD, 2007a; WWF et al., 2008). Mankind's daily food consumption has major influence on climate change and other resource use related environmental effects. Hence, the food sector provides high reduction potential for greenhouse gas emissions (GHGE), since in the EU-15 agriculture accounted for approximately 10% of total GHGE in 2000 (Hörtenhuber et al., 2010).

Objectives and Method

The objective of the study in 2010 was to evaluate the reality of Austrian pork production (AMA, Gustino Stroh, Bio Austria) with up-to-date production data from producers. The analysis considers the entire life cycle of pork meat and is based on the methods of Life Cycle Assessments (LCA) (ISO 14040/44). Depicting the Austrian production reality each production mode has been assessed with a set of environmental indicators (Water Rucksack, Land use, Abiotic Rucksack and Biotic Rucksack, Carbon Footprint) in order to detect the major leverage points along the life-cycle. Furthermore, from scenarios best practices for low GHG and resource-efficient production have been deduced.

Results

The project results point out the environmental advantages of Austrian circular economy and self-production of animal feed compared to systems applied in the Netherlands, U.K., Germany and Denmark. The results indicate the tradeoffs between the different production methods: conventional pork production results in more GHGE (6kg CO₂e vs. 1.8kg CO₂e for organic meat), organic meat production results in higher biotic material consumption and land use.

A major leverage point for the reduction of GHGE of pork production is the facilitation of European animal feed (reduction potential of approx. 50%) since the soybean production makes up to 80% of the greenhouse gas emissions of Austrian AMA pork meat. Further leverage points to improve resource efficiency and reduce GHGE are manure management and energy use.

However, comparing pork meat to soy granulate indicates that soy granulate causes significantly less resource use and GHGE per kilogram than fresh meat and can be used as an adequate substitution in terms of nutrition value.