The Protein Shifts

Knowledge gaps, obstacles and opportunities

Both food and food production have a direct and resounding impact on human health, the planet's well-being, and economic development. One of the general global concerns and discussions is the increase of greenhouse gases, of which the agro-food system is estimated to account for about 30%, of which 80% is generated by the livestock sector. It is known that proteins of plant origin have a significantly lower carbon footprint primarily. Thus a protein shift, where animal based protein is partly replaced with plant proteins, is increasingly deemed necessary to achieve the politically set objective of drastically reduced emission levels.

A shift from animal proteins to plant proteins is essential for a more sustainable food system. For this transition, healthy and tasty foods based on plant proteins need to be produced in a sustainable, ethical, and economically viable way. In addition, nationally, the overall goal of the priority area “Sustainable and Healthy Foods” from the Swedish Government Agenda 2030 is to have a competitive Swedish food chain, where total food production increases, while achieving relevant national environmental objectives, with the aim of creating growth and employment and contributing to sustainable development across the country. In order to create sustainable and healthy food systems nationally and globally there are many challenges that need to be faced beyond the technical aspects with respect to scientific knowledge and innovation. The ecological consequences consumption choices ultimately have considering not only greenhouse gases, being the most urgent to address, but also other relevant impact categories as well as the contributing to the planetary boundaries as well as understanding trends and consumer behavior and how to best design attractive and sustainable food alternatives. With this as a starting point we have mobilized research groups from a variety of faculties, expert areas and institutes to address this highly relevant theme. From a transdisciplinary perspective the theme wish to identify best practices to meet Sweden’s climate and sustainability goals, develop attractive and healthy food products, and increase the competitiveness of the Swedish food industry. Turning these complex challenges into opportunities requires illuminating excellent research and new constellations for collaboration taking a production as well as consumption perspective. The theme’s overarching aim is to identify, summarize and evaluate information from basic and applied research in order to identify the most promising lines of investigations with respect to: consumers and meat culture, the political ecology of protein shifts, plant-based materials and processes, nutritional safety and health, environmental benefits and concerns, and emerging innovative value chains emerging from the protein shift. We will also highlight areas where knowledge, policies, and technologies are lacking or hitherto attempted solutions have not reached decision makers, industries and consumers.

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Link to the Theme in Lund University’s research database: