

Nordic Association of Agricultural Scientists —



NJF Seminar 422

**Fostering healthy food systems
through organic agriculture -
Focus on Nordic-Baltic Region
- International Scientific Conference**

Tartu, Estonia, 25-27 August 2009

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PROGRAMME

ABSTRACTS

LIST OF PARTICIPANTS

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Estonian University of Life Sciences
Ministry of Agriculture of the Republic of Estonia
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Biomass production and feeding value of whole-crop cereal-legume-silages

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In Nordic countries the winter-feeding in organic milk and meat production is based on silage made from perennial clover–grass mixtures. Over-wintering of perennial swards can be a problem in some farms and the area for manure spreading limiting. Cultivation of cereals for whole-crop silage could solve these problems. In addition, mixed cropping of cereals and legumes can improve the biomass production and feeding value of whole-crop silage. In eastern Finland, several mixtures of spring wheat, spring barley, spring oats and/or rye with vetches and/or peas were evaluated in field experiments in 2005–2007 for their dry matter production, crude protein concentration and digestibility using three different harvesting times. Spring wheat–pea and spring wheat–vetch–rye mixtures produced the highest dry matter (DM) yields (5 000–6 000 kg ha⁻¹). The highest crude protein concentration was found in vetches (200 g kg⁻¹ DM) and organic matter digestibility in peas (730 g kg⁻¹).

Developing micronutrient management strategies on organic farms

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A greater emphasis on farm systems that rely upon local sources of feed while being environmentally friendly, may increase the longer-term risk of issues related to livestock health through micronutrient imbalances. A screening and sampling of soils with contrasting mineralogical properties has been undertaken to provide information on micronutrient concentrations in a wide spectrum of Swedish and Scottish soils. In addition to geochemical sources, the microelement profiles (including harmful elements) of locally occurring potential soil amenders have been analysed. Materials tested have included residues from the food, paper and bioenergy industry, as well as rock dust and seaweed. Element mass balance calculations will be used to estimate micronutrient balances for different farm types and regions. On-farm micronutrient management strategies based on soils characteristics, soil amenders and recycling through local 'partnerships' between different farm types and between farmers and local enterprisers will be discussed.