



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
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Selenium concentration of Finnish organic milk – a farm survey

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Bulk-tank milk samples were collected in January (2008) from 45 organic farms in Eastern Finland to examine their milk quality. Beside diets, current Se supplementation practices were also documented. Half of the farms (22) were certified all organic (AORG) and the other half (23) practiced organic field farming (FORG). The average number of cows and annual milk yield was 27.5 and 8560 kg/cow, respectively. Milk Se concentrations were analysed at MTT Agrifood Research Finland and are presented here. The average milk Se concentration was 0.016 (0.004–0.033 mg/kg). Lowest values represented those farms using minor selenite supplementation and highest values were indicative for utilisation of selenised yeast. FORG farms resulted in higher milk Se than AORG farms (0.017 vs 0.014 mg/kg, $P < 0.05$). Because of active consulting, participant research and permitted use of selenised yeast, Se concentration of organic milk has been improved since our previous monitoring (0.010 mg/kg, 2005/2006).

Multi-goal pig ration formulation; mathematical optimization approach

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Organically produced pork is characterized by high production costs, within the main part goes to ration cost. Forage must be produced under strict conditions, reflecting in high prime costs. The main challenge for farmers is how to formulate economically efficient, nutrition balanced and politically acceptable rations at the least-cost to be competitive. This challenging task demands handy tool that merges all three viewpoints. In this paper an example of such a tool, based on three step approach, is presented. In the first step, a common linear program is utilized to formulate least-cost ration. In the second step, a sub-model, based on weighted goal programming and supported by a system of penalty functions, is used to formulate a nutritionally balanced and economically acceptable ration that also fulfils conditions demanded by organic farming. The most 'efficient' energy content of the ration is searched in the last step. The obtained results confirm the benefits of the applied approach.