

OPEN SEMINAR

# PhytoMilk

Time: Thursday 23rd of June 2011  
Place: Studentersamfunnet, UMB,  
1432 ÅS, Norway

(10 minute's walk from the railway station)

The seminar is open and free, but everyone has to register before June 6

*The main objectives of the PhytoMilkproject where to illuminate how different forage species affect the fatty acid composition of organic dairy milk, and the milk content of bioactive components such as tocopherols, carotenoids, selenium (Se) and phytoestrogens.*


*The project has also investigated the biological activity of the collected dairy milk samples from the Nordic countries on normal and cancer cells. The results of the four year project (2007-2011) will be presented at this seminar.*

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REGISTRATION




CORE organic



*Potential improvement of the salutary effect of organic dairy milk by forage species and by supplementation (PhytoMilk)*

# PhytoMilk

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|---------------|--|
| 10.30 - 10.45 | <b>Welcome</b>   |
| 10.45 - 11.00 | <b>PhytoMilk an overview, A-M Gustavsson</b>   |
| 11.00 - 11.15 | <b>Latitude and harvest time affect FA composition and phytoestrogen content of forages.</b><br>A Höjer, S-K Jensen, E Nadeau and A-M Gustavsson                                 |
| 11.15 - 11.30 | <b>Storage time and preservation methods affect FA composition and fat soluble vitamins in ensiled forages.</b><br>A Höjer, H Lindqvist, A-M Gustavsson, S-K Jensen and E Nadeau |
| 11.30 - 11.45 | <b>Effect of pasture botanical composition on milk composition.</b><br>H Steinshamn, S Adler, S-K Jensen, E Thuen, A Veberg Dahl   |
| 11.45 - 12.00 | <b>Botanical composition of silage and quality of milk.</b><br>A Höjer, S Adler, H Steinshamn, S-K Jensen, K Martinsson and A-M Gustavsson.                                      |
| 12.00 - 13.00 | <b>Organic lunch</b>   |
| 13.00 - 13.15 | <b>Rumen fatty acid biohydrogenation.</b><br>H Steinshamn, S Adler, S-K Jensen and E Thuen   |
| 13.15 - 13.30 | <b>Rumen transformation of phytoestrogens.</b><br>K Njaastad, H Steinshamn, S Adler, J Hansen-Møller and E Thuen   |
| 13.30 - 13.45 | <b>Effect of Se supplementation on milk quality.</b><br>E Kuusela and L Okker  |
| 13.45 - 14.00 | <b>Break</b>   |
| 14.00 - 14.30 | <b>Bioactive components in milk and possible health effect.</b><br>S Purup and S-K Jensen  |
| 14.30 - 14.45 | <b>Question and discussion</b>   |
| 14.45 - 15.00 | <b>Closing, Core Organic Secretary, U. Bertelsen</b>   |
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# PhytoMilk



**Anne-Maj Gustavsson** is crop scientist working mostly with perennial grasses and legumes. Her research has been to investigate how chemical composition and feed properties of forages are affected by harvest time and by environmental and management factors. The research has also investigated the dynamics of nutrient utilization in dairy production systems, and the relationship between forage and feed, and ruminant product quality.



**Annika Höjer** is PhD student. Her project is about fatty acid composition, and fat-soluble vitamin and phytoestrogen concentration in organic forage and dairy milk. She will study the effects of silage harvest system, botanical composition, growth site and conservation method.



**Håvard Steinshamn** is grassland scientist with strong interest in ruminant nutrition, particularly in organic managed systems. His research has been on grassland management, forage quality and utilization, nutrient utilization in dairy production systems, and on relationship between forage and feed properties and ruminant product quality.



**Hanna Lindqvist** is PhD-student in animal science and she is focusing on vitamins in forage and in ruminant nutrition. Her research has been on alpha-tocopherol and beta-carotene content in forage mixtures harvested at different maturity stages. She has also studied the effect on vitamins during ensiling with different silage additives and effects of a semi-natural vitamin E supplement offered to organic dairy cows at the transition period around calving.



**Søren Krogh Jensen**, senior scientist, Ph.D. Research interest is within biochemistry and animal nutrition with special emphasis on fat soluble vitamins, antioxidants, lipids and lipid oxidation, as well as the physiological importance of anti-nutrients in rapeseed and legumes.



**Stig Purup**, senior scientist, Department of Animal Health and Bioscience, Aarhus University, is the leader of the cell biology laboratory at the department. He has more than 20 years of research experience in animal and cell physiology and establishment of cell-based models for screening and testing of biological effects. The portfolio of cell-based models includes more than 25 cell-based models comprising primary cells and normal or transformed cancer cell lines from human, porcine, bovine and rodent tissues.





**Steffen Adler** is PhD-student in ruminant physiology and nutrition. His research is on the effect of grassland management on milk quality in organic farming, focusing on fatty acid composition and concentration of fat soluble vitamins in bovine milk.



**Erling Thuen**, PhD degree in animal nutrition from the Norwegian University of Life Sciences (UMB) in 1990. Main field of research and teaching is dairy cow nutrition with emphasis on energy and protein supplementation. Erling Thuen has conducted several production experiments in organic milk production together with Bioforsk Organic, Norway.



**Kari Marie Njåstad** is MSc-student in Animal Science at the Department of Animal and Aquacultural Sciences, Norwegian University of Life Sciences.



**Elisabet Nadeau** is an associate professor in animal science at the section of Production Systems, Department of Animal Environment and Health, SLU Skara, Sweden, with a strong interest in the interaction between forage quality and ruminant nutrition. Her research focuses on field trials and conservation experiments with different types of forages, including whole-crop maize, and forage feeding trials with dairy cows, sheep and beef cattle.



**Eeva Kuusela** is a senior lecturer with strong interest in agroecology and organic farming systems, especially in Nordic organic dairy farming and its 'bottlenecks' such as grazing management and selenium supplementation and recently in relationship between animal feeding and product quality.

