

**Title:**

**Sensory quality of organic milk based on grazing and high ratio of legumes in the feeding ration**

**Authors & affiliations:**

J.S. Vestergaard <sup>\*1</sup>, T. Kristensen <sup>2</sup>, J. Eriksen <sup>2</sup>, K. Sjøgaard <sup>2</sup>, X.C. Fretté <sup>2</sup>,

W.L.P. Bredie <sup>1</sup>, et al.

<sup>1</sup> *University of Copenhagen, Faculty of Life Sciences, Department of Food Science, Sensory Science, Denmark;* <sup>2</sup> *University of Aarhus, Faculty of Agricultural Sciences, Department of Food Science, Denmark*

[jve@life.ku.dk](mailto:jve@life.ku.dk)

**Abstract:** (Your abstract must use **Normal style** and must fit in this box. Your abstract should be no longer than 300 words. The box will 'expand' over 2 pages as you add text/diagrams into it.)

Organic milk forms an important segment of the fresh milk production in Denmark. However, studies are needed to substantiate the high quality and future development of new variations of organic milk for different consumers. Differences in the composition of organically and conventionally produced milk (free fatty acids and a higher content of antioxidants in organic milk) are suggested to be a result of differences in feeding regimes (maize components in conventional production vs. grass and legumes in organic production). Also, milk from dairy cows fed grass silage has a different flavour compared to milk from dairy cows fed maize silage. This study evaluated the sensory properties of organic milk from dairy cows from different feeding trials.

The effect of four different legumes and herbs, lucerne (*Medicago sativa*), red clover (*Trifolium pratense*), white clover (*Trifolium repens*) and chicory (*Cichorium intybus*), was studied following a schedule including 4\*12 Holstein Frisian cows. Descriptive sensory analysis was performed on the fresh pasteurized unhomogenized full-fat milk (6 replicates in 2 sessions) with a trained panel of 10 assessors.

The preliminary results from the descriptive analysis of summer feeding (grazing) and winter feeding (silage) show that feeding with legumes and grass affects the sensory quality of full-fat unhomogenized organic milk. The most distinct milk was obtained from feeding ration high in chicory. This milk was characterized by a bitter and metallic taste and an astringent aftertaste both from the summer grazing and winter silage feeding trials. Red clover was characterized by a boiled milk flavour (summer), lucerne by a fatty aftertaste (winter) and white clover by a sweet and creamy flavour (winter).

The results of the first season, which will also include relations between the sensory quality and the milk composition, serve as important inputs for the extensive studies to be conducted during the next three seasons. These studies include farm studies and consumer studies (product information, preference and purchase motives).

**Do NOT write outside the boxes. Any text that is not in the boxes may be deleted.**