



## 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**

**Organized by**  
**Estonian University of Life Sciences**  
**Ministry of Agriculture of the Republic of Estonia**  
**Estonian Organic Farming Foundation**  
**Nordic Association of Agricultural Scientists**

## Tomato (*Lycopersicon esculentum* Mill.) fruit quality and physiological parameters at different ripening stages of Lithuanian cultivars

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Four cultivars ('Neris', 'Svara', 'Vytėnų didieji', 'Jurgiai') and one hybrid ('Vaisa') of tomato (*Lycopersicon esculentum* Mill.) were investigated at the Lithuanian Institute of Horticulture from 2007–2008. During this investigation fruit quality and physiological parameters were evaluated: the lycopene and  $\beta$ -carotene contents, colour indices (CIE L\*a\*) and hue angle ( $h^\circ$ ) with chroma (C) at four different fruit ripening stages (I stage – green, II stage – beginning of ripening, III – not fully ripened, IV – fully ripened). A significant increase in lycopene and  $\beta$ -carotene content at each successive ripening stage of tomato fruit was recorded. Tomato fruit colour became darker and the ratio of red to green colour increased during the ripening process. Chroma value increased with a change of tomato colour from green to light red, and subsequently declined at the red fruit stage, but chroma of the hybrid 'Vaisa' increased at all ripening stages. External colour was expressed in terms of hue angle. All the analyzed tomato cultivars developed a similar colour when mature, with average hue angles generally being close to 40 degrees, but the cultivar 'Neris' had lower hue value (32 degrees).

## Fatty acid characterization 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 during winter feeding. Basic feed samples were also collected and diets 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 fatty acid (FA) compositions were analysed at University of Aarhus and are presented here. The average content of FA was 3.34 g/100 g and saturated FA constituted 66% of FA. The proportions of c9t11CLA and C18:3n3 averaged 0.48% and 0.67% of FA, respectively. The farming system had minor effects on FA. Milk from AORG farms had somewhat lower proportion of C18:2, C18:3n6 and C24:1 and higher proportion of C20:0, C22:1n9 and C22:1n11 than milk from FORG farms ( $P < 0.05$ ). However, large range in FA between all farms challenges for further investigations of diets and feeds.