

Preliminary results on the effect of 1-methylcyclopropene on quality of plums grown in Latvia

**Vitalijs Radenkovs, Edīte Kaufmane,
Edgars Rubauskis, Daliņa Segliņa**

*Institute of Horticulture, Latvia University of Agriculture
Graudu iela 1, Ceriņi, Krimūnu pag., Dobeles nov., LV-3701, Latvia,
email: vitalijs.radenkovs@llu.lv*

Plums are one of the most popular, perspective and frequently consumed fruit in Latvia. Plums are typical climacteric fruit, respiration occur during ripening. Respiration rate is generally associated with synthesis of autocatalytic ethylene and depends of the cultivar of fruit. Metabolic processes occurring during plum storage cause changes in fruit quality. The aim of this work was to determine the effect of treatment by 1-methylcyclopropene (1-MCP) on physical and chemical characteristics and sensory qualities of five domestic plum (*Prunus domestica* L.) cultivar ('Adele', 'Sonora', 'Victoria', 'Stanley' and 'Minjona') fruit, during four weeks of storage in a cool store-room at temperature 3 ± 1 °C. The following analyses were performed to evaluate quality changes during storage: mass loss, concentration of total acids and soluble solids, firmness, and sensory qualities (colour, flavour, acidity, sweetness, firmness, and stone adherence). The study showed that treatment with 1-MCP had positive effect on fruit firmness during four weeks of plum storage, and there were significant differences in the content of total acids and soluble solids between 1-MCP treated and control plum fruit. The results indicated that there were no significant differences in flavour (aroma) and colour between treated and untreated plum fruit, while 1-MCP-treated fruit were firmer and sourer.

Keywords: 1-MCP, fruit storage, physical-chemical indices, sensory evaluation