

## **The suitability of soil temperatures on the Baltic coast for viticulture**

**Juha Karvonen**

Department of Agricultural Sciences, Faculty of Agriculture and Forestry, University of Helsinki, P.O.Box 62, FI 00014 University of Helsinki, Finland, juha.i.karvonen@helsinki.fi

In consequence of the warming of the Northern European climate, the cultivation of grapevines is expanding to the Baltic coast states. In these countries the risk of frostbite for vine roots is assumed to be higher than in Central Europe during the coldest months. To investigate this issue the soil temperatures of three vineyards in the region of Helsinki (Finland), Pärnu (Estonia), and Tervete (Latvia) were monitored at a depth of 25 cm using waterproof temperature loggers, which saved the soil temperatures to memory every six hours between 1 December and 30 November over the course of a year. The lowest soil temperature of 0.2 °C was recorded in Helsinki in March, while in Pärnu it was 0.0 °C in February, and in Tervete in February it was 0.5 °C. The annual average soil temperature in Helsinki was  $7.2 \pm 6.6$  °C, while in Pärnu it was  $7.7 \pm 6.6$  °C, and in Tervete it was  $8.7 \pm 7.1$  °C. From this it can be concluded that the risk of frostbite in vine roots that have been planted to a depth of 25 cm is low and existing soil temperatures do not restrict viticulture with suitable varieties on the Baltic coast.