

**Title** Determination of maturity stage and fruit quality in peach by skin's optical properties  
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### **Abstract**

The influence of rootstock and solar radiation intercepted from the branches on fruit quality is valued in peach trees. Moreover, a nondestructive method (optical properties of skin fruits) for determining the SSC, the flesh firmness and the harvest time of the fruits is examined. Trials were conducted, in 2004 growing season, at the experimental farms of the DCDSL of the University of Pisa (Italy), on a peach orchard cv. 'Flavorcrest', planted in February 2000 and grafted onto 'GF 677', 'Barrier 1', 'Mr.S. 2/5' and 'Ishtara-Ferciana'. Two summer pruning intensity treatments were applied and the solar radiation intercepted by the branches was measured. Growth of fruits and shoots inserted on the selected branches was monitored starting from the beginning of May up to harvest (middle of July). At harvest, fruit weight, diameter, SSC and flesh firmness were measured and all of the factors considered showed to be important for fruit quality. Particularly, solar radiation and medium vigour rootstocks induced a better fruit quality compared to vigorous rootstocks. The optical properties of the skin were effective to show fruit quality and predict harvest time.