

**Title** Pre-commercial sorting line for peaches firmness assessment  
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### **Abstract**

In the fruit and vegetable sector, the demand of quality has become an important demand for consumers. Whereas first requirement sheets mainly dealt with the visual aspect, currently there is an increasing interest in other quality features, such as maturity. Maturity can be assessed by measuring firmness and sugar content. Through contract CRAFT-1999-70106, funded by the European Union, the Instituto Valenciano de Investigaciones Agrarias (IVIA) has designed a firmness sensor capable of classifying peaches in three categories: very firm, firm and not firm. This paper describes the developed sensor which is based on the analysis of fruit impact on a load cell (curve of force vs time) and its integration in a pre-commercial sorting line. The repeatability tests have demonstrated that the firmness sensor can work appropriately at a speed of 8 fruits s<sup>-1</sup> and the sensor is able to classify peaches according to their firmness with 80% repeatability.