

Title Nut quality and sensory evaluation of hazelnut cultivars
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Abstract

In order to evaluate the influence of chemical composition on nut quality and to characterise the sensory attributes, seven cultivars, grown in a germplasm collection established in Viterbo, were analysed. Nut traits and quantitative and qualitative determination of sugars, organic acids and lipids were carried out. Total polyphenols in the kernel were measured. The sensory profile was examined on roasted kernel. The information relating to secondary components, such as soluble sugars and organic acids was useful for discriminating among cultivars. Fatty acid composition and level of polyphenols varied among cultivars thus giving a different contribution to the potential nutritional and dietetic value of the nuts. Sensory analysis was able to reveal varietal differences for attributes related to taste and flavour. Sweet, aromatic and tasty nuts were the most appreciated by the panelists, whereas oiliness was negatively related to global preference. A positive relationship between sweetness scores and sugar concentration was observed. Due to the effect of these compounds on sensory attributes perceivable by consumers, their concentration and the varietal differences can be considered primary determinants of nut quality and should be valued when planning the cultivar choice.