

Vitrescent dark spot of peach: a new fruit calcium-related disorder?

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Late-season peach cultivars are a specialty of the Calanda area, (Zaragoza, Spain) and the only horticultural commodity protected under a designation of origin in Spain. Such peaches are bagged shortly after thinning and are sold as agrochemical-free due to the limited exposure to sprays and also to pest and diseases. Due to their outstanding quality, Calanda peaches have a great market potential and Spanish consumers already show a clear preference for such commodities. However, the occurrence of a physiological disorder called “vitrescent dark spot” has been reported by growers in the area already more than 15 years ago[1]. The major decrease in quality and associated loss of marketability of peaches affected by such disorder, claim for the development of scientific efforts to characterise it and prevent it in the future. Work over the last 3 years enabled a preliminary characterisation of such unknown peach disorder, which will be herein contrasted with a well-know calcium (Ca)-related disorder of apple, i.e., bitter pit[2][3]. Results regarding tissue structure, protein patterns, induction of damaged tissues and mineral element composition of peach and apple affected areas such that “vitrescent dark spot” of peach may be related to Ca metabolism alike bitter pit in apple. A comprehensive comparison of sound, affected and adjacent tissues relating to such parameters (i.e., tissue structure, protein pattern, induction of damaged tissues and mineral element composition) will be provided, which supports the hypothesis that vitrescent dark spot may be a Ca-related disorder.

[1] Val (2007) *Nutri-Fitos*. **171**:87-98

[2] Val *et al* (2006) *Food Sci. Technol. Internat.* **12**: 417-421

[3] Val *et al* (2008) *J Plant Nutr* **31**: 1889-1905

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