

Vitrescent dark spot in peach: a preliminary mineral element characterization

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Abstract

The occurrence of physiological disorders in fruits lead to major economic losses associated with decreased quality and post-harvest storability of commodities. Peach fruits affected by vitrescent dark spot lose their intrinsic high value and may not even reach the market. The existing lack of information on the peach “vitrescent dark spot” has led to preliminary trials to learn about the nature of such disorders in terms of nutrient balances and structural modifications. Analysis of mineral elements in the injured tissues has shown that Ca, and Mg concentrations were greater than in the mesocarp of sound fruits, while in sound mesocarp of affected fruits, the concentrations were smaller. For K, the opposite situation was found. Besides, analysis of mesocarp of affected fruits showed increasing concentrations of Ca and Mg from sound tissue towards the spot, being greatest close to the spot. Changes in concentration have been found for other mineral nutrients, such as N, B, etc., while other elements such as C and S did not vary in concentration. The results show a similar behaviour in mineral element distribution to that of bitter pit in apple, thus suggesting that the vitrescent dark spot in peach is a calcium related physiopathology.