

Effect of metabolic promoters on yield and fruit quality of 'Sanfilippara' and 'Trabia' loquat

Riccardo Lo Bianco*, Roberto Massenti and Vittorio Farina
Dipartimento di Scienze Agrarie e Forestali, Università degli Studi di Palermo, Palermo, Italy

Keywords: fruit maturation, methionine, oxylipins, peel color, phenylalanine.

Abstract

Preliminary field trials with foliar applications of phenylalanine, methionine, oxylipins and sugars have shown improvements of external color, sugar content and uniformity of maturation in grapes, pome fruits, tomatoes and melons. In this study, we hypothesized that similar improvements could be obtained both in 'Trabia' and 'Sanfilippara' loquat fruit with applications of a commercial formulate called Sunred (Biochim, Bologna, Italy) and containing various concentrations of the above metabolic promoters. The study was conducted on 12 'Sanfilippara' and 12 'Trabia' adult loquat trees grown in an orchard near Palermo, Sicily. Half of the trees for each cultivar were sprayed twice (20 and 10 days before harvest) with 3 l of Sunred solution at a concentration of 4 ml/l, containing a mix of phenylalanine, methionine, oxylipins and sugars. On 21 May 2013, all fruits present in each tree in trial were harvested in one pick, bulk-weighed in the field, and a random sample of about 30 fruits per tree was collected and brought to the laboratory for determination of major quality parameters. Sunred applications increased fruit size and yield per tree by 23.3 and 9.1%, respectively. On the other hand, Sunred applications did not affect average peel color, SS/AC or acidity, whereas they reduced soluble solids and increased pH. Fruit peel color index exhibited less variability in Sunred-sprayed than in control trees. This suggests that Sunred applications induced a more uniform degree of fruit maturation among loquat trees. Possible explanations and implications of the results obtained are discussed.