Title Quality and antioxidant activity changes during low-temperature storage of strawberry fruits

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Abstract

There was only a slight change in colour (L*, a* and b* values) during storage C of fresh strawberries (°at 0*Fragaria x ananassa* cultivars Prarajathan No. 50 and 72 which are different breeding lines) grown in northern Thailand. The rate of loss of firmness was greater in No. 50 than in No. 72 for the total storage period. The total soluble solid (TSS) content decreased in strawberry No. 50, but there was only a slight change in No. 72. Titratable acidity decreased substantially, and reducing sugar content increased at the same rate during low temperature storage of both cultivars. Vitamin C content was reduced after 16 and 12 days storage in No. 50 and 72, respec-tively. Therefore, the differences between cultivars in quality changes during low temperature storage were firmness and total soluble solid content. In addition, there was a decrease in phenolics and in anthocyanin content, but an increase in antioxi-dant activity in these cultivars. The observed negative correlation between both phenolics and anthocyanin content to antioxidant activity during low temperature storage indicated that these fruit antioxidants did not play a major role in increasing antioxidant activity. Therefore it can be concluded that an increase in antioxidant activity was probably due to an increase in antioxidant enzymes and other fruit anti-oxidants during the senescence stage, rather than vitamin C, phenolic compounds, or anthocyanin.