

Title Low soil water content during growth contributes to preservation of green colour and bioactive compounds of cold-stored broccoli (*Brassica oleraceae* L.) florets

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Abstract

Broccoli, cultivated under low (0.40 MPa) and normal (0.04 MPa, equivalent to field capacity) soil water content, and stored under low (1 °C) and room (23 °C) temperature, was assessed for changes in colour, bioactive compounds, and antioxidant activity. Results demonstrated a significant interaction between cultivation and storage conditions. Low soil water content during plant growth and postharvest cold storage were the conditions that, combined, gave the best preservation of colour, antioxidant activity, and l-ascorbic acid and 5-methyl-tetrahydrofolate contents. Carotenoid preservation was dependent on postharvest storage conditions while the contents of phenolic compounds were reduced over time, independent of cultivation and postharvest storage conditions.