

Title Controlled atmosphere storage of rabbiteye blueberries enhances postharvest quality aspects
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Abstract

Blueberries are highly perishable and therefore it is necessary to develop strategies to increase their storage life. Two rabbiteye cultivars ('Centurion' and 'Maru') were stored at 1.5 °C in either regular air or controlled atmosphere (2.5 kPa O₂ + 15 kPa CO₂) for up to 6 weeks. Measurements of firmness, soluble solids content, titratable acidity, weight loss, shrivel and blemishes were combined with determinations of antioxidant activities and total phenolic content. Weight loss and shrivel were not affected by storage atmosphere or storage duration. After 28 days, controlled atmosphere storage resulted in only half as much blemished fruit compared with storage in regular air. Additionally, fungal development in 'Maru' fruit was minimised by controlled atmosphere storage.

Water-soluble extracts from 'Centurion' fruit had higher antioxidant activities and total phenolic content than those from 'Maru' fruit at harvest and after storage in regular air and controlled atmosphere. The highest increases in antioxidant activity and total phenolic content occurred during the additional 6 days of shelf-life at 20 °C.