

**Title** Postharvest physiology of three specially banana cultivars grown in Oman  
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### **Abstract**

Banana is one of the most widely consumed fruit in Oman. Most banana imports come from South America and the Philippines but several banana cultivars are grown locally, particularly in the southern (Dhofar Governorate) and central (Al-Batina Region) area. One of the major factors limiting the development of the local banana industry is the lack of appropriate postharvest technologies to maintain the cool-chain, including the control of fruit ripening. Understanding fruit physiology is critical to the control of banana fruit ripening, maintenance of quality and extension of shelf life. In this study, we investigated the respiration and ethylene production rates of three specialty banana cultivars grown and widely consumed in Oman, commonly called 'milk', 'red' and 'Indian' banana. Our results showed significant difference in both fruit respiration ((ml CO<sub>2</sub> kg<sup>-1</sup> hr<sup>-1</sup>) and ethylene production (ml C<sub>2</sub>H<sub>4</sub> kg<sup>-1</sup> hr<sup>-1</sup>): Indian milk red. Similarly, storing fruit at elevated temperatures increased both respiration rate and ethylene production. Implications of these finding on developing optimal cool-chain management for storage and ripening of these important banana cultivars will be discussed.