

Title           A coupled climacteric?  
Author         Considine, M., Holtzapffel, R., Whelan, J. and Day, D.  
Citation        Australian postharvest horticulture conference, Brisbane, Australia, 1-3 October, 2003; 151-152

### **Abstract**

The ripening of many fruits, particularly those with limited shelf life, e.g. mango and banana, exhibits a discrete burst in respiration, often termed the climacteric. The genetic nature of this respiratory event has enticed much experimentation, including transgenic studies, aimed at restricting the climacteric and extending shelf life. Two such focal points have been the alternative oxidase (AOX) and, more recently, the mitochondrial uncoupling protein (UCP or PUMP). These respiratory pathways represent seemingly minor partners of 'everyday' plant respiration but during a demanding event such as ripening may function to supplement the ubiquitous cytochrome pathway, which may be limited by metabolic control. However, recent studies using mango and tomato have shown that the cytochrome pathway may, in fact, drive the preclimacteric burst. Activity of the AOX and UCP remains subdued until after the climacteric peak. The broader implications for breeding and postharvest management are discussed since these enzymes exist in all plant tissues and may influence postharvest life of many horticultural crops.