

**Title: The Effect of Methyl Jasmonate Treatment on Fruit Quality During Postharvest Storage in Blueberries**

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As acreage in blueberry production has increased, bottlenecks related to fruit quality and postharvest storage have become more critical. Fruit quality in blueberries is important for consumer satisfaction. The primary factors that lead to decline in fruit quality after harvest are water loss, fruit softening, and susceptibility to pathogens. Cold storage is recommended for blueberries and many other fruits to minimize water loss, delay fruit softening and growth of postharvest pathogens. However, storage of fruit at low temperature can result in chilling injury. There is very little information on chilling injury in blueberries. Jasmonates and their derivative methyl jasmonate (MeJA) are plant hormones that can influence various processes involved in plant growth and development including flowering, fruit ripening and abscission. In addition, MeJA also regulates responses during abiotic and biotic stress including chilling injury. This study investigates the effect of MeJA treatment on fruit quality including water loss and chilling injury in three southern highbush blueberry cultivars ('Rebel,' 'Star,' and 'Legacy') during postharvest storage at 4 °C. The treatments included three concentrations of MeJA (50 µM, 100 µM, and 250 µM) and an untreated control. Assessments included: chilling injury, water loss, fruit texture, electrolyte leakage, carbon dioxide, total soluble solids, titratable acidity, and the presence of pathogens. In this study, the data suggested minimal treatment effects and inconsistent effects among cultivars. MeJA did not appear offer any advantages to maintain fruit quality during postharvest storage. The effect of MeJA on phenotypic analysis and chilling injury remains to be evaluated.