

**Title** Effect of methyl jasmonate on chilling injury of okra pod  
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### **Abstract**

Okra (*Abelmoschus esculentus*) is a tropical vegetable of which the young green pod containing high nutrients is sold worldwide, especially to Japan. Okra pod is sensitive to low temperature storage which can induce chilling injury (CI) symptoms. In this study, young okra pods were fumigated with 0,  $10^{-3}$ ,  $10^{-4}$  and  $10^{-5}$  M methyl jasmonate (MeJA) at 25°C for 16 h and then stored at 4°C with 90-95% RH. Fumigated okra pod with  $10^{-4}$  M MeJA or more had lower electrolyte leakage and a delay of pod colour changes when compared with other treatments. Okra pod fumigated with  $10^{-3}$  M MeJA showed CI symptoms over 25% of pod area on day 9 while it was happened to controls on day 3. The CI symptoms exhibited as patches of water soaking on the edges of okra pod which expanded with increased periods of low temperature storage. All MeJA-fumigated treatments had lower levels of accumulation of malondialdehyde (MDA; a product of lipid oxidation) in pericarp tissues of chilled pod compared to the non-MeJA treatment. It was concluded that MeJA fumigation may play a role in prevention of chilling-induced lipid oxidation in okra pod.