

Fruit injury and residues resulting from methyl bromide fumigation of avocados

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Abstract

Avocados treated with methyl bromide at a dose of 32 g/m³ for two hours at 20°C suffered severe injury and subsequent wastage when stored for 11 d at 7°C in sealed polyethylene bags. However, the incidence of fumigant injury was inversely related to the time allowed for aeration between fumigation and cold storage in bags, and after 24 h of aeration there was no fumigant injury. A thick-skinned cultivar (Queen) was found to be less susceptible to injury than a thin-skinned type (Fuerte). Both methyl bromide and inorganic bromide residues varied with cultivar, and after storage the thin-skinned type had approximately twice the inorganic bromide levels as the thick-skinned cultivar. Methyl bromide and inorganic bromide residues were within the 6.5 mg/kg and 75 mg/kg maximum residue limits, respectively, recommended by the National Health and Medical Research Council. No differences in flavour or texture were detected by sensory evaluation of fumigated and nonfumigated fruit either before or after cold storage.

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