

Title Hot iodine treatment for the control of postharvest rots
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Abstract

The potential of iodine as a postharvest sanitiser has led to significant research and development in Australia resulting in a unique iodine delivery system called IsanTM. When utilised as a broad-range sanitiser at levels up to 30 ppm, iodine delivered through the IsanTM unit is very effective at reducing surface mould and bacteria. This research aims to see if iodine can control specific postharvest diseases and potentially replace fungicides. Iodine has proved to be considerably more effective when applied with heat, with the combination of IsanTM iodine and heat being more effective in controlling specific postharvest rots in commodities including peaches, potatoes and apples than either iodine or heat applied singly. This synergistic effect is presumably due to increased penetration and greater microbial action of iodine at higher temperatures. Control equivalent to currently used postharvest fungicides was found for peaches (with *Rhizopus* and *Monilinia* rots), melons (with *Fusarium* rot), apples (with *Botrytis* rot) and potatoes (with *Fusarium* rot). Overall, hot iodine treatment is considered to be an effective strategy to manage postharvest diseases and minimise use of fungicides.