

Title Improving out-turn of fruit and vegetables using hot water drenches

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Abstract

Although heat treatments such as hot air or hot water dips have shown potential for improving fruit quality postharvest, there are significant logistic problems in commercialisation due to the batch nature of the treatment and its long treatment time. We designed and built a heat treatment system which could easily be utilised “in-line” in a packhouse. This hot water drench (HWD) system consisted of a heavy shower of water applied using a perforated plate to pour water directly over the fruit. Treatment temperatures examined were 50, 52.5, 55, 57.5 and 60°C for 10 to 60 seconds and product was air-dried after treatment. We have examined the responses of a range of fruits and vegetables, including kumara (sweet potato), capsicum, persimmon, avocados and tamarillos. Thermotolerance varied between crops, and in general the quality attribute most affected was rot incidence. The best treatment temperature was generally around 55°C. Data will be presented on the effect of hot water drenching on external appearance of persimmons following long-term storage, and on reducing disease incidence in kumara after grading.