

Title Heat treatments control extension growth and enhance microbial disinfection of minimally processed green onions.

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Abstract

Extension growth of minimally processed (removal of roots and compressed stem) green onions (*Allium cepa* x *A. fistulosum*) was greatly reduced by storage in air at 0 deg C, while growth of 10-20 mm occurred at 5 deg C over 10 days. Heat treatments of 52.5 and 55 deg C water for 4 and 2 minutes, respectively, were especially effective in reducing growth to less than 5 mm during 12-14 days at 5 deg C. Growth was inhibited irrespective of whether the heat treatments were applied before or after cutting. Heat treatments resulted in higher average respiration rates during 12 days at 5 deg C, but did not affect the overall visual quality or shelf life. Treatments with 52.5 deg C water alone or in combination with different chlorine concentrations (50 to 400 mg/litre NaOCl, pH 7.0) were more effective than use of water or chlorine solutions at 20 deg C for initial microbial disinfection.