Title	Mealiness and pectolytic activity in peaches and nectarines in response to heat treatment and cold storage.
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Abstract

'Elegant Lady', 'O'Henry' and 'September Sun' peaches, and 'Summer Bright' and 'Summer Grand' nectarines heated to a seed surface temperature of 47.2 deg C over a period of 4 hours developed mealy flesh sooner and to a much greater extent than nonheated fruit following cold storage at 5 deg C for 1 to 3 weeks. Exopolygalacturonase [galacturan 1,4- alpha -galacturonidase] and endopolygalacturonase activities were reduced following 3 to 4 hours of heating and may have been responsible for the increased mealiness. Mealiness often developed in defined regions rather than throughout the entire fruit. Comparison of juicy and mealy regions within individual fruit revealed that mealy regions contained 65 and 86% less exo- and endopolygalacturonase activity, respectively, than juicy regions, whereas pectinmethylesterase activity was unchanged. Extractable protein was reduced by >50% in the mealy regions of the fruit. Intermittent warming periods of 24 hours at 20 deg C at weekly intervals during storageat 5 deg C were less effective in reducing mealiness in heat-treated 'September Sun' fruit than in control fruit. It is important that future work with heat treatments and stone fruit closely monitor potential effects on this disorder to avoid loss of market quality following treatment.