Title Application of a mathematical model for chemical peeling of peaches (*Prunus persica* L.) variety Amarillo Jarillo

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Abstract

A previous model developed by the authors for chemical peeling of spherical foods was applied to peaches, which were assimilated to that geometry. Equations for the prediction of chemical peeling time as a function of temperature; alkali concentration and peeled thickness; and texture changes due to the cooking effect during peeling were established. Likewise, weight loss associated to peeling was determined. A total of 128 experiments were performed, involving caustic soda concentration of 1.6, 3.2, 5.6 and 7.3 (g/100 ml) and temperatures of 70, 80, 90 and 97 °C for peeling times from 0 to 8 min at 1-min intervals. Peeling maps to estimate peeling time for practical peeling conditions, including alkali temperature (70–97 °C), alkali concentration (1.6–7.3 g/100 ml), and peel thickness (0.02–0.05 cm) were developed.