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The Effect of Chemical Applications on Cuticular and Epidermal Properties of Some Sweet Cherry Cultivars With Respect to Fruit Cracking Susceptibility

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Abstract: This study was carried out in Amasya during 1994 and 1995. The aim of this study was to determine the effect of various chemical applications before harvest on epidermal characteristics related with fruit cracking in some sweet cherry cultivars (0900 Ziraat, Lambert and Van). The trees of the cherry cultivars were sprayed with GA 3 (20 ppm), NAA (1 ppm), GA 3 +NAA (20+1 ppm), NAA+Ca(OH) 2 (1 ppm+0.7%), GA 3 +Ca(OH) 2 (20 ppm+0.7%) and GA 3 +NAA+Ca(OH) 2 (20 ppm+1ppm+0.7%) 30-35 days before harvest. In addition, there were multiple applications of Ca(OH) 2 (0.7%) at ten day intervals (three times) before harvest. Histological observations of the fruit skin showed that the cv. 0900 Ziraat, which is resistant to cracking, had thicker cuticula and epidermal layers than cvs. Lambert and Van, which are susceptible to cracking. The NAA, GA 3 , combinations of NAA with Ca(OH) 2 and Ca(OH) 2 applications had a positive effect on cuticula thickness, but this effect differed according to the cultivars. The chemical applications also had different effects on the dimensions of the epidermal cells.

Key Words: Prunus avium, cracking, NAA, GA 3 , Ca(OH) 2 , epidermal characteristics.

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