

Title A study on some chemical and physico-mechanic properties of three sweet cherry varieties (*Prunus avium* L.) in Turkey

Author Kubilay VursavuŞ, Hasim Kelebek and Serkan Selli

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Abstract

Several physical, mechanical and chemical properties of three sweet cherry varieties (Van, Noir De Guben and 0-900 Ziraat) were determined and compared in terms of linear dimensions, length, width, thickness, volume, surface area, geometric mean diameter, fruit mass, sphericity, length of pit, width of pit, weight of pit, flesh/pit ratio, fruit density, bulk density, porosity, failure parameters (force, stress, strain and modulus of elasticity), coefficient of static friction, terminal velocity and apparent colour of sweet cherry varieties, and yield of fruit juice, titratable acidity, pH, total soluble solid, total phenolic compounds, anthocyanins, ascorbic acid, extract, total sugar, ash, and TSS/acid ratio. Further, multi linear models for three sweet cherry varieties were developed and presented to predict the fruit mass. All the properties of three sweet cherry varieties that provide useful data to engineers in equipment design and post-harvest technology for the sweet cherry varieties were generally found to be statistically different. These differences could be due to the individual characteristics of these varieties, environmental and growth conditions.