

**Title** Some physico-mechanical and chemical properties of cherry tomatoes (*Lycopersicon esculentum* cv. Forme) grown under greenhouse.

**Author** Polat R., Turkoglu H., Atay U. and Pakyurek, A.Y.

**Citation** Philippine Agricultural Scientist, 90(1) p.75-80, 2007.

**Keywords** *Lycopersicon esculentum*; Varieties; Dimensions; Density; Chemico-physical properties; Postharvest technology; Mechanical properties; Greenhouses

### Abstract

The physico-mechanical and chemical properties of cherry tomato (*Lycopersicon esculentum* cv. Forme) are important parameters in the design of equipment used for postharvest processes such as handling, harvesting, processing, packaging, transport and storage. In this study the cherry tomato (*Lycopersicon esculentum* cv. Forme) was studied to determine some of its chemical properties and physical properties such as dimensions, geometric mean diameter, projected area, sphericity, true and bulk density, terminal velocity, hardness, coefficient of friction and porosity. Moisture ratio, crude protein, fiber (crude cellulose) and ash, pH, acidity and water-soluble extract of the samples were 85.69%, 4.48%, 0.72%, 27 mg/kg, 3.71, 0.013% and 3.74%, respectively. Cherry tomato contained 275.6 mg/kg potassium, 23.1 mg/kg phosphorus, 18.3 mg/kg calcium, 16.6 mg/kg Mg and 7.5 mg/kg Na. The fruit mass, length, diameter, true density, bulk density, geometric mean diameter, sphericity, terminal velocity, porosity, and surface area were measured as 8.69g, 21.23mm, 24.95mm, 1194.1 kg/sq m, 464.5 kg/sq m, 23.80 mm, 90.77%, 13.14 m/s, 61.83 and 1800.83 sq mm, respectively. Coefficients of friction for plywood, glass and galvanized steel were found to be 0.169, 0.147 and 0.099, respectively. The differences either in physico-mechanical or chemical properties of fruits of the same size were probably due to environmental conditions in relation with the analytical methods used. Consequently, the analytical value showed that cherry tomato is rich in minerals and nutrients.