Title Modeling fruit growth and ripening and quality traits of climacteric and non-climacteric amazonic hot pepper accessions

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Abstract

Fruit growth in six hot pepper accessions from C. *frutescens* (yellow cesari, Chiche pato and cudavio hot peppers) and from C. *chinense* (lulito, pajarito and 'Cesari red' hot peppers) were monitored in four commercial western Colombian Amazonic orchards. The time between fruit set and commercial pepper fruit maturity was 40 ±5d for 'Lulito', while 'Cudavio', 'Cesari red' and 'Cesari yellow', 'Chiche pato', and 'Cudavio' required 50 ±3 d. Three stages of development were identified according to the modeled sigmoid pattern of fruit growth (as measured by longi¬tudinal and equatorial diameters and fresh fruit weight). The first stage was of cell division in the accessions. A second stage of fruit growth occurred due to maximum cell expansion and some transient peaks of respiration rate also took place. Finally, a plateau occurred as fruit reached full maturity and followed typical non-climacteric behavior with exception of the 'Cesari yellow' hot pepper which exhibited a clear climacteric respiration pattern. Fresh weight and diameter, and to a lesser extent dry weight or length were not sufficient to discriminate between C. *frutescens* or C. *chinense* accessions and classified the accessions into three main groups, particularly grouping Cesari red in one side and two C. *frutescens* accessions in the other side.