Title Determining the harvesting maturity of the sugar apple fruits on northern Minas Gerais

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Abstract

This study aimed to evaluate harvest maturity of the sugar apple fruits. The experiment was carried out in a commercial orchard under irrigation system condition, in Nova Porteirinha County, MG - Brazil. The randomized block design was used with four replicates, sixteen harvest times and five fruit per plot. The first harvest was accomplished at fifteen days after artificial pollination (DAP) then every seven days. The following characteristics were evaluated: diameter, length, fruit mass, fruit dry matter, pulp fresh matter, fruit firmness, total soluble solids and ripening time. All evaluated variables were subjected to the sigmoid growth pattern, and the logistical model was adjusted. At 30 and 60 days after artificial pollination, the fruits showed the highest growth rates, whereas the highest dry matter accumulation was exactly verified at fifty days after artificial pollination. Concerning to the increment fruit weight curve, the increases were observed up to 78th DAP, but getting establishment from this date on, and the fruits were gathered at 108 DAP on average. From 104 DAP, the sugar apple fruits showed good features to be consumed in nature, which ripped after 6 days after harvesting; whereas the fruits reaped at 108 DAP showed only three-days shelf life. Although harvesting at 104 DAP doubled the shelf life time, the fruit pulp weight showed an increase around 50 g when reaped at 108 DAP, which approximately represents 7% the fruit pulp. Those results point out the management practices such as fertilization and irrigation must be prioritized during the period from 40 to 80 days after pollination, on northern Minas Gerais conditions.