

Effect of fruit canopy position on microenvironment and physical development of starfruit cultivated under netted structure

ABSTRACT

A study was conducted to determine the effect of fruit canopy position on the microenvironment and physical development of starfruit (*Averrhoa carambola*). The treatments consisted of three canopy positions: fruits facing the morning sun, fruits facing the evening sun and fruits under the canopy. The microenvironment data included irradiance and heat units impinging on the fruit and rainfall throughout the fruit development period. Fruits facing the morning sun always received the highest daily cumulative irradiance (5635 m/m²), followed by fruits exposed to the evening sun (1610 m/m²) and fruits under the plant canopy (<1 m/ m²). The difference in irradiance resulted in difference in temperature of the fruit surface which in turn influenced the heat units (°C) impinging on the fruits. Fruits under the canopy had significantly higher fresh weight than fruits exposed to the morning and evening sun. The relationship between fruit fresh weight and the microenvironment confirmed that irradiance has negative influence on fruit fresh weight.

Keyword: *Averrhoa carambola*; Canopy position; Microenvironment; Irradiance; Heat units; Fruit size