Effect of pre-harvest fruit covers and calcium fertilization on pineapple thermotolerance and flesh translucency

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Abstract	This study evaluated the effect of pre-harvest fruit covers and calcium fertilization on pineapple thermotolerance and flesh translucency. The treatments were, A (Control: yellow cover), B (white cover + change to yellow in four weeks before harvest), C (black cover + change to yellow in four weeks before harvest), D (Raynox until harvest), E (white cover + change to yellow in four weeks before harvest + Ca from ten weeks until harvest), F (black cover + change to yellow in four weeks before harvest + Ca from ten weeks until harvest), and G (Raynox until harvest + Ca from ten weeks until harvest). MD2 pineapple was employed in this experiment. Translucency incidence, severity and flesh lightness were determined, while calcium content, electrolyte leakage, and fruit temperature were examined to characterized pineapple thermotolerance. The translucency and thermotolerance were positively affected by the flesh temperature (average of 38 degrees C at 12:00 PM), whereas the thermotolerance was also influenced by the calcium (Ca2+) assimilation in the cell wall. Treatments C and D reduced the thermotolerance (55-65 weight % of Ca2+ assimilated), and obtained a higher translucency incidence (> 10 %), while treatment E provided the best performance because decreased the translucency incidence (< 5 %), and increased the thermotolerance (73 weight % of Ca2+ assimilated). The calcium content and electrolyte leakage were between the ideal quality values. The dry season hastened the fruit ripening causing a reduced translucency. Further studies should be performed on thermotolerance effects on translucency and the relation to magnesium status.
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