Studying the impact of foliar fertilization with calcium and silicon close to harvest on pineapple physico-chemical characteristics

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Abstract	Calcium is an essential mineral for pineapple development and quality. On the other hand, silicon is another mineral that lately has been investigated due to its positive effects on fruit quality. Nonetheless, no sufficient information has been document in pineapple, primordially with applications close to harvest, when pineapple plant tends to exposed mineral deficiencies. Therefore, this study aimed to evaluate the effect of foliar fertilization with calcium and silicon close to harvest on pineapple physico-chemical characteristics. The treatments arranged were, A (control: Without fertilization), B (Ca from ten weeks before harvest until harvest), C (Ca from six weeks before harvest until harvest), D (Si from ten weeks before harvest until harvest), E (Si from six weeks before harvest until harvest), F (Ca + Si from ten weeks before harvest until harvest), and G (Ca + Si from six weeks before harvest until harvest). MD2 pineapple hybrid was used in this experiment. Fruit total soluble solids, total acidity, sugar, acid, water content, beta-carotene, fruit and crown weight, and flesh firmness were determined in two experimental trials. Treatment D delivered the best performance by obtaining an ideal level of total soluble solids, water, sugar and acid content, fruit and crown weight, and flesh firmness. Besides, this treatment provided the highest citric acid (>= 0.6%) and beta-carotene content (>= 3.5 mg/kg), representative antioxidants in pineapple. In conclusion, the employment of silicon close to harvest, from ten weeks before harvest until harvest can be used as an ideal treatment to provide an optimal pineapple quality.
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