Physicochemical Changes during Growth and Development of Pineapple (Ananas comosus L. Merr. cv. Sarawak)

Article 17, Volume 18, Issue 2, March and April 2015, Page 491-503

Document Type: Research Paper

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Receive Date: 06 August 2014, Revise Date: 13 March 2015, Accept Date: 21 November 2015

Abstract:
The physical and physiological characteristics of Sarawak pineapple were studied at five different stages of growth from one to five months after anthesis. Changes in fruit length, diameter, pulp color, pulp firmness, pH, total soluble solids, titratable acidity, ascorbic acid content and antioxidant activity were monitored. The Sarawak pineapple exhibited a sigmoid growth pattern during fruit development. The pulp firmness decreased while the total soluble solids increased as the fruit developed, thus improving its edibility and acceptability to the consumers. A reduction in pH and an increase in titratable acidity contributed to the distinct flavor and taste of the Sarawak pineapple. While ascorbic acid content reduced throughout growth and development, the overall antioxidant activity increased in the fruit suggesting a later period of harvesting as the most appropriate. The changes that occurred extrinsically as well as intrinsically suggest that the best time for harvesting the Sarawak pineapple is five months after anthesis.