Assessment of Potential Sago Starch Content in Sago Palm Forests in Mindanao, Southern Philippines

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Keywords

density, environmental growth conditions, palm forest, Philippines, sago, starch content

Abstract

This paper presents the results of the assessment of the potential yield of sago palms in Mindanao, Southern Philippines. Previous studies have characterized the growth parameters of sago palms as influenced by their environmental growth conditions and anthropogenic activities of the local residents in the area, thereby affecting the potential yield of starch. In this study, a total of 60 sago palms were harvested and cut into logs and brought to central facility where each log was manually debarked, stripped, solar dried, milled, and sieved. Samples were obtained from identified 3 environmental growth environments (dry, wet, and submerged soil conditions) and from undisturbed and disturbed areas where the local community utilized the leaves for roofing. The results showed that on average, starch yield was maximum in palms grown in wet environment and without anthropogenic disturbance. Furthermore, the results were consistent with previous works that starch is at the maximum at inflorescent stage (247.5 kg/palm), and in bole formation stage (127.1 kg/palm), and lowest at fruiting stage (63.1 kg/palm). With these results and utilizing the sago density data from a previous study, we conclude that 2,000 tons of starch can be harvested within 1 to 2 years and about 20,000 tons in another 4 to 5 years. Further study is recommended to include cost of production in the sustainability assessment.