SESSION B3

Infructescence Development and Seed Characterization of Nipa Palm from Different Semi-Wild Stands of Davao Region, Southern Philippines

Junaldo A. Mantiquilla[1], **Katia Charmaine B. Ponce**[1], **Klarissa C. Concepcion**[1], **Reynaldo G. Abad**[1], **Gilda C. Rivero**[2], **and Cyrose Suzie S. Millado**[1]

[1] University of the Philippines Mindanao
[2] University of the Philippines Diliman

***Correspondence**

Department of Biological Sciences and Environmental Studies, College of Science and Mathematics, University of the Philippines Mindanao, Mintal, Tugbok District, Davao City 8022, Philippines

T +62 83 293 0312
E junaldo2003@yahoo.com

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- seed morphometrics

Abstract

The versatility of nipa even under unstable environmental conditions and its potential use as source of bioethanol underscore the importance of understanding the fruit development of the palm. Female anthesis served as the reference point for determining the age of infructescence (fruit head). Weekly observations categorized according to morphological changes showed that Stage 1 is distinguished by a hard brown seed with dark brown tips. Stage 2 is characterized by seeds of even brown hue with some carpels fused forming bigger seed. At Stage 3, the infructescence began to bend owing to its weight with seeds having brown color with darker hue. At 21 weeks from female anthesis, the fruit head reaches its peak of rapid growth, which may also level off photosynthate demand. This suggests a halt to being a 'sink' in the succeeding stages. At Stage 4, the infructescence was already bending halfway the ground level. At Stage 5, the fruit head finally touched the ground. This indicates full maturity at 25 weeks from onset of female anthesis. In a separate study, environmental variability did not show statistical differences on seed morphometrics. However, position of seeds in the infructescence significantly affected viability. Seeds, if spherical, are considered viable and were located in the polar end opposite the peduncle and in the equatorial region. Dark brown seeds indicate full maturity. This study would be of value in the future as reference for seed maturity index, variability tests, and description of different stages for timing sap collection during tapping.