

Evaluation of the Underutilized Agro-morphologic features of Aroids for improved Food Security, Nutrition, and Economic Development

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Received 12 July 2022; revised 30 July 2022; accepted 29 August 2022

Abstract

Aroids or Cocoyam are often referred to as "women's crops" because women dominate the value chain. Women are primarily responsible for producing, processing, and sales of this root plant, while ensuring a year-round supply. Aroids, i.e. taro (*Colocasia esculenta*) and tannia (*Xanthosoma sagittifolium*) are underutilized root crops in the tropical and subtropical regions of developing nations. In Nigeria, there is abundance of Aroids. It can be boiled, fried, steamed, or roasted, pounded to produce a paste for porridge thickening, dried to make flour, sliced and fried to make chips, and prepared in a variety of other ways. A variety of local foods utilizes aroids. The investigated physiochemical properties of *Xanthosoma sagittifolium* and *Colocassia esculenta* include length, width, thickness, geometric mean diameter, sphericity, mass, volume, density, moisture content, porosity, and angle of repose. The development of machinery for the harvesting, storage, and processing of aroids requires adequate knowledge of their agro-morphologic features.

Key words: root crop, marginal resource, storage equipment, post-harvest condition, food processing, *Xanthosoma sagittifolium*, *Colocassia Esculenta*.

1.0 INTRODUCTION

Aroids also known as Coco-yam, many readers are unfamiliar with the name. This is amongst the most neglected crops, so this is hardly surprising. Aroids in West Africa refers to tannia (*Xanthosoma sagittifolium*) and taro, two distinct root and tuber crops (*Colocasia esculenta*). It can be cooked, fried, micro waved, or roasted, pounded to make a paste, dried to flour, sliced and fried to produce chips, among other preparations. The plant's leaves are also fit for human consumption and it can be added to meals such as broths as a vegetable. Aroid is cultivated less frequently, most especially in central and western Africa compared to similar crops like potato, yam and cassava, but it plays a crucial role in food and nutrition security. This plant's health benefits are well documented, and it has the potential to generate substantial income for the rural people, particularly women. Aroids have a multitude of advantages, so why are they not highly regarded and utilized? Aroid is often ignored as a "women's crop," and women monopolize the value chain [Otekunrin et al., 2021]. Women are primarily responsible for the production, processing, and sales of this root vegetable, ensuring a continuous supply throughout the year. Nonetheless, women control the finances associated with cocoyam. Besides their commitment to the cocoyam value chain, women are excluded from the majority of decision-making process steps and face discrimination in terms of land access

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