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Production of basic seed yam tubers using vine cuttings from Aeroponics

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The initial experimentations on yam propagation in aeroponics system were successful leading to production of tubers and bulbils on both *D. alata* and *D. rotundata* species. Planted in AS, virus-free and endophyte-clean plantlets from the Temporary Immersion Bioreactor System developed successfully with 95% survival. The harvests of tubers in aeroponics boxes were done every three to four months. The number of tubers harvested per plant varied among genotypes and the age of the plants with an average of 3.1±0.1 tubers. In addition to the tubers some plants produce bulbils. The third type of planting material generated from yam in aeroponics system is the one node vine cuttings. After 9-12 months of development plants generate on average 300 one-node vine cuttings. The vine cuttings are rooted in pots in nursery and developed new leaves between 3 to 4 weeks. They are transplanted to field at the density of 1m X 0.25 m where more than 92% of the rooted plantlets developed with vigour and produced after 6 months various sizes of tubers depending of the varieties. Among the white yams, the biggest tubers average of 1.6kg were recorded up to 30% of the tubers of TDr95/19177 while the smallest tubers average of 30g were recorded in large number 32% among the tubers of TDr95/18544. In the same growing condition the TDr 89/02665 has generated 47% of mini tuber weighting on average 83g against 5% and 97g for TDr 95/19177. Between the water yam varieties TDa 98/01176 produces 1% and 35% of ware and big seed weighting 1.3kg and 480g against 4% and 48% with 1.2kg and 535g respectively for TDa 98/01166.

Biography

Norbert G. Maroya is an Agricultural Engineer specializing on plant breeding with a Ph.D. from the Department of Botany, University of Ghana Lagon. His areas of expertise includes seed project management, seed systems development, seed quality control and certification, foundation seed production, breeder seed maintenance, seed industry development, and seed marketing, among others.

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