

POLLEN AND YIELD PERFORMANCE OF SOME ACCESSIONS OF 'EGUSI' MELON (CITRULLUS LANATUS (THUNB.) MATSUM & NAKAI)

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ABSTRACT

Pollen studies and yield evaluation were carried out on 50 accessions of 'egusi' melon (*Citrullus lanatus* (Thumb.) Matsum & Nakai) collected from different parts in Nigeria, to determine the pollen fertility, size, structure as well as their yield performance. Pollen fertility for all accessions was generally high with accessions NG/SA/JAN/09/029 having the highest with 97.60%. Mean pollen size ranged from 50.00 μm for NG/ATI/APR/09/003 to 133.33 μm for NG/SA/JAN/09/029. Pollen structure was spherical with some having collapsed cytoplasmic outline. Germ pores ranged from 1 (monoporate) to 3 (triporate). The analysis of variance revealed significant accession effect for all characters except number of fruits per plant. The interaction between the accession x seasons was significant only for seed yield. The highest seed yield was obtained for NG/SA/JANI09/029 (2,733.33kg/ha) and A20 had the least (523.33kg/ha). Principal component analysis (PCA) showed fruit circumference, fruit weight and seed weight per fruit were the highest discriminating characters to the overall variation observed in the accessions studied. This study demonstrated the potential of pollen studies in distinguishing the accessions as well as their yield potential, and also revealed the characters that contributed most to the overall variations. Further cytological studies are required in taxonomy to determine the fertility status in different or related species.

Keywords: *Pollen fertility, Pollen size and structure, PCA, 'egusi' melon*
