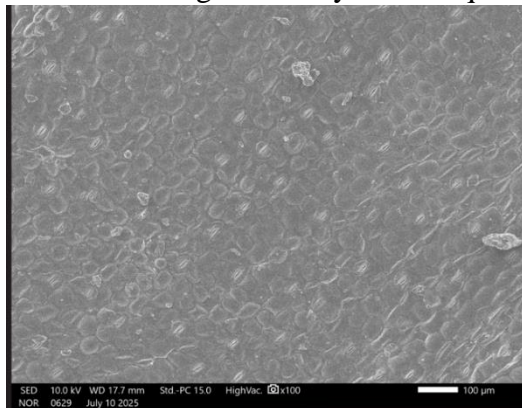


Date: 5-12-2025

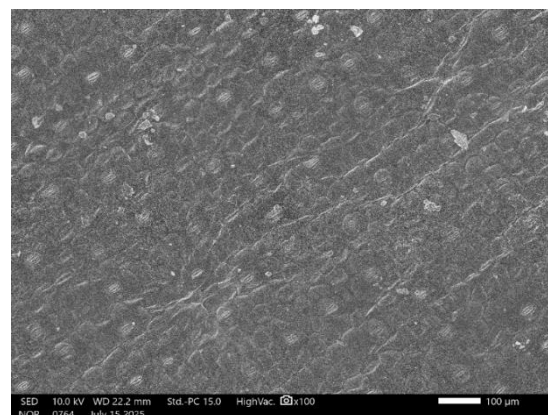
Research Breakthrough: First Report of Diploid Turmeric in Genepool

A landmark study titled “Ploidy Level Variation in the Gene Pool of Turmeric (*Curcuma longa*)” was conducted during 2024–2025 at the All India coordinated Research Project on Spices, Dr. YSR Horticultural University - Regional Horticultural Research Station, Lam, Guntur District, Andhra Pradesh. The investigation involved 75 turmeric genotypes and 4 checks to understand the ploidy variation among the gene pool. Using flow cytometry, the research team assessed the ploidy status of all genotypes. The turmeric gene pool was found to be predominantly triploid (81%), followed by tetraploid (16%). Notably, the study identified diploid genotypes (3%) for the first time, marking a significant advancement in turmeric cytogenetic research. However, the presence of these diploid genotypes requires confirmation through detailed cytological studies to validate their chromosomal constitution.

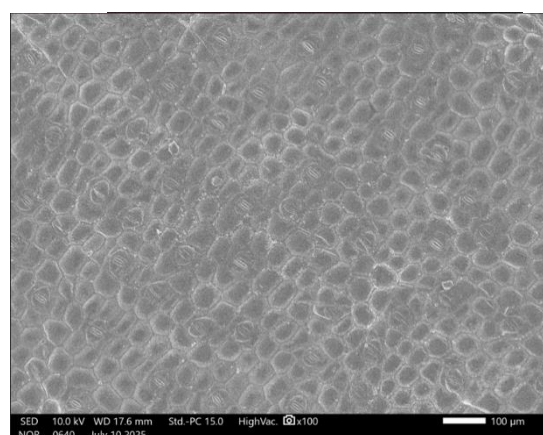
This pioneering finding enhances current understanding of genetic diversity in turmeric and opens new avenues for breeding, trait improvement, and genetic enhancement aimed at boosting rhizome yield and quality.



(a) Diploid



(b) Triploid



(c) Tetraploid

SEM view of stomatal density in various ploidy levels of turmeric