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Preliminary studies on pollen production and viability in wild relatives and cultivated cassava

Cassava wild species are important sources of useful genes for cassava breeding programs. However, little is known about crossing compatibility among different *Manihot* species. To better understand the process from pollination to seed production, this work aimed to evaluate the genetic variation of some pollen characteristics which are very correlated to pollination efficiency. Preliminary studies have been carried out in wild and cultivated cassava species to estimate the potential of production of pollen grains and their viability for crossing. In a working collection of *Manihot* species at Embrapa/CNPMPF, anthers from male flowers of different species were randomly collected just before the anthesis and stored in ethanol:acetic acid (3:1) for viability analysis or in ethanol 70% for pollen counting. Pollen viability was estimated by the carmine staining method and pollen production was determined using the counting of pollen grains suspension in glycerol 50%. The diameter of pollen grain was also estimated by micrometric slide method. All the evaluated parameters showed genotypic differences as much among wild species as among cassava varieties. The pollen production varied from 1056 to 2692 grains per flower. In general the wild species produced more pollen than *M. esculenta*. The pollen diameter varied from 128 to 169 micrometers with the smaller values found in wild species. The highest diversity was found in pollen viability varying from 47% to 97%. These preliminary results revealed that the studied parameters have a large variability within *Manihot* germplasm. Further detailed studies aiming the correlation between these parameters and crossing compatibility are currently underway.