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Crossing compatibility between wild relatives and cultivated cassava

Although cassava wild species are important source of useful genes that can be used in cassava breeding programs for resistance to biotic and abiotic stresses, very few studies on crossing compatibility between wild and cultivated species have been reported. To address this issue, this work was carried out in the working collections of *Manihot* species at Embrapa/CNPMF. Nineteen crosses were performed, involving cultivars of *M. esculenta* and accessions of 13 wild species: *M. anomala*, *M. flabellifolia*, *M. jacobinensis*, *M. peruviana*, *M. tomentosa*, Pornincia (natural hybrid), *M. caerulescens*, *M. cecropiaefolia*, *M. dichotoma*, *M. glaziovii*, *M. irwinii*, Manioba (probably *M. pseudoglaziovii*) and cassava Sete Anos. The six first wild species were used in reciprocal crosses and the other seven were crossed only as female parentals. The crossing compatibility was highly genotype-dependent. Out of the 13 wild species, only 6 species produced seeds (*M. anomala*, *M. flabellifolia*, *M. jacobinensis*, *M. tomentosa*, *M. irwinii* and cassava Sete Anos). The average rates of fertilized flowers, fruit set, and seed production were significantly different among species and dependent of both donor and receptor of the pollen grains. Only two wild species produced seeds in both ways (as male and female): *M. flabellifolia* and *M. tomentosa*. The period from pollination to fruit dehiscence varied from 48 to 97 days and a total of 158 hybrid seeds were produced from 972 pollinated flowers.