CLASSIFICATION OF MOCO CULTIVARS AND THE RACE MARIE-GALANTE AND THEIR POTENTIAL USE FOR UPLAND COTTON IMPROVEMENT

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Abstract

Moco cultivars and the race Marie-Galante are perennial cottons that are grown in many Central and northern South American areas. They present substantial genetic variability.

This study was carried out to determine the position of some Moco and Marie Galante accessions within the tetraploid cotton classification using microsatellite marker variability and to evaluate their potential use for the improvement of cultivated Upland cotton.

The allelic diversity of 48 tetraploid genotypes was screened using 320 mapped simple sequence repeats. In addition, 20 Moco cultivars and 486 Marie-Galante accessions from the CIRAD collection were evaluated to determine their agronomical and technological characteristics during seed rejuvenation.

The genetic dissimilarities noted confirmed that the Moco type could be classified within *G. hirsutum*, but with no clear Moco cluster. The eight Marie-Galante accessions were in the *G. hirsutum* clade but divided into two subgroups. In addition, there was no evidence that: i) Moco cotton could be classified in the race Marie-Galante, and ii) these two groups have been introgressed by *G. barbadense.*

The bibliographical review and the results of assessments of the CIRAD collection indicated that Moco and Marie-Galante are of potential interest regarding tolerance to biotic (nematodes and diseases) and abiotic stress (drought, salt), seed quality (oil percentage) and fibre quality (length, strength, maturity and fineness).

Moco and Marie-Galante were crossed in Brazil, in collaboration with Embrapa, to improve modern cultivars for tolerance to biotic stress and the progenies will be evaluated in the field and with molecular markers.