

**W121 Origin and domestication of the Nacional cacao variety from Ecuador and collecting expedition of new related genetic resources**

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In order to increase our knowledge about the origin of the fine flavour Nacional cacao variety cultivated in Ecuador, 332 samples representing the modern Nacional cacao population were collected along the coast region and analyzed with 40 SSR markers. The results showed a hybrid population; however, based on paternity analyses some cacao genotypes appeared to be at the origin of more than 90% of this population and could represent the native Nacional cacao variety present before the foreign germplasm introductions. Trying to determine the geographical origin of the Nacional cacaos previously identified, 80 SSR markers were used to analyze its genetic relationship with a wide range of wild and cultivated genotypes, collected in South and Central America. The highest genetic relationship was found with some wild accessions from the south Ecuadorian Amazonia, where archeological evidence confirms the existence of pre-Columbian civilizations that inhabited the region. With the help of the Shuar Federation, a collecting expedition of wild cacao was carried out in the South Amazonian province of Zamora Chinchipe from Ecuador. A total of 83 wild or semi-wild ("primitive") trees were sampled, some of them collected at more than 1000m of altitude. Two field cacao collections were established with the collected material at the INIAP facilities. The first DNA and biochemical analyses showed the highest relationship between the Nacional pool with some cacaos collected along the Nangaritza river. These collections represent important genetic resources for the improvement of the Nacional variety.

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