

## GENETIC VARIABILITY OF MATE DUE TO GEOGRAPHIC AND ENVIRONMENTAL CONDITIONS

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Mate (*Ilex paraguariensis* A. St. Hill.) is a native species in Southern, Southeastern and Mato Grosso do Sul State of Brazil, Paraguay and Northwestern region of Argentina. Mate is widely consumed as a tea and it is produced by extraction of dried leaves. Recently, new uses have been discovered for the pharmaceutical and cosmetics industries. It is representative species of temporal region, frequently living in high altitudes. Nowadays, Mate is considered an endangered species. The original Mate forest (Araucaria Forest) had lost 97% of its area. This caused the further loss of genotypes and genetic variability. Despite the loss of large areas of Araucaria Forest and its genotypes, there are many populations with various characteristics present in multiple environments. This occurs due to long term of adaptation to many factors, such as variations in relief, climate and soils in very short distances. Mate has high productivity and genetic gain potential. Thus, we propose to estimate genetic diversity of these populations related to geographical characteristics by considering to limit conditions climate and soil. Based on the knowledge acquired, we will be able to determine the natural range, or ecological niche, of the more relevant populations. It will also enable us to identify tendencies of these populations to move up due to climate changes. In this way, we will be possible to suggest conservation strategies for the species.

Keywords: genetic conservation; climate change; ecological niche.

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