

GENETIC VARIABILITY OF BRAZILIAN-PINE DUE TO GEOGRAPHIC AND ENVIRONMENTAL CONDITIONS

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Brazilian-Pine (*Araucaria angustifolia* (Bert. O. Kuntze), also known as Araucaria, is a native species in southern and southeastern of Brazil. The wood of Brazilian-Pine has great economic value and the pine nuts are widely consumed in the country. It is representative specie of cold areas, frequently living in temperate climate in high altitudes. It is the dominant tree of Araucaria Forest, which had lost 97% of its area. This causes the further loss of genotypes and genetic variability. Nowadays, Brazilian-Pine tree is considered an endangered species. 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. Brazilian-Pine has high productivity and genetic gain potential and in despite of its qualities, there is not a genetic breeding program as well developed as of other introduced species, such as pine and eucalyptus and the genetic characteristics of populations and the environment in which they live are largely unknown. 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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