

GENETIC PARAMETERS, GENOTYPE-BY-ENVIRONMENT INTERACTION, AND GENETIC GAINS IN *Corymbia citriodora* HOOK

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Abstract

The aim of this research was to estimate genetic parameters based on a *Corymbia citriodora* progeny tests. The experiment was established using 56 open-pollinated families in three different sites located in the State of São Paulo, Brazil. The soil types at three sites differ significantly (RL: Red Latosol, QN: Quartzarenic Neosol, CL: Clay Latosol). After 30 years the survival rate was evaluated. Statistical analyses and genetic parameters were estimated by REML/BLUP methodology. The progenies performed differently for survival in three analyzed sites. The coefficients of genetic variation are in general low. In The narrow-sense heritability estimates for each site there were noticeable in between the environments. The QN site shows a much higher heritability in comparison with CL site. In summary, due its wide genetic variation and moderate genetic control, this research demonstrates potential to obtain considerable understanding and realize gains in genetic selection in the future.

Keywords: progeny test; tree breeding; heritability