

MWP – Young Researcher Abstract 2024

Project title: GENETIC CONTROL FOR VOLUMETRIC GROWTH AND NIRS CALIBRATION MODELS FOR PHYSICAL AND CHEMICAL PROPERTIES FOR <i>Corymbia</i> spp.	
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Abstract (approx. 200 words): The genus <i>Eucalyptus</i> has undergone several revisions and taxonomic reclassifications over the last 20 years. As a result, many eucalypt species previously introduced into Brazil are now identified as part of the genus <i>Corymbia</i>, with both genera belonging to the Myrtaceae family. The selection of individuals of interest in a breeding program for paper and pulp production should always be done with a focus on the characteristics of interest in the production process, such as wood growth and properties. Therefore, this research aimed to evaluate the genetic control of individual volume, the correlation of this character at two different ages, and the comparison between three different selection intensities of <i>Corymbia</i> spp. Progenies. The physicochemical characteristics of <i>Corymbia</i> spp hybrids wood were analyzed, and predictive models using near-infrared spectroscopy (NIRS) methodology were constructed for the properties of basic density of chips, extractive content, total lignin content, syringyl/guaiacyl ratio (S/G), and depurated pulp yield. The genetic improvement of the populations of the three <i>Corymbia</i> species studied in the Telêmaco Borba region, presents significant genetic variability, for the selection of superior individuals with possibilities of genetic gains in the selection intensities of 5 and 10%, and early selection may be a tool efficient for breeder use. All properties studied have potential for ranking in genetic selection, NIR spectroscopy being a tool potentially to be applied in breeding programs.	
Key words: Volume, early selection, <i>Corymbia</i> hybrids, prediction models, NIRS.	