

**IUFRO Conference 2023*****Eucalyptus dunnii* clonal strategy implementation in Montes del Plata**Heberling, M. ¹; Balocchi, C. ²; Ramírez, M. ²¹ Montes del Plata, Colonia, Uruguay² Bioforest, Concepción, Chile

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One of the main goals of a tree breeding program is to increase forest productivity, adaptation and profitability of forest plantations. *Eucalyptus dunnii* is a main species used for pulp production in Uruguay. Montes del Plata (MdP) is one of the largest forest companies in Uruguay and has been focused on the development, testing and deployment of *E. dunnii* clones to establish company plantations in Uruguay. On this presentation, the MdP ongoing clonal strategy for *E. dunnii* is presented. MdP clonal strategy starts with the generation, testing and selection of families in progeny tests (Open-pollination and Control-pollination) with a breeding population with a wide genetic diversity in order to have a sustainable clonal program. Seeds from the best families are used for clonal development in a two-phase strategy. In the first phase all potential clones are screened for rooting, in the company research nursery, and only the ones that root more than 60% go to the next phase, which is to produce plants for the establishment of clonal trials in field and, based on the performance, to select the candidate clones for deployment. On average, 4,000 clones/year are evaluated in the first phase, from which 200 go to clonal field trials every year. The strategy also includes a protocol for other traits assessment, like tree form, health and wood properties; the selection trait being tons of cellulose per tree (ADt). Wood properties are evaluated at early age using a company near infrared model (NIR). Then, values of predicted wood properties are projected to rotation age. This presentation will be complemented with extra information related to the different strategy phases in several posters. The MdP clonal strategy is a rolling front strategy, where clones from the best families are tested and selected for deployment and breeding to have continuous gain over time for *E. dunnii*.

Keywords: *Eucalyptus dunnii*, breeding, clonal strategy, clones, rooting