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Initial assessment of *Eucalyptus dunnii Maiden* × *Eucalyptus globulus Labill* hybrid clones in Argentina

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The National Institute of Agricultural Technology (INTA) of Argentina develops breeding programs for temperate *Eucalyptus*, including *Eucalyptus globulus Labill* (*E. globulus*) in southeastern Buenos Aires, and *Eucalyptus dunnii Maiden* (*E. dunnii*) in central/northern Buenos Aires, Santa Fe, and the Mesopotamia region of Argentina. Currently, the forestry industry is concentrated more than 600 km north of the *E. globulus* plantation area, outside its optimal growth zone. In order to obtain genotypes that would adapt to the environmental conditions of the center-north of Buenos Aires and express good industrial properties, a controlled crossing program was developed starting in 2011. The hybrid progenies obtained were cloned, selecting those with the highest rooting index. Between 2015 and 2022, trials with hybrid clones of *E. dunnii* × *E. globulus* (DG7 and DG10) and an *E. dunnii* seed treatment were installed. Height (H1) and Survival (SUV1) were assessed in the first year, the diameter at 1.3 meters from the ground at the second year (DBH2) and at the seventh year (DBH7). For SUV1 and H1, DG7 averaged 91% (80-100) and 1.46 meters, respectively, while DG10 averaged 84% (60-94) and 1.28 meters. *E. dunnii* averaged 84% (57-100), with an average H1 of 1.98 meters. The lowest SUV1 and H1 values are associated with the site that was established in 2015 and experienced flooding conditions. For DBH2, DG7 averaged 5.37 cm (ranging from 3.98 to 7.71), DG10 averaged 4.22 cm (ranging from 2.01 to 6.1), and *E. dunnii* measured 6.16 cm (ranging from 4.55 to 7.1). For DBH7, DG7 averaged 16.99 cm, DG10 averaged 7.96 cm, and *E. dunnii* measured 16.72 cm. Samples were removed and evaluated from this site, along with age-matched material from *E. dunnii* and *E. globulus*. The Pulp and Paper Center of the National Institute of Industrial Technology (INTI) evaluated the basic density (TAPPI 258 om-02) and pulpable yield by Kraft digestion. The average values obtained for DG7 were 0.491 g/ml and 48.91%, whereas for DG10 they were 0.443 g/ml and 47.41%. *Eucalyptus dunnii* exhibited values of 0.414 g/ml and 44.03%, while *Eucalyptus globulus* showed values of 0.439 g/ml and 48.30%, respectively. Survival and growth results show good adaptation of the clones in this region, which do not differ from *E. dunnii* and the first technological evaluations are promising. In future evaluations, ten new hybrid clones installed between 2020-2022 and new hybrid progenies in rooting tests will be incorporated.

Keywords: hybrids, Kraft, Argentina, E. dunnii

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