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Estimation of biomass obtained from different pruning carried out in a *Eucalyptus* plantation associated with native species in an experimental plot for forest landscape restoration

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The importance of conducting studies on biomass and carbon in forest plantations is undeniable. Hence, the objective of this study is to estimate and compare the dry biomass obtained from four pruning conducted in a *Eucalyptus* plantation associated with native species in an experimental plot for forest landscape restoration. The study area is situated in the district of Hernandarias, Alto Paraná department, Paraguay. The plantation is structured into five repetitions, where each experimental unit consists of production rows and conservation rows. The production row of each experimental unit comprises 32 trees of *Eucalyptus urophylla* S.T. Blake × *Eucalyptus grandis* W. Hill (clonei 144). To collect data, four pruning were carried out at 15, 18, 21, and 24 months. The two initial pruning were done using pruning shears, and the subsequent ones using saws with extendable handles. The first pruning was executed up to 1.50 meters (m), the second up to 2.60 m, the third up to 4 m, and the fourth up to 5 m in height, aiming to obtain knot-free wood. For sample processing, leaves were separated from branches and weighed immediately after pruning. Subsequently, a sample of approximately 200 grams was taken and placed in an oven at 60°C for roughly 72 hours until a stable weight was achieved. The total biomass was then estimated. The results show that at 15 months an average of 1.15 kilograms per hectare (kg/ha) of dry biomass was obtained; at 18 months, 1.60 kg/ha; at 21 months, 2.61 kg/ha, and at 24 months, 2.49 kg/ha of dry biomass. Estimating dry biomass through pruning provides valuable information to approximate the carbon stored in the branches and leaves of young eucalyptus plantations in Paraguay.

Keywords: biomass, estimation