



Taper equations for tree diameter and volume estimation in silvipastoral systems

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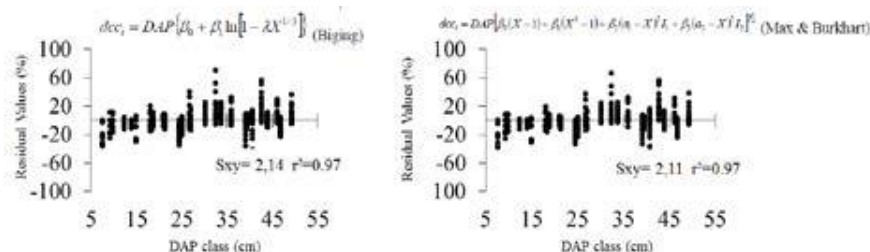
Introduction Several studies have been developed in order to define taper equations for different forest stands, species, sites, management systems, planting spacings, etc. However, specifically in silvipastoral systems, in which the spacings between tree rows are wider, the dendrometric behavior is different from that observed in pure stands. Studies for trees established in these systems are still scarce. The objective of this work was to select allometric models taper estimation of eucalypt trees established in a silvipastoral system.

Material and Methods

The data assessed were obtained from a 10-year-old mixed agrosilvipastoral system, established in a 4-ha mountainous area. Trees were arranged in 10-m wide strips of land, in contour lines, intercalated with 30-m wide strips used for grazing. Segmented (Max & Burkhardt) and non-segmented (Biging) models were evaluated for the taper equations in order to compare the accuracy of these in use in trees planted in iLPF systems as described by Müller et al (2014). Equation comparison was made by residue graphic analysis, standard error and R^2_{adj} (Kvålseth, 1985).

Results and Conclusions

Fig. 1. Graphs of residues (%) of the estimations of diameter of *Eucalyptus grandis* trees established in a 10 year-old silvipastoral system.



Despite the segmented model has shown a slightly better accuracy in the representation of the data, due to its lower standard error, the results of both models were satisfactory for use in silvipastoral systems.

References cited

KVÅLSETH, T.O. (1985) The Am Stat, v. 39, n. 4, p. 279 - 285.
MÜLLER et al (2014) Rev Floresta, v. 44, p. 473-484.

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