Title: Effects of spacing in the proprieties of the wood and charcoal of eucalyptus clones from energetic forests

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Abstract of the paper: Energy generation from wood and its derivatives depends, among other factors, of the choice on the initial spacing between the plants. Many studies show this is a complex decision, because it deals with ecological, physiological, silvicultural and economical aspects. In face of important and complex questions that compose the planning of wood production for energy context, the information related to the quality of the wood in function of the spacing becomes indispensable, like a fundamental tool for taking a choice. With the objective of evaluating the interference of the spacing in the energetic proprieties of wood and charcoal from eucalyptus clones (Eucalyptus grandis x Eucalyptus camaldulensis hybrid), in December 2002 a experiment with delineating in casual blocks with five treatments (spacings) and three blocks was installed, in the scheme of time-subdivided pieces. Each block was constituted of six planting lines (3 m between the lines) and in each line 28 trees were planted (the distance between the trees changed according to the treatment, that is, 0,5; 1,0; 1,5; 2,0 and 3,0 m), in a total of 168 trees. The trees were collected with 48 months old. Of each one, were removed 2,5 cm thick discs, the height at 0 (base), 25, 50, 75 and 100% of the commercial height of the trunk. Of each disck, two wedge-shaped samples, passing through the marrow, one of them was used for basic density and calorific power determination of the wood, and the other was used to carbonization for posterior studies about the proprieties of the charcoal in function of the spacing. According to the results, the basic density of the wood was not influenced by the applied spacings. However, the calorific power was significantly affected by the spacing, with the wood of the trees cultivated in the 3,0 x 2,0 m spacing having the highest one (4650,4 kcal/kg) e the lowest one (4374,6 kcal/kg) being observed in the 3,0 x 0,5 m cultivated spacing. The spacing between the trees did not influenced the charcoal proprieties, those being affected , mostly, by the production parameters.

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