

**COMPARATIVE ANALYSIS OF THREE MODELS OF FORESTRY  
PROCESSOR HEADS**

The aim of this work was to analyze the performance of three models of forestry processor heads in the Full Tree harvesting process. For this comparative, similar forest conditions were selected, like tree size and morphological characteristics, furthermore maintaining the same machine operators during the evaluations. The models evaluated had different capacities of grapple area, where the conventional model had an area of 0.85 m<sup>2</sup> (denominated PH1), and the proposed models of different manufacturers had an area of 1.00 m<sup>2</sup> (denominated PH2 and PH3). The data collected in the time studies were submitted to analysis of variance (*ANOVA*) and to the *Tukey Test* with 95% of confidence interval. After the analysis, it was observed that the two models with higher capacity (PH2 and PH3) presented better productivity results than conventional model (PH1), with an increase up to 14% in productivity. When analyzing the two models of higher capacity it was found that the PH2 model presented an increase of 7% in productivity in comparison to the PH3 model. Thus, it was concluded that the models with higher capacities presented better productivity results, compared to the conventional one, without losing energy efficiency (liters of fuel / m<sup>3</sup> of processed wood).

**Keywords:** Harvest; Mechanization; Productivity; Full Tree; Forestry Processor Head.

**Application:** Published abstract

**Author:**

Edimar Domingos Filho – [edimar.domingos@fibria.com.br](mailto:edimar.domingos@fibria.com.br)

**Co-Authors:**

Angelo Conrado de A. Moura – [amoura@fibria.com.br](mailto:amoura@fibria.com.br)

Felipe Bianchi Saldanha – [felipe.saldanha.fs1@fibria.com.br](mailto:felipe.saldanha.fs1@fibria.com.br)

Glodoaldo Arantes Ramiro – [glodoaldo.ramiro@fibria.com.br](mailto:glodoaldo.ramiro@fibria.com.br)

Rafael Oliveira de Azevedo – [rafael.azevedo@fibria.com.br](mailto:rafael.azevedo@fibria.com.br)

Jeovagno Barcelos Rangel – [jeovagno.rangel@fibria.com.br](mailto:jeovagno.rangel@fibria.com.br)

Nilton Cesar Perina – [nilton.perina@fibria.com.br](mailto:nilton.perina@fibria.com.br)