

Noppamas Inkhum 2006: Study on Variation of Basic Density, Fiber Properties and Proportion of Cell Types of *Alstonia scholaris* R. Br. Master of Science (Forestry), Major Field: Forest Products, Department of Forest Products. Thesis Advisor: Assistant Professor Pratuang Puthson, Dr.rer.nat. 87 pages.  
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This research studied the effect of ages, different trees within ages and positions from pith to bark on basic density, fiber properties and proportion of cell types of *Alstonia scholaris* R. Br. and correlation between all variables and its variance component. The studied fiber properties are fiber length, fiber width lumen width, cell wall thickness and fiber coarseness. The studied proportion of cell types are proportion of fibers, vessels, ray parenchymas and longitudinal parenchymas.

Two wood samples of 5 7 and 9 years old were randomly selected from Rayong Province and were cross cut into discs at Breast Height. The discs were marked the crosscut's points at the positions: near pith, near bark and the distance from pith to bark at 20 40 60 and 80 percentage. The experiment was conducted using nested design.

The results indicated that of *Alstonia scholaris* R. Br. wood had rather highly wood variation in ages, different trees within ages and positions from pith to bark. Ages had the effect on cell wall thickness and proportion of ray parenchymas. Different trees within ages had the effect on fiber width lumen width proportion of fibers and longitudinal parenchymas. Positions from pith to bark had the effect on fiber length, cell wall thickness, proportion of fibers, vessels, ray parenchymas and longitudinal parenchymas. Variables had positive correlation were lumen width and fiber width, proportion of vessels and cell wall thickness and variables had negative correlation were proportion of ray parenchymas and fiber width, lumen width and proportion of fibers. The results from fiber properties showed that *Alstonia scholaris* R. Br. wood can be used as a raw material for pulp production.

Noppamas Inkhum

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