

Expository of modified geostatistical models of Teak stands volume specific to Solomon Island-derived clones in Tawau, Sabah Malaysia

ABSTRACT

The geostatistical model of the teak tree's volume was examined based on a teak plantation managed by the research and development team of Sabah Softwood Berhad, at Brumas camp, Tawau, Sabah. A sample of 432 and 445 georeferenced individual tree points obtained for the 6th and 7th year respectively, was analysed, specific to the Solomon Island-derived clone as previous findings showed that it was the genotype that thrived. This study aims to expose the possibility that the modified theoretical variogram model for the volume of the teak tree, with piecewise function, fits the data better than previously introduced theoretical variograms. The modified theoretical variogram is compared to previously introduced theoretical variograms to examine its accuracy and consistency according to the volume's spatial information. The introduction of the piecewise function into the modified theoretical variograms proves to be a better fit for the variograms via plots, further smoothing of the piecewise function needs to be executed to prove that it has lower error and higher accuracy when estimation using kriging needs to be executed.