

ABSTRACT

Three-parameter Weibull density function was fitted to data of even-aged stand of *Agathis lornsthiifolia* Salisb using method of moment and three percentiles i.e. 17, 50, 97 and 40, 60, 82. In terms of goodness of fit, estimation based on 40, 60, 82 percentiles failed to describe 10 out of 30 data sets. On the other hand, 17, 50, 97 percentiles did well in describing all data utilized, as method of moment did. However, it tends to have larger deviation.

Method of moment based fitting of three-parameter Weibull density function was also better in terms of smaller deviation than fitting of two-parameter of the same function based on 40, 80 pair percentiles suggested by Edy (1977).

On the basis of the above results, method of moment was selected as the best method of estimation in fitting three-parameter Weibull density function. However, its superiority did not materialize when it was fitted to data of *Pinus merkusii* Jungh et de Vriese, as it failed in one data set. The failure may not be due to the function selected but rather to the estimation method, because the same function fitted with 17, 50, 97 percentiles could describe all *Pinus merkusii* Jungh et de Vriese data set.

It is suggested to fit three-parameter Weibull density function using method of moment as the first choice or 17, 50, 97 percentiles as the second alternative to describe diameter distribution at breast height of even-aged stand.