



Malays. Appl. Biol. (2015) 44(3): 81-86

FIELD ASSESSMENTS OF ABOVE GROUND BIOMASS (AGB) OF MANGROVE STAND IN MERBOK, MALAYSIA

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ABSTRACT

Mangroves are considered as unique and important ecosystems that occupy an intertidal zone of protected shorelines. The halophytic plants present in mangroves provide support not only for social economic needs but also for ecological roles which include carbon sinks. Above ground biomass (AGB) of mangroves was estimated in mangrove stands in Merbok, Kedah. Field data collection was conducted from January 2013 to May 2013. A total of 25 sites measuring 100 m x 100 m were surveyed in the study area. Within randomly selected plots, diameter at breast height (DBH), tree height and crown width were measured. Mangrove trees were identified at the species level. Published allometric functions were used to compute the AGB of mangroves.

Rhizophora apiculata

was found to be the most abundant species followed by

Bruguiera parviflora, *Bruguiera gymnorrhiza*

and

Avicennia marina

. An overall mean for AGB in study area was estimated to be 176 Mg/ha.

From the analysis of variance (ANOVA), it was found that there is a significant difference in the means of all mangrove variables measured between four mangrove species ($p < 0.0001$).

Positive relationships were found between DBH, height and crown width and AGB with r values of 0.88, 0.43 and 0.81 respectively. The subsequent analysis will involve a study of relationships

between mangrove stand attributes with spectral radiance recorded from remote sensing.

Keywords

Above Ground Biomass, Mangrove, Allometric Function, Diameter at Breast Height (DBH)