

Some ecological characteristics of *Arundinaria pusilla*.

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ABSTRACT

This study is tried to evaluate some ecological characteristics *Arundinaria pusilla* in dry dipterocarp forest. The aboveground standing crop is estimated by using 1 X 1 square meter plots. Root samples are taken to a depth of 20 cm. The biomass, average leaf weight, number of leaf, leaf area, and LAI are estimated. The determination of gross energy and chemical composition in order to evaluate the forage quality is also discussed.

The aboveground biomass is estimated to be 275.18 gm/m², divided into 128.29 gm/m² of stem biomass and 146.89 gm/m² of leaf biomass. The root mass in the upper 20 cm of soil profile average 619.94 gm/m². This made up of 895.12 gm/m² of total biomass. It is estimated that the moisture content of stem, leaf and root are 35, 34 and 43 percent, respectively. The result indicates that the stem/leaf ratio is 1 : 1.3 and the aboveground biomass ratio is equal to 1 : 2.3 . The average leaf weight is 0.051 gm/leaf with a number of 4,364 leaf/m². The average surface area of the leaf is about 11.18 cm²/leaf with a total leaf area of 48,790 cm²/m². This indicates that the LAI is equal to 4.88.

The aboveground and below ground standing crop of energy are estimated to be 1,073 and 2,418 kcal/m², respectively. The amount of carbohydrate in leaf, stem and root are almost equally distributed, 41.82, 41.74 and 40.41 percent, respectively. Crude protein, fat, calcium and phosphorus are highest in the leaf portion. Those nutrients are also met the requirement recommended for beef cattle production. But those nutrient in stem and root are quite low. The fiber of the leaf is 28.02 percent compared to 42.28 percent of the stem and 43.75 percent of the root. Beside that *Arundinaria pusilla* also play an important role in conserving the nutrients of the dry dipterocarp forest. There are approximately 12.1, 3.58 and 1.71 kg/rai of nitrogen, calcium and phosphorus stored in the ecosystem in the form of biomass, respectively. Otherwise all of these nutrients will be leached away from the dry dipterocarp forest.