

# Seasonal variation of nutrients in Yaa phet (*Arundinaria pusilla*) under the dry dipterocarp forest at Sakaerat Environmental Research Station.

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## ABSTRACT

The investigation of seasonal variation of nutrients in Yaa phet (*Arundinaria pusilla*) was conducted during May 1981 to April 1982 at Sakaerat Environmental Research Station. The results indicate that percent calcium, magnesium, phosphorus, sulfur and potassium of the standing live of Yaa Phet were higher than that of the standing dead and those nutrients trend to increase during the wet period up to the early of the dry period and decrease in the late of the dry period. Nutrient content, particularly calcium and magnesium, in the litter of Yaa Phet were lower than that of the other species. Except calcium, the nutrients in the litter trend to decrease during the wet season. The variation of nutrient content in the belowground portion, except those of calcium and sulfur, were more or less in the same degree of fluctuation. It was no difference of nutrient content between the depth of 0 - 10 and 10 - 20 cm levels.

The accumulation of nutrients in both strata have strata have not so much difference. The nutrient accumulation in the belowground portion were generally higher than the aboveground portion. The accumulation of calcium, magnesium, phosphorus, sulfur and potassium in the aboveground portion were between 13.04 - 18.34, 6.58 - 8.51, 2.58 - 2.95, 3.11 - 3.72 and 22.15 - 26.96 kg/ha, and between 78.51 - 99.36, 21.63 - 23.67, 9.97 - 10.37, 11.76 - 12.07 and 56.58 - 62.65 kg/ha for the belowground portion, respectively.

The percent of protein, fat, ash and carbohydrate of the standing live of Yaa Phet were higher than that of the standing dead, except that of fiber, and trend to increase in the wet season and decrease in the dry season. The higher in fat and lower in fiber content were found in the litter of other species if compared to the litter of Yaa Phet. The other chemical composition, protein, ash and carbohydrate, of the litter of Yaa Phet trend to decrease in the late of the wet season and season and there were no definite fluctuation pattern. Besides the decreasing of ash in the late of the wet season, protein, fat, fiber and carbohydrate of Yaa Phet in the belowground portion trend to increase.

The chemical composition accumulation of Yaa Phet in both strata have not much difference. The chemical accumulation were higher in the belowground portion than the aboveground portion. The accumulation of protein, fat, fiber, ash and carbohydrate in the aboveground portion were between 196.67 - 234.07, 37.65 - 49.89, 1,633.89 - 1,894.96, 439.96 - 501.36 and 1,708.72 - 2,107.43 kg/ha and between 879.92 - 955.73, 164.28 - 230.43, 8,449.91 - 9,023.18, 3,351.00 - 3,973.13 and 8,261.88 - 8,313.82 kg/ha for the belowground portion, respectively.

However, Yaa Phet play an important role in conserving the nutrients of the dry dipterocarp forest rather than the other undergrowths. If it was disappeared from the system, the nutrients would be leached away from the dry dipterocarp forest. Besides that Yaa Phet is as feed storage for both cattle and wildlife in the northeast region even in the dry period.