

Seasonal variation in biomass and primary productivity of Yaa phet
(*Arundinaria pusilla*) in the dry dipterocarp forest at Sakaerat Environmental
Research Station.

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ABSTRACT

The studies of seasonal variation in biomass and primary productivity of Yaa phet (*Arundinaria pusilla*) in the dry dipterocarp forest at Sakaerat environmental Research Station, were carried out during May 1981 to April 1982. The results were as follows.

The standing live standing crop of Yaa phet (*Arundinaria pusilla*) on both strata peak in November at 364.27 g/m² and on stratum 1 and 312.74 g/m² on stratum 2. The standing dead standing crop on stratum 1 peak in March at 202.02 g/m² and 193.86 g/m² in February on stratum 2. The litter standing crop on both strata peak in March at 236.65 g/m² on stratum 1 and 199.44 g/m² on stratum 2. The belowground biomass in the upper 40 cm of soil profile average 2,668.22 and 2,589.38 g/m² on stratum 1 and 2 respectively. The distribution of belowground biomass were 62.45 and 64.80 percent in 0 - 10 cm < 90.54 and 91.26 percent in 0 - 20 cm, 96.51 and 96.98 percent in 0 - 30 cm of soil depth on stratum 1 and 2 respectively. The ratio of aboveground and belowground standing crop were 1 : 5.1 on stratum 1 and 1 : 5.9 on stratum 2.

Total annual net primary production of Yaaphet was estimated to be 341.90 g/m² of the aboveground and 3,425.65 g/m² of the belowground on stratum 1 and 177.75 g/m² of the aboveground and 3,382.58 g/m² of the belowground on stratum 2. Apparently annual aboveground net primary productivity was 0.93 g/m² per day on stratum 1 and 0.49 g/m² per day on stratum 2. The annual belowground net primary productivity on stratum 1 was 9.39 g/m² per day and 9.27 g/m² per day on stratum 2.

The mean caloric content of standing live, standing dead, litter and belowground biomass were 4,028, 4,039, 3,701 and 3.796 kcal/g. The energy capture was 1,377.17 kcal/m² of the aboveground and 13,003.77 kcal/m² of the belowground on stratum 1 and 715.98 kcal/m² of the

aboveground and 12,840.27 kcal/m² of the belowground on stratum 2. Annual efficiency of energy capture was estimated to be 1.87 percent (0.18 percent aboveground and 1.69 percent belowground) on stratum 1 and 1.76 percent (0.09 percent aboveground and 1.67 percent belowground) on stratum 2.