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EVAPOTRANSPIRATION REQUIREMENT OF RICE AT MAPALANA IN THE WEST ZONE OF SOUTHERN SRI LANKA

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A lysimeter experiment was conducted at the Mapalana Research Farm (6^{O}N, 80.5^{O}E) during Yala 1985 to estimate the evapotranspiration demand of rice (Variety BG 379-2). The daily water losses through the lysimeters (cropped with rice and free soil surface) were recorded under three levels of submergence (2.5,5.0 and 10 cm). The impact of meteorological factors over the evaporation and evapotranspiration was assessed by the multiple regression method.

The average evapotranspiration rate (ET) of the crop was 5 mm/day; the values of evapotranspiration varied within the range of 2-15 mm/day. During the initial stages of growth evapotranspiration was slightly higher than the evapora-

tion (EP) from bare soil or free water surface. The ET/EP ratio rose from 1.0 to a maximum of 1.9 after 40-50 days from transplanting.

Evapotranspiration had a close relationship with evaporation (r=0.7175). This was well pronounced during the initial stages (r=0.930) and the latter stages (r=0.891).

The analysis of variance of the meteorological data indicated that the impact of wind on evaporation is highly significant (R^2=0.7306) Wind is one of the most decisive factors governing the evaporation process of the area.

The regression line when wind speed is included to the regression model would be; $Y = 1.4676 + 0.7734\ X_1$ (Y=Evaporation - mm/day, X_1= Wind speed- ms^{-1})