

IRRIGATION WATER REQUIREMENT OF HYBRID MAIZE (VAR. PACIFIC 999 SUPER) IN REDDISH BROWN EARTH SOIL

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Maize (*Zea mays* L.) is the second important cereal crop, which can be grown successfully in many parts of Sri Lanka under rainfed and irrigated conditions. Among the farmers, hybrid maize varieties are more popular than open pollinated varieties. However, there is no irrigation recommendation adopted for the hybrid maize cultivation in Sri Lanka yet. Therefore, in Yala 2013, a field experiment was conducted to study the effect of different amounts of irrigation water to different growth stages of maize yield in Reddish Brown Earth (RBE) soil. The five irrigation water (IW) /cumulative pan evaporation (CPE) ratios as 0.7, 0.85, 1, 1.15 and 1.3 were

selected. These irrigation ratios were applied at different stages (1, 2 and 3 month) on hybrid maize (Var. *Pacific 999 super*). Fifteen treatment combinations (5 IW/CPE ratios \times 3 stages) were tested with three replicates. Fertilizer and all other management practices were made according to the Department of Agriculture recommendation. Dry grain yield was harvested in 100 days after planting. Highest grain yields were recorded by the treatment combination of 0.85, 1.15 and 1.15

IW/CPE ratios in 1, 2 and 3 month respectively. This was in par with treatment combination of 0.7, 1.15 and 1.15 in 1, 2 and 3 month respectively. The significantly lower yield ($p < 0.05$) was observed when the IW/CPE ratio was below 1.15 at 2 month. Hence, the IW/CPE ratio can be practiced as 0.7, 1.15, 1.15 in three stages, respectively for the hybrid maize in RBE soil.

Key words: Hybrid maize, Irrigation water requirement, IW/CPE ratio, Maize yield, RBE soil