RESEARCH ARTICLE

# DEVELOPMENT OF CROP COEFFICIENT OF CHILLI GROWN UNDER POLYHOUSE FOR THE SEMI-ARID REGION

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**Abstract:** A field trial was conducted in Chilli, crop variety TNAU Hybrid Co-1, at the department of Soil and Water Conservation Engineering, Agricultural Engineering College and Research Institute, Tamil Nadu Agricultural University, Kumulur during the year 2020-21. The Chilli seedlings were raised in protrays and transplanted inside and outside of naturally ventilated polyhouse. Drip irrigation system was laid out. Chilli plant growth parameters, yield parameters and water use efficiency were recorded. Early flowering and fruit formation were noticed inside polyhouse condition. The reference evapotranspiration was calculated by FAO ETo calculator. Soil moisture sensors were installed at the crop root zone depth and the data were recorded continuously. The actual crop water requirement was calculated through soil water balance model. The crop coefficient value of Chilli was developed for the semi arid region as 0.47, 0.78, 1.01, 0.72 for initial, developmental and middle stage and end stage respectively for polyhouse condition with naturally ventilated (17 % opening area) and Crop coefficient value of 0.53, 0.79. 1.03 and 0.76 for initial, developmental, middle and end stage respectively for outside cultivation of chilli crop.

**Keywords:** Chilli, Crop coefficient, Evapotranspiration, Water use efficiency

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