ABSTRACT

Collected monthly rainfall data for 90 years (1911-2000) from India Meteorological Department (IMD) were used to analyse the Conditional Probability (CP). Ten years daily rainfall data (2004-2013) were also collected from IMD for computing effective rainfall. Crop water requirements of selected dryland crops of three districts (Coimbatore, Dharmapuri and Thoothukudi) were collected from the literature and used for computing CP. The study revealed that under dry land situation for both Coimbatore and Thoothukudi districts, successful crop production is assured only during North East Monsoon (NEM) season. For Dharmapuri district the CP of getting 363 mm of effective rainfall during South West Monsoon (SWM) season was 54 per cent and hence, horse gram is suggested. The effective rainfall was 313, 321 and 335 mm for NEM seasons of Coimbatore, Dharmapuri and Thoothukudi districts with a CP of 68, 49 and 72 per cent respectively. During NEM, farmers can opt for growing either pulses or sorghum for harvesting 80 to 90 per cent of potential yields. The CP for water requirement (mm) for pulse crop was 55 and 68 per cent for Coimbatore and Thoothukudi districts respectively for NEM season. The CP for water requirement for horse gram was 74 per cent during SWM and 55 per cent during NEM season for Dharmapuri district.

KEYWORDS: Conditional Probability, Effective Rainfall, Crop Water Requirement