crops were higher than ET_p based on $\alpha = 0.05$, $k_1 = 0.7$ but were better described by ET_p based on $\alpha = 0.23$ in Equation 10. The ET rates of crops prior to full ground cover are lower than ET_p values for the same time periods. The length of canopy development, full canopy, and senescing canopy stages depends on crop, soil, climate, and management factors. There are possibilities of using more sophisticated models for predicting actual ET as climatic conditions fluctuate and the crop goes through its developmental stages. The more promising of these approaches includes modified Penman methods for predicting ET_p and partitioning it into soil evaporation and crop transpiration (Ritchie 1972; Kanemasu et al. 1976). This area is beyond the scope of this publication. Rather, we will consider the use of crop coefficients, which vary with crop development stages, to predict crop ET from a reference ET_p value calculated by Penman's method with $\alpha = 0.05$ and $k_1 = 0.7$.

3.3 CROP COEFFICIENTS

Data presented in Figures 5–9 demonstrate the deviation of actual ET from calculated ET_p as crops develop. Therefore, ET_p calculations should be considered to be reference crop ET values corresponding to the rate of

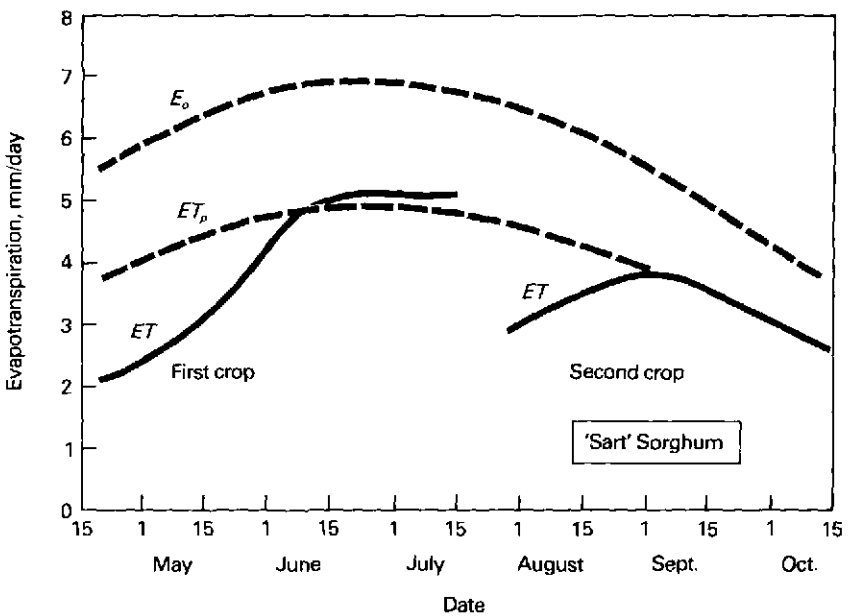

Fig. 7. Evapotranspiration (ET) for sorghum (reported by Doss et al. (1965) for Thorsby, Alabama).

NOTE: See Note, Fig. 5.