



Fig. 14. The relationship between crop yield and estimated *ET* for peanuts grown in deep sandy soil in north Florida (from L. C. Hammond, unpublished data, Gainesville, Florida).

periodic droughts in Florida will result in yield reductions if irrigation management practices do not supply enough water to meet the crop *ET* demands.

Some research has been conducted to determine the effects of water stress on yield and growth of citrus, but the effects have not been quantified through a model such as Equation 23. In most field studies, plant stresses are implied by low soil moisture availability. In general, irrigation has been shown to increase fruit yield and rate of tree growth of citrus in Florida (Koo, 1979) and in Arizona (Hilgeman, 1977). Also, for fruit yield, irrigation has been shown to be more critical in January to June than during the latter part of the year (Koo, 1963; Hilgeman, 1977), but for tree growth, the response is related to irrigation throughout the year (Koo, 1979; Hilgeman, 1977). Environmental conditions that produce plant water stresses are strongly implicated in excessive fruit abscission (Palmer, et al., 1977).