

ABSTRACT

THE INFLUENCE OF EVAPOTRANSPIRATION DEFICIT TO GROWTHS AND YIELDS OF SOME VARIETIES OF SOYBEAN (*Glycine Max (L.) Meriil*)

By

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The objective of this research was to find out the influence of evapotranspiration deficit to growths and yields of some varieties of soybean (*Glycine Max (L.) Meriil*). This research used factorial design in completed randomized design with 2 treatment factors for 3 soybean varieties and 3 level of evapotranspiration which were repeated 3 times. The first factor contained of variety V₁: Wilis, V₂: Kaba; and V₃: Tanggamus. The second factor contained of 3 levels of evapotranspiration deficits; E₁: 1.0 x ET_c (Deficit 0 x ET_c), E₂: 0.8 x ET_c (Deficit 0.2 x ET_c), E₃: 0.6 x ET_c (Deficit 0.4 x ET_c). Data were analyzed using analysis of variance (F test) with 5% and 1% significance levels to find out the influences of treatments. The results showed that evapotranspiration deficits did not influence plant height, numbers of leafs, numbers of flowers, and stover weight, but the evapotranspiration deficits influenced numbers of soybean pods and productions. The highest soybean production was in Tanggamus variety (V₃) with treatment of 0.6 ET_c (E₃) which produced 363.33 gr. The lowest soybean production was Wilis variety (V₁) with deficit treatment of 0.8 ET_c (E₂) which produced 146.3 gr.

Keywords : Evapotranspiration deficit, Irrigation, Soybean varieties.