ABSTRACT

RESPONSE OF GROWTH AND YIELD OF TWO VARIETIES OF SOYBEAN (*Glycine Max . (L) Merrill*) TO AVAILABLE SOIL WATER DEPLETION

by

DODY PANALOSA

So far, efforts to improve the productivity of soybean still relies on the expansion of planting area but production is still declining. Lack of understanding of soybean cultivation and selling price is less promising caused farmers are reluctant to plant soybeans . On the other, increase land productivity is hampered by the limited availability of water and erratic climatic conditions. This research aimed to evaluate the response of growth and yield of two varieties of soybean (Glycine max. (L) Merrill) to some level of available soil water depletion.

This research was conducted at the Integrated Field Laboratory of Agriculture Faculty, University of Lampung, in May until August 2014, using a factorial design in a completely randomized design with the first factor is depletion of available soil water (P) consisting four levels of available soil water depletion treatment (ATT), are treatment P1 (0-20 %) , P2 (0-40 %) , P3 (0-60 %) and P4 (0-80 %) and the second factor is variety of soybean are (V), consisting variety V1 (Willis) and V2 (Kaba), with three replicates. Data was analized with F test and was continued with LSD test 5 % and 1 % by using Statistix8 Program. The results showed, effect of the level of available soil water depletion during vegetative and generative phase did not significantly affect of growth and yield of two varieties of soybean. The highest yield is happenden on 0-40% of available soil water depletion on both varieties. Base on this volue, can be concluded that to optimalized yield of both varieties, can be maintained up to 40% of available soil water deplection.

Keyword : Available Soil Water, Depletions, Generative Phase, Vegetative Phase, Yield.