

ABSTRACT

EFFECT OF SIAM (*Chromolaena odorata* L.) WEED LEAF EXTRACT ON SOYBEAN (*Glycine max* L. Merill) GROWTH AT VARIOUS LEVELS OF DROUGHT STRESS

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Soybean is an important crop in meeting food needs in order to improve community nutrition. Efforts to increase soybean production can be done through expanding the planting area by utilizing marginal lands, for example on dry land. This study aims to determine the effect of the interaction between the concentration of siam (*Chromolaena odorata* L.) weed leaf extract and drought stress conditions on soybean growth. This research was carried out from September 2022 to November 2022 in the plastic house of the Faculty of Agriculture, Siliwangi University, Mugasari Village, Tasikmalaya City. This study used a randomized block design (RBD) with a factorial pattern which was repeated three times. The first factor is the level of drought stress which consists of 3 levels: 100% field capacity (control), 60% field capacity, and 40% field capacity. The second factor was siam weed leaf extract which consisted of 4 levels: 0% (control), 1%, 1,5%, and 2%. The results showed that there was an interaction between siam weed leaf extract and the level of drought stress on plant height. However, the other parameters only have an independent effect. Siam weed leaf extract concentration of 1,5% and 2% have the potential to be used for soybean plants under drought stress condition. Condition of 60% field capacity on soybean vegetative growth can be tolerant to drought stress.

Keywords : Drought stress, Siam weed leaf extract, Soybean.