

ABSTRACT

EFFECT OF ANTIOXIDANT CONCENTRATION OF RED GUAVA EXTRACT (*Psidium guajava* L.) ON GERMINATION AND VEGETATIVE GROWTH OF MUNGBEANS (*Vigna radiata* L.) ON DROUGHT STRESS

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Mungbean is a food plant which is a source of vegetable protein. Efforts made to increase domestic mung bean production is by expanding planting areas (expansion) mungbeans on drylands. The main obstacle to soybean planting in dryland is the occurrence of drought stress that can inhibit the germination and growth of mungbeans. The treatment of antioxidant substances is one of the efforts to overcome drought stress conditions. This study aims to find out the influence of antioxidant concentrations of red guava extract on the germination and vegetative growth of mungbeans in drought stress conditions. The research was conducted from January to February 2023 in the greenhouse of the Faculty of Agriculture Siliwangi University and in a Plastic Houses. This study used Randomized Block Design (RBD) in factorial pattern, and was repeated three times. The first factor using the concentration of antioxidant extracts of red guava, namely 0%, 1% and 2%, and the second factor using the water soil content, namely: FC 100%, FC 50% and FC 25%. The results showed that there is an interaction between the concentrations of antioxidants of red guava extract and the drought stress and the height of plants. The concentrations of antioxidants of red guava extract can of 1% and 2% gave a positive effect on germination and growth of mung beans to the condition of water content of field capacity 50%. Drought stress definitely affected germination, growth, electrical conductivity, dry weight of sprouts, plant height at the age of 21 and 30 days after planting, shoot/root ratio, leaf area, relative water content, chlorophyll levels, dry weight of plants and the number of leaves at the age of 21 and 30 days after planting.

Keywords: Antioxidant, drought stress, extract of red guava, mungbeans