

ABSTRACT

Halimatussa'diyah. 24020120140126. Antioxidant Activity and Vitamin C Content in Sprouts from Three Types of Legume Seeds. Supervised by Yulita Nurchayati dan Nintya Setiari.

Sprouts are a food source known to have high nutritional value, particularly vitamin C and antioxidant activity. Different types of legume sprouts possess varying nutritional values. This study aimed to examine differences in antioxidant activity and vitamin C content in sprouts from three types of seeds. Mung bean (*Vigna radiata*), red bean (*Phaseolus vulgaris* L.), and cowpea (*Vigna unguiculata*). The study employed a completely randomized design (CRD) with a single factor, namely the type of legume seed, with three replications. The seeds were soaked for 6 hours, then placed in Petri dishes lined with cotton moistened with distilled water and germinated for three days. Antioxidant activity was analyzed using the DPPH method and expressed as IC₅₀ values, while vitamin C content was determined using UV–Vis spectrophotometry. Data were analyzed using ANOVA at a 95% confidence level, followed by Duncan's multiple range test when significant differences were observed. The germination percentage of mung bean and cowpea sprouts was 100%, whereas red bean sprouts reached only 30%. Mung bean sprouts exhibited the highest antioxidant activity with an IC₅₀ value of 142.19 ppm (moderate category), while cowpea (299.40 ppm) and red bean (777.31 ppm) sprouts showed very weak antioxidant activity. The highest vitamin C content was found in red bean sprouts at 41.71 ppm, followed by cowpea sprouts at 37.04 ppm, with mung bean sprouts having the lowest vitamin C content at 19.29 ppm. Based on these results, it can be concluded that sprouts from various legume species have the potential to be developed as nutritional sources for the community.

Keywords: *Sprouts, Seeds, Antioxidant, Vitamin C, DPPH, IC₅₀*