

ABSTRACT

Pramudya Paramita. 24020120140147. *Flavonoid Content and Antioxidant Activity in Some Weed Species with Medicinal Potential*. Plant Structure and Function Biology Laboratory, Department of Biology, Faculty of Science and Mathematics, Diponegoro University, Semarang. Supervised of Dr. Yulita Nurchayati S.Si., M.Si and Dr. Nintya Setiari S.Si., S.Si.

Some weeds have medicinal potential. Akar kucing (*Acalypha indica*), meniran (*Phyllanthus niruri*), putri malu (*Mimosa pudica*), maman ungu (*Cleome rutidosperma*), and sirih china (*Peperomia pellucida*) are types of weeds that are commonly found in yard lands. The five weed species are trusted by the peoples as traditional medicine. These weed species have pharmacological effects, one of which is flavonoids which have potential as antioxidant compounds. Differences in plant parts and species are thought to contain different phytochemical content, which can affect its antioxidant activity. This study aimed to compare the total flavonoid content in leaf, stem, and root organs of five weed species and determine the antioxidant activity of these extracts using the DPPH method. The research design used a 5×3 factorial completely randomized design (CRD). The first factor is weed species including Akar kucing (*Acalypha indica*), meniran (*Phyllanthus niruri*), putri malu (*Mimosa pudica*), maman ungu (*Cleome rutidosperma*), and sirih china (*Peperomia pellucida*). The second factor is plant organs in the form of leaves, stems, and roots. The results showed that differences in plant species and organs affected the total flavonoid content and antioxidant activity. The combination of species and organs that produced the highest total flavonoid content was obtained in meniran leaves (*Phyllanthus niruri* L) at 8,750 MgQE/g and sirih china leaves (*Peperomia pellucida* L) at 8,184 MgQE/g. In line with their total flavonoid content, the combination of species and organs to produce strong antioxidant activity was obtained in meniran leaves (*Phyllanthus niruri* L) at 61,267 ppm and Chinese betel leaves (*Peperomia pellucida* L) at 56,767 ppm.

Keywords : Weeds, Flavonoid, Antioxidant, Quercetin, DPPH.