



Comparative Estimation of Phenol and Flavonoid Content of Medicinally Important Plant – *Amaranthuscruentus*

Rasika Torane^{1*,2}, Sucheta Gaikwad^{1,2}, Eliza Khatiwora³, Vaishali Adsul³

¹Dr. T. R. Ingle Research Laboratory, Department of Chemistry, S. P. College, Pune-411030, India.

²Department of Chemistry, S. P.College, Pune-411030, India

³Department of Chemistry, YashwantraoMohite College, BharatiVidyapeeth, Deem University, Pune 411038, India

Abstract: *Amaranthuscruentus* is a medicinal plant commonly found as a leafy vegetable. It belongs to family Amaranthaceae and distributed all over the world. *A. cruentus* has high nutritional value. Protein content of Amaranth grain is much higher than other grains like wheat and rye. Amaranth seeds, seed oil and leaves are used for health benefits such as to reduce blood pressure, cholesterol and weight, increase immunity, treat anemia, gastro intestinal tract disorders, antioxidant properties and anti inflammatory properties. Lunasin, a peptide in Amaranth seeds is considered to exert anti cancer properties. The consumption of *A.cruentus* products is advised for patients with celiac disease, therefore for diabetic persons. Owing to these properties, the present study was designed to investigate the total phenol and flavonoid content of various extracts of *A. cruentus* aerial parts spectrophotometrically. Extracts were prepared using solvents of different polarity ranging from semi polar to polar.

The total phenol contents in the extract was calculated as pyrocatecholequivalent ($r^2 = 0.934$). It ranges from 341.47 to 1611.66 mg/g. Phenol contents in ethyl acetate extract are significantly lower whereas highest in ethanol extract. The total flavonoid content in the extract was calculated as quercetin equivalent ($r^2 = 0.993$). Total flavonoid ranges from 1.44 to 4.95 mg/g. Flavonoid quantities in aqueous extract are significantly lower whereas highest in ethanol extract. This preliminary study is certainly useful for further biological study. These results provide data that make it promising to classify extracts in respect to their antioxidant potential.

Keywords: *Amaranthuscruentus*, Amaranthaceae, Spectrophotometer, Phenol and Flavonoid.