

Table 1: Antioxidant potential (assessed in terms of availability of total polyphenol, monophenol, diphenol, flavonoids, carotenoids, anthocyanins, betacyanins, and DPPH radical scavenging property) of foliar tissue extract of *Amaranthus hypochondriacus* L. (accession no. IC47434). (Results are mean of three replicates \pm SE).

Accession of <i>A.hypochondriacus</i>	Total Polyphenol (mg g ⁻¹ dry mass)	Monophenol (mg g ⁻¹ dry mass)	Diphenol (mg g ⁻¹ dry mass)	Flavonoids (mg g ⁻¹ dry mass)	Carotenoids (μmol g ⁻¹ dry mass)	Anthocyanin (μmol g ⁻¹ dry mass)	Betacyanin (μmol g ⁻¹ dry mass)	DPPH Radical Scavenging property (% g ⁻¹ dry mass)
IC47434	5.32 \pm 0.02	3.75 \pm 0.03	5.84 \pm .03	6.78 \pm 0.02	1.56 \pm 0.06	0.62 \pm .01	3.64 \pm .06	33.4 \pm .2

of hydroxyl-rich phytochemical constituents (phenolics). It is evident from GC-MS spectra (Figure 1) that all fractions have a complex chemical composition. Thirty five compounds have been identified based on library data (NIST and WILEY) of corresponding compounds. These compounds are important constituents of plant for their radical scavenging activity due to the presence of -OH groups. Phytochemicals (phenolics) with -OH groups works as powerful chain breaking antioxidant through H-atom donation. The result pertaining to the quantitative antioxidant profiling of young leaf samples of experimental accessions of *A. hypochondriacus* (IC47434) also revealed significant accumulation of monophenol, diphenol, total polyphenol and flavonoids (Table 1). The antioxidant pigments anthocyanine, β -cyanine and carotenoids also revealed significant accumulation in the young leaves of the experimental plant. Radical scavenging property of the methanolic leaf extract of the experimental plant also corroborate significant total antioxidant potential (Table 1). In conclusion, flavonoids, phenolics and antioxidant pigments of the foliar tissue of the experimental seed amaranth found to have significant contribution to the total antioxidant capacity. GC-MS study further indicated presence of several hydroxyl rich phytochemical constituents (phenolic compounds) in the ethanolic leaf extracts. Finally, the present study proved the immense potential of leaf tissue of seed amaranth with significant antioxidant potential.

References

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