

## Analysis of Phenolic Compounds and Antioxidant Activities in Amaranthus Species

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### Background & Aim :

Five species of Amaranthaceae Amaranthus were growth in Taiwan, including: *A. cruentus* L., *A. spinosus* L., *A. viridis* L., *A. blitum* L. subsp. *oleraceus* (L.) Costea., and *A. gangeticus* L. It's extracts obtained from the crude extract of the plant were investigated for their antioxidant activities and phenolic compounds content.

### Materials & Methods :

Antioxidant activities of the five extracts were evaluated by using ABTS and DPPH radical scavenging. Total phenolic contents of the extracts were determined using Folin-Ciocalteu method. The identification and quantification of phenolic antioxidants were carried out with a rapid and simple method of reverse phase high performance liquid chromatography with diode array detection (RP-HPLC-DAD).

### Results :

The results showed that all extracts exhibited strong antioxidant activity. The *Amaranthus spinosus* L. extract showed that the highest antioxidant activity and highest phenolic contents.

### Conclusion :

These results suggest that the extracts of these compounds in *Amaranthus* extracts masks it an interesting source of natural antioxidants.

### Keywords:

*Amaranthus*, antioxidant activity, phenolic compounds