

EFFECT OF DEBITTERING ON PHYTOCHEMICALS AND ANTIOXIDANT COMPOSITION OF VERNONIA AMYGDALINA AND GONGRONEMA LATIFOLIUM LEAVES

OBETA NWAMAKA A. & ONWELUZO JANE A

Department of Food Science and Technology, Michael Okpara University of Agriculture, Umudike,
Abia State, Nigeria

ABSTRACT

The astringent taste of Vernonia amygdalina VA and Gongronema latifolium GL leaves were debittered through boiling and squeeze washing. The effect of boiling and squeezewashing on the proximate, phytochemicals, vitamin A, C, E composition and invitro antioxidant activities of VA and GL leaves were evaluated. The invitro antioxidant activities of the vegetable extracts were estimated using reducing power, total phenol content and 1,1Diphenyl2picryl hydrazyl radical DPPH inhibition. Boiling and squeeze washing significantly $p < 0.05$ reduced all the nutrients in VA and GL in a similar trend. Squeeze washing had lower values $p < 0.05$ in fibre 8.83 and 10.80 for VA and GL respectively and carbohydrate 67.92 and 64.58 for VA and GL respectively. Both boiling and squeezewashing drastically reduced vitamin C content from 13.32 g100g and 10.18 g100g to 7.37 g100g and 3.25 g100g in VA and GL respectively. Phytochemicals content of both leaves showed that unprocessed VA had higher alkaloids 1.73 g100g, tannin 0.23g100g saponin 8.02 g100g and phytate 0.246 g100g than GL. The antioxidant activity of the leaves reduced with squeezing as observed in the total phenol content, reducing power and DPPH inhibition activities. From the result it is seen that debittering these vegetable leaves for food preparation reduced nutrients, phytochemicals and in vitro antioxidant activities of the leaves. The indication is that debittered leaves of VA and GL will not provide health benefits for which these vegetables are known for. The extract from squeezed washing contains the necessary ingredients for health improvement.

KEYWORDS: Antioxidant Astringent, Invitro Nutraceutical and Squeeze Washing