A-37 Iron, zinc and copper content of spices and condiments and souring agents

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Trace elements Fe, Cu and Zn play an important role in the oxidative pathways involved in energy metabolism. A deficiency of these elements in humans could drastically reduce the physiological, immunological and reproductive functions in man. In this paper the Fe, Zn and Cu content of commonly used spices and condiments and souring agents are presented.

1g of the edible portion of food items, in triplicate, were digested with a mixture of conc. nitric acid, perchloric acid and sulphuric acid (3:2:1). The digested material was analysed for the presence of Fe, Zn and Cu using atomic absorption spectroscopy. Fe, Zn and Cu contents were calculated as mean ± SD in mg/100g of edible portion.

Spices, condiments and souring agents were analysed. (Mean ± SD mg/100 g Fe): Ginger (20.24 ± 3.82mg/100g), mustard (17.48 ± 0.98mg/100g), rampe (14.00 ± 1.24mg/100g), goraka (24.80 ± 3.11mg/100g) and tamarind (16.27 ± 0.88mg/100g) had high content of iron, while black pepper, cummin seeds, and curry leaves had moderate values ranging from 5-10 mg. Other food items had less than 3mg. (Mean ± SD mg/100 g Zn): Cummin seeds (1.54 ± 0.01), curry leaves (1.60 ± 0.01) garlic (1.66 ± 0.12) and goraka (3.23 ± 0.15) had high content of zinc and other foods analysed had less than 1.5mg of zinc. The food items rich in copper (Mean ± SD mg/100 g Cu) were black pepper (1.04 ± 0.05) coriander (1.04 ± 0.05) and red chilies (1.01 ± 0.04). Rest of the foods had less than 1mg of copper.

This work was supported by a grant from NARESA (RG/92/M/6).