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## Zinc content of commonly consumed foods of Kurukshetra district of Haryana

GARIMA SINGH AND G.K. KOCHAR

### ABSTRACT

Zinc contents of foods are directly related to the soil zinc content, Hence, in the present study, 24 locally grown and consumed and 12 locally consumed but not grown food samples were analyzed for their zinc levels using flame Atomic Absorption Spectrophotometry. Zinc concentrations varied from 0.06mg/100g in grapes to 6.04mg/100g in gingelly seeds. Foods rich in zinc were gingelly seeds (6.04mg/100g), Chickpea (3.55mg/100g), chashewnut (3.10mg/100g), soybean (2.97 mg/100g) and lentil (2.88mg/100g). Foods low in zinc, were grapes (0.06mg/100g), banana (0.10/100g), cucumber (0.12mg/100g), guava (0.13mg/100g), and carrot (0.18mg/100g ). Among locally grown and consumed foods, highest zinc was in Chickpea (3.55mg/100g) and lowest was in grapes (0.06mg/100g) where as gingelly seed (6.04mg/100g) was the richest source and cumin seed was the lowest source of zinc in locally consumed but not grown foods.

**Key words :** Zinc, Foods

### INTRODUCTION

Zinc is an essential micronutrient responsible for the normal functioning of plants and animals. It is one of the most commonly occurring trace elements found in nature. In the process of metabolism, zinc is required for various enzymatic and biochemical reactions. Overall, zinc plays a major role in cell growth, cell division and cell differentiation. It also improves immune system, vision, fertility, protein synthesis and other metabolic activities. In particular, zinc has been recognized as a cofactor of both DNA and RNA polymerases, as well as associated with variety of hormonal activities, including thymic hormones, glucagon, insulin growth hormone and sex hormones. Furthermore, zinc is required for normal brain development, antiviral, antibacterial, antifungal, and anticancer properties and has also been found to maintain normal levels of vitamin A in serum. Zinc content of foods is directly related to the amount of zinc in the soil where they were cultivated. According to an estimate, about 54 per cent soils in Haryana are deficient in zinc (Gupta and Dahiya, 2003).

Therefore, present research work was undertaken

with the objective to know the zinc content of locally grown and consumed and locally consumed but not grown foods of Kurukshetra district.

### MATERIALS AND METHODS

Locally grown and consumed (Table 1) as well as locally consumed but not grown (Table2) food samples were taken for the analysis of their zinc levels. Locally grown and consumed food samples were bought directly from the farmers. Locally consumed but not grown food samples *i.e.* dry fruits, spices and condiments and foods like sugar, salt, refined oil, tea and coffee were bought from retail shops. Vegetables and fruits were washed, cleaned and dried in the folds of Whatman filter paper. Cereals, legumes, dry fruits and spices and condiments were cleaned and then grounded. One g sample of each food was placed in a 100 ml volumetric flask and digested in di-acid mixture of nitric acid and perchloric acid in ratio of 4:1 according to the procedure of Johnson and Ulrich (1959). The samples were kept overnight in the digestion medium, thereafter digestion was carried out in triplicate on hot plates at 80°C until the contents were cleared.