
Assessment of essential trace elements in selected food grains, herbal spices and seeds commonly used in Kenya

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Trace elements are essential in preserving good health and body immunity to diseases. The study was undertaken to determine the levels of chromium (Cr), vanadium (V), selenium (Se) and zinc (Zn) in herbal spices, food grains and edible seeds commonly used in Kenya. The levels of elements were determined using atomic absorption spectroscopy (AAS). The herbal spices, food grains and seeds considered in this study included coriander (*Coriandrum sativum*), ginger (*Zingiber officinalis*), garlic (*Allium sativum*), cloves (*Syzygium aromaticum*), lemon grass (*Cymbogon citratus*) rosemary (*Rosmarinus officinalis*), wheat (*Triticum aestivum L.*), brown rice (*Oryza sativa*), finger millet (*Elusine coracana*), bulrush millet (*Pennisetum glaucum*), sorghum (*Sorghum bicolor*), sunflower seeds (*Helianthus annuus*), watermelon seeds (*Citrullus lanatus*) and pumpkin (*Cucurbita maxima*) seeds. The results indicated that lemon grass had the highest V levels (14.40 ± 1.20 mg/kg) followed by ginger at (14.38 ± 0.31 mg/kg) while coriander seeds had the highest Cr levels (13.00 ± 0.42 mg/kg), followed by lemon grass (12.80 ± 1.47 mg/kg). Bulrush millet had the highest Se levels (198.38 ± 3.75 µg/k) followed by sorghum (151.20 ± 12.8 µg/kg). Pumpkin seeds had the highest level of Zn (53.54 ± 1.44 mg/kg) followed by watermelon seeds at 41.00 ± 5.79 mg/kg. The food grains, seeds and herbal spices could provide the body with the required daily intake. Consumption of mixed diet could therefore provide the body with essential trace elements that could boost the body immunity especially to those people with compromised health.

Key words

Trace elements, nutrition, herbal spices, food grains, fruit seeds, AAS.