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VITAMIN A, β-CAROTENE, ZINC AND COPPER CONTENT OF SOME COMMON FOODS

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Very little information is available on the vitamin A and trace element content of foods consumed in Sri Lanka. In this study, analyses for vitamin A, β-carotene, zinc and copper were carried out on some common foods.

Vitamin A was determined by a fluorometric method[1] after saponification of the sample of food (as purchased,) with 60% aqueous KOH in the presence of ethanolic pyrogallol. In the determination of β-carotene, the optical density of the petroleum ether extract was measured at 450 nm.[2] Atomic absorption spectroscopy was employed in the determination of zinc and copper.[3]

The vitamin A content of meat, fish, liver, eggs and milk was determined. Fish and meat contained only traces of vitamin A, while ox liver had the highest amount of vitamin A of the foods studied (64.2-85.5 μg/g).

The β-carotene content was determined in foods of plant origin. Cereals and starchy roots contained only traces of β-carotene. Legumes contained moderate amounts of β-carotene, while dark green leafy vegetables were a rich source of β-carotene, the highest amount being present in *Alternanthera sessilis*-Mukunuwenna (99.5 μg/g fresh weight). Of the fruits studied, mango and papaw were richer in carotene than plantains, guavas and pineapples.

The zinc and copper contents of several animal and plant foods were determined. All the animal foods contained significant amounts of both zinc and copper, except cow milk which contained only traces of copper, while its zinc content was 90 μg/100 ml. Of the plant foods studied, pulses and dark green leafy vegetables were good sources of zinc and copper. As their availability may be lowered by the presence of phytates in these foods, the phytic acid-phosphorus content was also determined.

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References

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