

ZINC CONTENT IN BERRIES - THE IMPORTANCE FOR HUMAN HEALTH

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Berries have become inevitable part of the diet of conscious men. Even though berries are not the richest source of zinc, there are agricultural practices that increase zinc content in surface soils. Being markedly involved in the human physiology and biochemistry, zinc is also a common component of plant metabolic pathways. A zinc deficiency occurs in plants mostly in calcareous and alkaline soils, affecting young leaves first. The toxicity and intolerance of zinc, which occur in the soils with prolonged use of fertilizers containing zinc among other elements, are greater problems than zinc deficiency. Zinc toxicity is often associated with the deficiency of magnesium, iron or manganese. In humans, zinc deficiency leads to *acrodermatitis enteropathica*, growth retardation, hypogonadism, depressed mental function, impaired cognitive functions and immune disorders, affecting males and females in the developing world. Serum zinc was correlated with the severity of depression and low serum zinc levels were found in depressed patients, suggesting that serum zinc could be the marker of depression. Diverse neurodegenerative processes, as Alzheimer's disease, may change the cellular zinc level, raising it to the level where zinc contributes to the progression of the disease. Zinc plays a pivotal role in few signal transduction and gene expression pathways, including that of cytokine genes. Zinc also holds a key position for multiple functions of cell metabolism, retinal development and specific retinal functions. Zinc in therapeutic dosages was effective in decreasing the incidence of infections. Zinc lozenges reduced the duration and severity of the common cold. *Acta Medica Medianae 2016;55(4): 73-81.*

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