Indian J. Ecol. (2013) 40(1) : 19-23

Indian Journal of Ecology

Mineral Concentration and their Deviation from Optimum Percentage in *Tribulus terrestris*

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***Abstract*:** Present investigation was designed to test the effect of spatial factors on deviation from optimum percentage of plant mineral from its reference value in *Tribulus terrestris*. Study was carried out at five natural sites of semi-arid area of the Indian Thar Desert. The potassium, sodium, iron and zinc elements were deficit (negative DOP values). Whereas, DOP value of phosphorus at two sites and calcium at one site showed deficiency. Based on ranking for variations from optimum nutrient concentration sites I and II were similar, requires higher amount of sodium followed by iron whereas remaining three sites requires zinc, potassium and iron in descending order. Principal component analysis revealed that DOP values of various minerals related with edaphic, community and plant metabolite factors. Path analysis exhibited that clay, silt and gravel proportion of soil supports K, Fe and Zn concentration in fruit, respectively. However sand proportion inhibits Fe and Zn. Among primary metabolites total carbohydrate showed negative and quadratic relation with Ca content in fruit. However, among community parameters Shannon and Weaver index for perennials vegetation and Relative Importance Value of *T. terrestris* negatively affects P and Ca content in power and linear path, respectively.

Key Words: DOP Index, Population dynamics, Soil proportions, Thar desert, *Tribulus terrestris*