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Comparative Assessment of Mercury Levels in Desert Plants and Greenhouse Farm Vegetables of Kuwait

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Abstract: Recent urbanization revealed increasing mercury (Hg) levels in biotic samples due to air pollutants. Six desert plants in the wild and six vegetables grown in the greenhouse farms of two Kuwait Governorate areas (GI, GVI) were used to determine Hg levels using a direct mercury analyzer. Comparatively, area and seasonal wise analysis revealed high Hg concentrations in: (a) GVI than in GI during summer than in winter in the desert plants but, the reverse in vegetables, (b) the sequence of leaves> root> stem, (c) *Zygophyllum sp.> Brassica sp.> Citrullus sp.>Malva sp.>Ducrosia sp.>Cakile sp*., among the desert plants and Cabbage> Tomato> Cucumber> Lady's Finger> Beans> Chilies among the vegetables. The overall Hg analysis showed high Hg concentrations in vegetables compared to the desert plants distributed in Kuwait Governorate areas indicating the possible influence of irrigated water, pesticides, fertilizers, characteristic nature of the soil and physiological condition of the vegetable species to absorb traces of Hg from the soil. This study describes the bioaccumulation effects of Hg pollution in Kuwait's desert plants, vegetables and soil and cautions consumers to take appropriate measures while using such vegetables.

Keywords: *Mercury, desert plants, vegetables, pollution, Kuwait.*

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