Elemental analysis of edible plants in natural environment

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Abstract

We have measured concentration of multi elements in wild plants collected in Iwate prefecture, Japan. It is found that wild plants contain essential elements such as iron, copper and zinc in the same degree or more in comparison with those in vegetables on the market. It is also found that wild plants contain toxic elements such as chromium and lead in the same degree or less in comparison with vegetables on the market. We took the soils together with the wild plants in nine representative spots and analyzed elemental concentration in them in order to examine the relationship of elemental concentration between plants and soils. Although elemental concentration in each soil has distinguished features, which in wild plants grown on the soil does not directly reflect that in the soil. It is expected that elemental concentration in wild plants is influenced by various factors such as chemical state of existing elements in the soil, pH of the soil, activity of microorganism in the soil, and many other factors.