

## Effect of Arsenic Treatment on Element Contents of Sunflower, Growing in Nutrient Solution

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**Abstract :** The agricultural environment is contaminated with heavy metals and other toxic elements, which means more and more threats. One of the most important toxic element is the arsenic. Consequences of arsenic toxicity in the plant organism is decreases the weight of the roots, and causes discoloration and necrosis of leaves. The toxicity of arsenic depends on the quality and quantity of the arsenic specialization. The arsenic in the soil and in the plant presents as a most hazardous specialization. A dicotyledon plant were chosen for the experiment, namely sunflower. The sunflower plants were grown in nutrient solution in different As(III) levels. The content of As, P, Fe were measured from experimental plants, using by ICP-MS. Negative correlation was observed between the higher concentration of As(V) and As(III) in the nutrition solution and the content of P in the sunflower tissue. The amount of Fe was decreasing if we used a higher concentration of arsenic (30 mg kg<sup>-1</sup>). We can tell the conclusion that the arsenic had a negative effect on the sunflower tissue P and Fe content.

**Keywords :** arsenic, sunflower, ICP-MS, toxicity

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