

The influence of biogenic elements (nitrogen and phosphorus) for the growth of selected edible plants in the initial growth phase

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Nitrogen and phosphorus are necessary elements for the growth and development of plants, especially in the initial phase. These compounds have a beneficial effect not only on the crops' height and their quality but also on the proper life processes. For that reason, fertilizer rich in these elements are used on a large-scale in plants cultivation.

Nonetheless, the excessive use of nitrogen and phosphorus in agriculture can reduce plants' productivity and disturb physiological processes in tissues, causing the formation of secondary oxidative stress in plants' tissues. Although plants have developed the system of anti-oxidant mechanisms comprising non-enzymatic and enzymatic antioxidants in order to protect themselves from oxidative stress.

One of the oxidative stress markers are polyphenolic compounds, which are natural substances with antioxidant properties, consisting in the removal of reactive oxygen species (ROS), neutralization of free radicals by binding toxic substances, and a protective function of plants' tissues against the oxidative stress induced by environmental pollutants.

In the present study, the polyphenol activity in radish and soya sprouts, treated with various concentrations of nitrogen and phosphorus compounds used in agriculture crops, was determined.

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