

IMPACT OF HEAVY METAL SALTS OF COBALT (CoSO_4) AND (PbNO_3)₂
LEAD CONTAINED IN SOIL ON DEVELOPMENT OF CUCUMBER SEEDLINGS
(*CUCUMIS SATIVUS*)

Katarzyna Tatar

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ABSTRACT

Releasing metals in natural conditions can be caused by vulcanic eruptions, wild – fires, stone weathering and soil processing. Their level is not a danger for living organisms. Human activity (development of industry and communication) is engender of environmental poisoning of heavy metals; mainly soil, air and water. Among heavy metals there are very toxic elements, which are appearing in environment on doses higher than the highest acceptable intensity. Cobalt and lead are included. Only during motorisation development and implementation of leader petrol, there were input around 3 milion tones of lead into atmosphere (Järup 2003). Later use of unleaded petrol (late 80's) in petrol engines did not have impact on lowering the level of Pb in environment although dynamic increasement of numbers of vehicles. Excess of metals, especially of lead and cadmium may cause phytotoxic symptoms, such as growth holding, constriction of photosynthesis and change of activity of some enxymes, ect. Heavy metals in organism cause creation of hydrogen peroxide (H_2O_2) – the compound interferecing the proper cell action. It is decayed by enzymes from peroxidase group, which increasing activity might be a signal of planet poisoning. In urban conditions the source of heavy metalsare sullage and waste, industrial and transport pollution. The most serious is air pollution caused by heavy metals in traffic jams, which are raising when the amount of petrol vehicles raises. Accumulation of heavy metals in growing plants cause the accumulation of them in human organism. In effect, it could provide many illnesses and organism poisoning. The aim of the researches was to point morphologic changes in cucumber seedlings watered by solutions of cobalt and lead salts. With a view to researching there were four cultivations, which were watered by solutions (with variety of concetration) of cobalt and lead and one control cultivation. Each cultivation contained same amount of seeds. Obtained results let us to evaluate strengh of sprouting and also the morphology and conditio of seedlings. Results of experiment showed the negative influence of heavy metals salts on cucumber seedlings, which dependent on concentration of salts dose used in experiment.

Katarzyna Tatar, Ith Academic High School Janina Kossakowska-Debicka in Kielce

e-mail: kasia.tatar123@gmail.com