

Testing the Resistance of *Asimina triloba* (L.) Dunal in Soil Polluted with Heavy Metals on the Periphery of Baia Mare

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SUMMARY

Asimina triloba (L.) Dunal is a large shrub or small tree growing in the tropical areas (Peterson, 1991). With a view toward acclimating the species *Asimina triloba* (L.) Dunal to the Baia Mare area, was tested its resistance to soil polluted with heavy metals, a characteristic of this mining region. Using atomic absorption spectroscopy was determined the concentrations of the following heavy metals: Pb, Cd, Co, Ca, Zn, Cu, Ni, and Fe. Using the Analyst Perkin Elmer 800 spectrometer, was determined the concentration of heavy metals in the soil as well as in the leaves and fruits of *Asimina triloba* (L.) Dunal. The results of the analyses are presented in the table below.

Tab.1

Interpretation of the analysis results

Metal (mg/g)	Soil (mg/g)	Fruit	Yellow leaves	Green leaves
Pb	0.08	0	0	0
Cd	0.00 (undetectable)	0.002417	0.001583	0.002417
Co	0.00 (undetectable)	0.018833	0.020583	0.019083
Ca	0.07	1.734167	9.225	9.9333
Zn	0.09	0.00925	0.01325	0.01317
Cu	0.03	0.003917	0.003833	0.0035
Ni	0.02	0	0	0
Fe	18.11	0.0049167	0.11025	0.089583

Reading the results, one can observe a heightened resistance to heavy metals. The species concentrates Cd and Co, while all the other elements are absorbed at a rate much lower than their concentration in the soil, with an absorption factor of around 1/10.

Keyword: *Asimina*, pollution, soil, acclimatization

REFERENCES

1. Peterson, R.N. (1991). Pawpaw (*Asimina*). Acta Hort. 290:567-600.