

ARMERIA MARITIMA – THE PLANT SPECIES ADAPTED TO GROWTH ON SOILS POLLUTED BY HEAVY METALS

Summary

Armeria maritima plants grow on unpolluted sandy soils and on soils strongly polluted by heavy metals. The heavy metal resistant ecotype of this species occurs in Poland on zinc-lead waste heaps in the Olkusz ore-mining region. In plants occurring on such polluted soils the mechanisms of resistance against toxic influence of heavy metals have been developed. In this article the mechanism of heavy metal resistance, divided into two main groups – avoiding of and tolerant to heavy metals – in *A. maritima* are discussed. So far, in this plant the following mechanisms of resistance have been described: (1) at the organism level – immobiliza-

tion of a great part of heavy metals in roots (with a significant role of root endodermis), accumulation of heavy metals in oldest leaves followed by its fall (detoxification of the aboveground part of plant), accumulation of heavy metals in trichomes and their removal through salt glands of leaf epidermis, (2) at the cellular and ultra structural level – possible role of polyhydroxyphenolic compounds in vacuoles of idioblasts, storage in cell walls and vacuoles (compartmentation), moreover, tolerance mechanisms such as induction of heat shock proteins in cytoplasm.