

# THE EFFECT OF HEAVY METAL CONTAINING WASTEWATER SEDIMENT ON THE MICROANATOMICAL CHARACTERISTICS OF THE LEAVES AND STEM OF *SALIX VIMINALIS*

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A comparative microanatomical study of *Salix viminalis* shoots was performed in order to get an idea of the effect of toxic elements stress on the microanatomical parameters of the shoot (leaves, stem). The examined *Salix viminalis* shoots originated from Lovász-zug suburban area of Debrecen city, where formerly a sewage settling pond was operated as a secondary biological purification unit. The control *Salix triandra x viminalis* L. 'Inger' samples originated from the Nyíregyháza experiment with uncontaminated soil. As a result of our research, we can state the following in the case of the leaf samples grown on contaminated soil: the leaf lamina thickness decreased; the extent of the palisad parenchima decreased; the extent of the intercellular spaced increased inside the spongy parenchyma; the width and the height of the main veins increased; the extent of the collenchyma bordereing the main vein increased; the stomatal density increased both in the case of adaxial and abaxial epidermis; the size of the stomas decreased. In the case of the stem samples we observed the following: in the case of the samples grown on contaminated soil the extent of the primer cortex increased; the cell wall of the cells building the sclerenchimatic fibers thickened; the number of Ca-oxalate crystal rosettes and sclerids increased; the extent of secondary phloem – mainly the extent of hard phloem - increased; the lumen of the tracheas in the secondary xylem increased; the avarage width of the annual rings decreased; the extent of the central stele of the stem increased.