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PLENARY LECTURES

THE OCCURRENCE OF HEAVY METALS (Cd, Pb, As, Hg) IN THE LIVER OF WILD BOAR IN THE REPUBLIC OF NORTH MACEDONIA

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SUMMARY

Wild boars are widely distributed in the world and can be found in Eurasia, the southern part of Asia, and some of the islands of Indonesia. As omnivores they are well suited as biological indicators of the occurrence of heavy metals due to their relatively long lifespans, widely distribution, and relatively high numbered shot animals per annual legal hunting season. Concentrations of cadmium, lead, arsenic and mercury were analyzed by atomic absorption spectrometry and cold vapor atomic absorption spectrometry in the livers of free-living wild boars (n = 58) from Bitola and Gevgelija locations in the Republic of North Macedonia. In all four examined heavy metals, there was not found a statistically significant difference between the locations. Mean levels of heavy metals (mg/kg) in the livers of boars ranged as follows: Cd - 0.391 mg/kg and 0.339 mg/kg; Pb - 0.213mg/kg and 0.204 mg/kg; Hg - 0.034 mg/kg and 0.037 mg/kg; As - 0.035 mg/kg and 0.029 mg/kg in Bitola and Gevgelija, respectively. Although some samples (two samples of Hg, ten samples of Cd and two samples of Pb) exceed the legal limits, the average values for all heavy metals were far below the permitted values. These results are encouraging because they indicate a relatively good condition of the ecosystem in terms of heavy metal pollution in the Republic of North Macedonia.

Key words: wild boar, liver, Cd, Hg, Pb, As