Assessment of total mercury levels in liver, Kidney, muscle and feather of mallard (*Anas platyrhynchos*) from Kanibarazan wetland (Azarbaijan province)

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Received date: 2018.01.15
Reception date: 2018.10.12

Abstract

Mercury pollution has become a global problem due to accumulation in tissue and transferable effects to humans via the food chain and thus poses a potential hazard to the health of waterfowl and humans who consume them. Total mercury levels in the liver, kidney, feather and muscle of the mallard (*Anas platyrhynchos*) were evaluated in the Kanibarazan International wetland in West Azarbaijan province. For this purpose, sixteen mallards (11 males and 5 females) were shot by hunters in autumn 2014 randomly. Concentrations of Hg were measured using graphite furnace atomic absorption spectrometer. Average concentrations of Hg in liver, kidney, muscle and feather were 0.21, 0.15, 0.19 and 0.08 mg/kg dry weight, respectively. Significant correlations were observed between Hg concentrations in feather with kidney ($P<0.001$) and muscle ($P<0.05$). The level of Hg concentrations were higher for all tissues in female birds compared with males but No significant differences found ($P>0.05$). In this study, Hg concentration in tissues of mallard were below the maximum permissible limit of the WHO and FAO.

Keywords: Total mercury, mallard, Wetland, Kanibarazan, *Anas platyrhynchos.*