

ARSENIC ACCUMULATION OF ANIMAL FEED (GRASS AND WATER HYACINTH) IN FARIDPUR SADAR UPAZILLA

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ABSTRACT

Elevated level of groundwater arsenic (As) in Bangladesh has resulted as a massive calamity of exposing a large population to health risk and affecting livelihood and sustainable development of the country. The extensive use of arsenic contaminated groundwater in irrigation poses a potentially long term detrimental effect to human health as well as it is an environmental hazard. Arsenic is spreading in various ways in the environment and creating various hazards. This study was performed to detect the level of arsenic concentration in animal feed chain. Grass and Water hyacinth samples of two commonly used animal feeds were collected from arsenic contaminated areas of Faridpur district. After collection, the samples were prepared by a series of steps such as, washing, drying and digestion; finally arsenic was determined by atomic absorption spectrophotometric method. For this purpose the FI-HG-AAS (Flow Injection Hydride Generator Atomic Absorption Spectrophotometer) method was used. The arsenic absorbed by the animal feed (grass and water hyacinth) samples was determined. The mean arsenic concentration in Grass and Water hyacinth were 0.397 ± 0.075 ppm ($n=20$) and 0.365 ± 0.035 ppm ($n=20$), respectively. In this study it was found that the level of arsenic both in Grass and Water hyacinth is greater than that of the maximum permissible level in drinking water (0.05 ppm, WHO). This study was performed to detect the level of arsenic in animal feed of As contaminated area of Faridpur district.

Key words: arsenic, animal, grass, water hyacinth