



# ECOLOGICAL STUDIES ON THE HAZARD USES OF HUMAN SEWAGE AT EGYPTIAN ENVIRONMENT

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## Abstract:

Human sewage waste waters and sewage sludge have been utilized in areas around Assiut City, Egypt , for irrigation as a source of plant nutrients and soil amendment. The problem of this practice is the presence of considerable concentrations of heavy metals which are considered harmful to plants and / or animals . The aim of work was to evaluate correlation of some heavy metals in nature and their levels in blood of buffalo calves fed on sewage irrigated pastures. Samples of water ( 5,10 ) , Soil ( 4,7 ) and dietary green pasture ( 5,9 ) were collected from non- polluted and polluted areas respectively. Blood samples were collected from control ( 12 ) and Exposed ( 25 ) Buffalo Calves 6 - 9 months ages. Human Sewage was the source of pollution at some villages near Assiut. Non - polluted areas were clean and irrigated with water from River Nile. Lead , cadmium, iron, copper and zinc were determined using atomic absorption spectrophotometer . Significant elevation ( P 6 folds ) and cadmium (> 9 folds )than the corresponding control values. The biometals Fe, Cu and Zn had lower values in blood of exposed animals and their values were  $97.71 \pm 6.23$  ,  $69.78 \pm 5.45$  and  $89.21 \pm 3.14$  ug / dl respectively .

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