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SELENITE RETENTION DIFFERENCES IN SOILS OF HIGH AND LOW GASTRIC CANCER RISK AREAS IN SRI LANKA†

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The extraordinary geographic variability in the incidence of gastric cancer in Sri Lanka, strongly implicated geochemical factors in the etiology of the disease. It was noted that the trace element, Se, appears to be a natural cancer protecting agent. Since there were no distinctly significant difference between the total Se level in the soils of high risk gastric cancer area (Nawalapitiya) and low risk gastric cancer area (Angunawela), a study was undertaken to assess its bioavailability. Selenite was absorbed by the soils to Nawalapitiya to a greater extent than by the soils of Angunawela. The adsorption capacities of both soils were maximum at a pH range of 2.0-3.0. The adsorption/desorption processes of selenite in the soils can be best explained by considering the corresponding reaction mechanisms in goethite and gibbsite.

KEY WORDS: Selenite, adsorption, gastric cancer, Sri Lanka.