Monitoring of Selected Herbicides, Antibiotics, Steroids, and Industrial Chemicals in Water by ELISA

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Abstract

Concerns due to the potential health effects on human health and wildlife resulting from the production, use, and disposal of numerous chemicals used in agriculture, pharmaceuticals, industry, and household conveniences, have increased over the years. Many of these compounds find their way into rivers and streams from agriculture runoffs, raw sewage waste overflows, incomplete waste treatment, other point discharges and diffuse sources. Very sensitive methods are required to analyze for these contaminants in water samples because in many instances, they are present at very low concentrations (ng/mL). Enzyme linked immunosorbent assay (ELISA) technology was used to analyze water samples collected during the summer of 2003 at various locations of water treatment plants (WTP) in New Jersey, and from stream providing raw water to those plants. Each sample was analyzed for selected herbicides, antibiotics, steroids, and industrial chemicals. Details of the technology, testing procedures, and results obtained will be presented.

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