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Impact of Tannery Effluent in Simulated Condition on Physico-Chemical Characteristics of River Water and Its Seasonal Variation

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ABSTRACT

Water pollution is prime cause of unavailability of the suitable water for domestic and irrigation purposes. Rapid industrialization leads to high discharge of industrial wastewater which may pollute river ecosystem. Industrial effluents are main source of direct and often continuous input of pollutants in to aquatic ecosystem thereby affecting the ecosystem functioning. In present study, an investigation has been made to assess the impact of tannery effluents (TE) on physico-chemical quality of Ganga river water, collected in different season from Jajmau area at Kanpur city, U.P, India. The investigation was done in simulated condition and observed the impact tannery effluent in three different seasons viz, winter, summer and monsoon. The TE collected from CETP, Kanpur, India, was mixed in collected Ganga River water sample at concentration of 5%, 15%, 25%, 50%, 75% v/v under laboratory condition and analyzed for physico-chemical parameters like pH, EC, TDS, TA, TH, DO, BOD, COD and Cr metal seasonally. The data obtained shows seasonal variation. The results of the present study indicate that discharge of TE make highly adverse effect on physico-chemical quality of Ganga river water. The study revealed that if TE is discharged continuously in current manner in to the Ganga River, water quality deterioration could take place, which will be serious threat to human life & aquatic ecosystem.

Keywords: TE, Physico-chemical parameters, Ganga River water, Simulated Condition, Seasonal Variation.