IMPACT OF DISTILLERY SPENT WASH ON SOIL CHARACTERISTICS IN DISTRICT MEERUT

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Abstract: Increasing number of industries including distilleries in India has resulted in substantial increase in industrial pollutant load. Untreated distillery affluent or spent wash is well known to cause pollution in natural streams by lowering pH value, increasing inorganic load, depletion of oxygen content & destruction of aquatic habitat. Distillery spent wash is considered as a very high strength waste water having high COD & BOD with low pH and dark brown colour. Despite containing some heavy metals, the distillery spent wash is used as irrigation water for various crops and natural vegetation as it contains all the essential elements required for growth. The discharge permissible limit of total N, Mg and metals like Cd, Cr, Ni, Pb, Cu, Fe, Mn, and Zn is 25.00, 0.20, 0.01, 0.05, 0.10, 0.05, 0.50, 2.00, 0.20, and 2.00 mg/L respectively. It was found that concentration of total nitrogen, Mg, Fe and trace elements such as Cu, Cr, Pb, Cd, Zn & Ni were higher than the said limit in discharge irrigated soil of Daurala distillery, Central distillery and Bajaj Hindustan distillery of Meerut district. The concentration of metals decreases at increasing depth of soil. These metals are present in spent wash as a result of smelting of metalliferous ores, application of fertilizers, pesticides & municipal wastes.

Keywords: COD & BOD, Distillery Spent Wash (DSW), municipal wastes, fertilizers, pesticides

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