

Chicken slaughterhouse wastewater disposal: the challenges ahead

ABSTRACT

Slaughterhouses generate large volumes of highly polluted wastewater composed mainly of large amounts of organic and inorganic pollutants as well as solids which pose a threat to the environment. Fresh undiluted wastewater was collected twice a day for a period of six weeks from a chicken slaughterhouse located in a suburb area to investigate the properties of slaughterhouse wastewater. The average results indicated very high pollutant levels of selected water quality parameters such as pH, COD, BOD, TSS, TDS, colour, turbidity, total coliform and NH₃-N which were 7.17, 4979 mg/L, 1360 mg/L, 515 mg/L, 545 mg/L, 14,163 PtCo, 697 NTU, 1.2×10^8 CFU/100mL and 110 mg/L, respectively. These results were compared with the values stated by Malaysia Environmental Quality Regulation (2000) for effluent discharge. It can be concluded that most of the parameters are not suitable for direct discharge to the water streams without prior treatment. It is however recommended for most abattoir wastewater to be discharged separately from the community sewerage systems or treated separately as hazardous wastewater as a way of reducing some of the dangers imminent in the reuse of such wastewater and also clogging of sewerage pipes.

Keyword: Abattoir; Discharge standards; Pollution; Wastewater; Water quality