

Degradation of Malachite Green and Congo Red Using *Melothria Scabra*

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Abstract: Degradation of trimethyl dye malachite green and azo dye congo red was investigated using water extract of *Melothria scabra* with different parameters such as buffer system, temperature, dye and enzyme concentration and pH. Phytotoxicity study was carried out to detect the effect of dye, plant extract treated dye on seed germination and seedling growth. Decolourization assay was performed to calculate percent degradation by taking absorbance using UV-Visible spectrophotometer. Congo red showed a maximum of 27.33% decolorization with plant extract using citrate buffer and skin extract produced 30% decoloration. Maximum pH for highest decoloration varied from 6-8 for both congo red and malachite green and temperature was 40- 50° C. With different dye concentration 0.1% exhibited higher decoloration. The time for decoloration varied from 30 minutes to 2 hours. There was a marked difference in the toxic effect of dyes on seedling compared with plant extract treated dyes products

Keywords: trimethyl dye malachite

