

Treatment of Textile Dye Effluent Using Seed Hulls, Dry Leaves and Fruit Peels—A Review †

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Abstract: Indian textile industry is the most flourishing sector but at the cost of the continuous discharge of colored effluent. The presence of undesirable-colored dyes, even at low concentrations when released into the receiving water bodies, can directly affect plant and aquatic life and indirectly surrounding Human dwellers. Among all the techniques available, removing dye using adsorption is a more versatile and efficient process that is widely accepted. Agricultural waste material can be used as resources material in many engineering applications. Treatment of different dye effluents using the abundantly available agricultural waste such as seed hulls, dry leaves, and fruit peels are efficient, cost-effective adsorbents. As the population increases, demand for agricultural food production also increases. This increases the agro waste, which could contribute to environmental pollution when not disposed of properly. This paper reviews the potential of different types of agricultural waste products as effective adsorbents for treating colored textile effluent. However, issues related to sludge management of the exhausted adsorbent remain a challenge for future research.

Keywords: textile effluent; dye; adsorption; agro-waste; color.

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Conflicts of Interest

The authors declare no conflict of interest.