

BANAPEWA: BANANA PEEL AS WASTE ADSORBENT

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Recently, the use of waste materials gained attention among researchers to study the effectiveness of adsorbent media in dye treatment. The contaminants discharge in the dye processing causes the water to be polluted. Banana peel is an agricultural waste that has a potential in reducing dye concentration. The peel is the part with highest wastage, i.e., 30% to 40 % of waste produced from the banana fruits. Preliminary research shows that banana peel waste that produced daily in the household garbage and marketplace had affected to the disposal problems and environmental nuisance as well as in producing leachate. Thus, the author and team have developed a new product to reduce the dye effluents from the batik industrial wastewater. BANAPEWA or banana peel is use as an adsorbent had led to reduce the colour concentration below the non-drinking water standard by Department of Environment, Malaysia. This project has won a gold medal in International, Invention, Innovation and Design Competition (3iDC 2020) organized by Universiti Teknologi MARA, Cawangan Kedah, Kampus Sungai Petani. The laboratory work has been conducted by Ms Wan Nur Rashidah Wan Mazlan, EC221 final year project student to investigate the potential used of BANAPEWA as natural adsorbent in removing dye from the synthetic wastewater. BANAPEWA is able to offer cost effective resources in producing green and eco-friendly adsorbent rather than the current adsorbent. Thus, BANAPEWA is recommended as an alternative natural waste adsorbent to be commercialized as filter media in treating dye in the batik industrial wastewater treatment plant.

