

**MICROBIAL DEGRADATION OF FOOD DYE BY *PSEUDOMONAS  
AERUGINOSA***

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## ABSTRACT

### MICROBIAL DEGRADATION OF FOOD DYE BY *PSEUDOMONAS AERUGINOSA*

The effect of contaminants to human health and environment are at alarming rate. This is due to the pollution in wastewater that are polluted with the effluent coming from industries especially food industry. Food industries use various types of dyes such as azo dyes. The compositions of dyes and pigments used in food industries generate hazardous and toxic waste. This is due to their carcinogen and mutagenic quality. Today, the most worried phenomenon is when the amount of azo dye concentrations exists in wastewater varied from lower to higher concentrations that causes toxicity to biological ecosystem. Physical and chemical treatment techniques have some disadvantages such as costly, time consuming and development of residues. Adsorption on the microbial biomass and bioremediation by microbes can take place the decolourisation of the azo dye. Bioremediation takes place by anaerobic and aerobic process. This research project deals with the degradation and decolourisation of Tartrazine dye by bacteria, *Pseudomonas aeruginosa* in aerobic conditions. The maximum degradation of 72.65 % was observed under aerobic condition within 5 hours at pH 9.12 and temperature of 28.5°C. The degraded metabolites of Tartrazine dye were analysed by UV-Vis Spectrophotometer. The effectiveness of degradation and decolourisation of Tartrazine dye by bacteria is within 5 hours in 50 ppm. The bacteria, *Pseudomonas aeruginosa* decolourised several dyes from various industries. Thus, it is useful method for the development of wastewater treatment methods in the food industries.

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