



BIOTECHNOLOGY SOCIETY OF NIGERIA
(BSN)

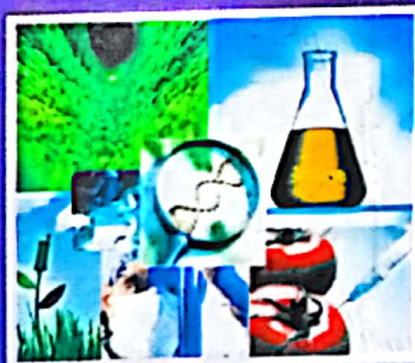


FEDERAL UNIVERSITY OF TECHNOLOGY
Minna, Niger State, Nigeria.

Theme:

**BIOTECHNOLOGY AS A CHANGE AGENT
FOR NATIONAL DEVELOPMENT**

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**Book of
ABSTRACTS**



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020	SEASONAL VARIATION IN PROXIMATE COMPOSITION OF SOME SELECTED FISHES (<i>Auchenoglanisoccidentalis</i> , <i>Tilapia galilaea</i> , <i>Tilapia zillii</i> , <i>Alestesdentex</i> AND <i>Chrysichthysauratus</i>);, A CASE STUDY OF TAGWAI LAKE MINNA, NIGERIA
021	PRODUCTION AND CHARACTERIZATION OF NATIVE, ACETYLATED AND ENZYMETICALLY MODIFY AMURA STARCH (<i>Taccainvolcrata</i>) FOR TABLETS BINDING
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78% (pineapple, banana and orange) compared to that of *Bacillus subtilis* that yielded 78% (banana and orange), 73% (Pineapple and orange), 72% (pineapple and banana) and 76% (pineapple, banana and orange).

The result from this study shows that different orange peels can be exploited in the production of citric acid which is of global demand in different industries

Key words: citric acid, solid state fermentation, *Aspergillus niger*, *Bacillus subtilis*, fruit peels

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BIODECOLOURISATION OF TEXTILE EFFLUENT USING *Bacillus* AND *Pseudomonas* SPECIES

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ABSTRACT

This study examined the potentials of *Bacillus* and *Pseudomonas* species to decolourise textile effluents. The physicochemical parameters of the effluent determined were temperature, pH, total dissolved solids (TDS), total suspended solids (TSS), dissolved oxygen (DO), biological oxygen demand (BOD) and chemical oxygen demand (COD). The organisms were isolated from textile effluent contaminated soil samples in Challawa, Kano state, Nigeria. The isolates were identified based on cultural, biochemical and molecular characterisation. The 3 ml of each isolate was inoculated into medium comprising 2 g of yeast extract, 2 g of glucose, 2.8 g of lactose broth in 50 ml of different concentrations of the effluent (0%, 5%, 10%, 30%, 50%, 70%, 90% and 100 %) and incubated for 30 days at 37°C. The growth of the isolate was compared with corresponding Mcfarland standards. The rate of biodecolourisation was determined using spectrophotometer at 600 nm. The effects of temperature (30°C, 35°C, 40°C, 45°C) and pH (4, 6, 8, and 10) on the decolourisation potential of the isolates were also determined. The results obtained for the physicochemical study were temperature (33.5°C), pH (6.10), TDS (465.5 mg/L), TSS (310 mg/L), DO (0.162 mg/L), BOD (0.13 mg/L), COD (123.5 mg/L). The optimum biodecolourisation temperature was 35°C with 72.2% and 73.2% for *Bacillus* and *Pseudomonas* respectively after 30 days while pH 6 was optimum for the biodecolourisation. The results obtained in the study suggest that *Bacillus* and *Pseudomonas* can be used to develop an effective biological treatment system for the wastewaters contaminated with textile effluent.

Key words: Textile effluent, dye, biodecolourisation, *Bacillus Pseudomonas*