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**POSTER SESSIONS' ABSTRACTS**



**FOOD TECHNOLOGY UPDATE**



**BTM-33            DEGRADATION OF HEXACHLOROCYCLOHEXANE ISOMERS BY MICROBIAL CONSORTIA**

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Very high levels of residues of pesticides such as HCH and DDT have been reported in almost all food articles as well as in human tissues in India and other developing countries. These highly recalcitrant and toxic chemicals find their way into food and then to human body from cultivated soil where they get accumulated. Hence, it is imperative that efficient treatment technologies based on microbial degradation of these compounds in the field have to be developed. In the present paper, development of microbial consortia by various enrichment techniques and degradation of HCH isomers such as alpha-HCH and gamma-HCH in shake flasks are reported. The consortia A-HCH-C developed by a long term enrichment of contaminated soil and sewage samples in a 'semi-continuous column reactor' and then in shake flasks containing alpha-HCH as sole source of carbon and energy were able to degrade upto 25 ppm of alpha-HCH. Presence of acetone (upto 2000 µl/L) as a co-substrate, though not absolutely required for the degradation of alpha-HCH enhanced the biomass build up. Ten ppm and 25 ppm of alpha-HCH disappeared at 5th and 8th day of inoculation, respectively with a concomitant release of CO<sub>2</sub> of about 65% and 56% (on 10th day), respectively. The consortia developed with gamma-HCH as the substrate (G-HCH- S) did not efficiently degrade alpha-HCH, though partial degradation was observed. Acetone, benzoate, glucose, ethanol, cellulose and saw dust were tested as co-substrates; and acetone or benzoate was found to be the best.

**BTM-34            DEGRADATION OF CRESOLS BY A STRAIN OF *PSEUDOMONAS* Sp. CP4**

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Phenolic compounds including cresols (methylated phenol) constitute a major bulk of environmental pollutants originating from industries such as oil refineries, petrochemical and coal gasification plants, coke ovens etc. These compounds are toxic and recalcitrant and contamination of drinking water with them even in trace amounts renders it unfit for potable purposes. Treatment technologies based on microbial degradation of the toxic constituents of industrial effluents are considered to be very efficient. A strain of *Pseudomonas* sp. CP4 which utilised high concentration of phenol (1.5g/L) has been already reported. The present study deals with the degradation of various levels of different isomers of cresol by this strain. The maximum levels of o-, m-, and p-isomers of cresols that the strain CP4 can utilise as the sole source of carbon and energy were found to be 14 mM, 10 mM and 20 mM, respectively. However, the rates of degradation of the three