

---

## **P54. BIODEGRADATION OF HEPTACHLOR BY PHANEROCHAETE *CHRYSOSPORIUM* ME446: TOXIC EFFECTS OF HEPTACHLOR AND ITS METABOLITES ON MICE**

Münevver ARISOY

Ankara University, Faculty of Health Sciences, Department of Nutrition and Dietary, Altındag, Ankara, Turkey.

Many organic pollutants like heptachlor, persist in the environment. These toxic and canserogenic pollutants tend to the accumulate in the body fat of organisms. Inthis study the physiological conditions which cause the degradation of heptachlor (1,4,5,6,7,8,8-heptachloro -3a, 4,7,7a-tetrahydro—4,7-methanoindene) by Phanerochaete chrysosporium ME446, a white- rot fungus, were determined.

For the degradation of heptachlor the optimum pH was found to be 5, incubation period 20 days, and incubation tempruture 30-350C, while the optimum concentration was 50µM. The maximum heptachlor degradation rate under optimum physiological conditions was found to be 97.30 %.

Following the identification of the LD50 dose of heptachlor, its effects on cells in the blood of mice were investigated toxicological evaluations. The LD50 dose of heptachlor was found to be 97.50 mg/kg. Although this dose normally causes death in mice at a rate of 50%, under the same physiological conditions, the resuldant methabolites obtained through Phanerochaete chrysosporium ME446 treatment caused no deaths. On the other hand, it was observed that when direct application of heptachlor produced quantative effects in the blood cells, no significant effects of metabolites were seen.

\* arisoy@ankara.edu.tr