

PS-025. Total Antioxidant Status and Hemocyte Counts of Crayfish (*Astacus leptodactylus* Eschscholtz 1823) after exposure to carbaryl and deltamethrin

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Purpose: Carbaryl (1-naphthyl methylcarbamate) and deltamethrin [(S) α -cyano-3-phenoxybenzyl-(1R)-cis-3-(2,2-dibromovinyl)-2,2-dimethylcyclopropane carboxylate] are broad spectrum pesticides which are widely used in field pest control, household use, and as veterinary and human pediculicides and are among the most potent insecticides known. The narrow clawed crayfish (*Astacus leptodactylus* Eschscholtz, 1823) was chosen as representative of freshwater ecosystems, naturally distributed in water bodies around Eurasia. This study presents the sublethal effects of these pesticides on the total antioxidant status and hemocyte counts on narrow clawed crayfish. **Method:** The narrow clawed crayfish (mean weight 32.78 ± 7.12 g) were obtained from local breeder in the pre-molt stage. After acclimatization period, they were exposed to sublethal concentrations of two different pesticides for 2 and 7 days. Hemolymph samples were taken from the base of the second walking legs via a 2.5 ml disposable syringe under ice anesthesia. Hemolymph total antioxidant status (TAS) determinations were performed by a Randox commercial kit (Randox Laboratories Ltd., Crumlin, UK). Total hemocyte counts were performed by using hemocytometers. **Findings:** Total hemocyte counts were decreased in both exposure groups when compared to control groups ($P < 0.05$). Total antioxidant status were significantly increased in carbaryl exposed groups while did not altered in deltamethrin exposed groups. **Result:** The results in this study demonstrate that total antioxidant status and hemocyte counts can reliably be used as biomarkers to monitor pesticide in contaminated aquatic life as early warning systems.

Keywords: Total Antioxidant Status, Total Hemocyte Counts, Crayfish (*Astacus leptodactylus*), carbaryl, deltamethrin