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The Effects of PAHs (Polynuclear Aromatic Hydrocarbons) Exposure on Fertilization and Larval development of the Pacific Oyster, *Crassostrea gigas*

Sang-Man Cho and Woo-Geon Jeong
Division of Marine Bioscience, College of Marine Science, Gyeongsang National University

To evaluate the effect of PAHs on fertilization and larval development of the Pacific oyster, *Crassostrea gigas* via in vivo exposure for 30 days. Conditioned *C. gigas* adult brood stock was taken from oyster farm in May 2003 and raised in flow through tank at 20-22℃ with feeding equivalently mixed marine microalgae: *Chaetoceros simplex, C. gracilis, Isochrysis galbana* and *Tetraselmis tetrathele.* The oysters were exposed to PAHs cocktail at 200ppb (10 species) until they are fully riped with an untreated group. Motility of sperm, Fertilization and The percent of D-shaped larvae was measured under microscope (Olympus BX-50).

Fertilization capability using dry sperm and eggs from both non- and PAHs treated brood stocks was significantly reduced at the treated group ($P<0.01$). In addition to the origin effect, it was obvious that fertilization of eggs from both group were adversely suppressed in consistent with PAHs level ($P<0.01$).

The percent of D-shaped larvae in treated group was significantly reduced comparing to non-treated. The percent was adversely correlated with PAHs level, which was more significantly reduced in treated group.

Therefore, it was obvious that PAHs exposure on the Pacific oyster has adverse affects on the sperm as well as larvae in both maternal and acute source.