

Effects of Feeding and Organism Loading Rate on the Bioaccumulation of PCBs in Oligochaetes
(*Lumbriculus Variegatus*)

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Abstract:

In the aquatic world, most environmental contaminants like PCBs eventually accumulate in the sediments. Thus sediment associated contamination can introduce significant level of contaminants into the food chain. The oligochaete, *Lumbriculus variegatus*, was approved as one of the test organism for the bioaccumulation studies in the sediments. Some laboratory procedures for bioaccumulation and toxicity testing using *L. variegatus* suggest that organisms should not be fed during the test. Our effort in this experiment is to observe the effects of feeding and loading rates on PCB bioaccumulation in *L.variegatus*. Two loading rates 25:1 and 100:1 (ratio of organic carbon in sediments to organism dry weight) and three feeding rates (0, 2, 4 times feeding per week) were followed with one test sediment. Preliminary analysis of the results reveals similar weight gain in both 25:1 and 100:1 loading rates with feeding. PCB residues were influenced by feeding and loading rates. Residues declined with increased feeding, and residues increased with increased loading rates. Further, analyses and interpretations of the test results will be presented.

Keywords: PCBs, oligochaete, bioaccumulation, organic carbon

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