

Abstract

The study on Atrazine residues in water and sediment in Chaopraya, Sakaekrang and Pasak rivers was performed. Water and sediment samples were collected 2 times in high (August, 2006) and low (May, 2006) water quantities. Samples were selected from 14 stations with 3 replications for each station. Total of 84 samples for each water and sediment samples were collected. The samples were analyzed for Atrazine using High Performance Liquid Chromatograph (HPLC). The results in water samples showed that, in Chaopraya river, the levels of Atrazine during high water quantity and low water quantity were 0.04 µg/l and 0.03 µg/l, respectively. In Sakaekrang river, the levels of Atrazine during high water quantity and low water quantity were 0.23 µg/l and 0.05 µg/l, respectively. And in Pasak river, the levels of Atrazine during high water quantity and low water quantity were 0.11 µg/l and 0.54 µg/l, respectively. For sediment samples, the results indicated that in Chaopraya river, the average levels of Atrazine residues in high water quantity and low water quantity were 0.39 mg/kg and 1.45 mg/kg, respectively. In Sakaekrang, the average levels of Atrazine residues in high water quantity and low water quantity were 0.21 mg/kg and 0.59 mg/kg, respectively. And in Pasak river, the average levels of Atrazine residues in high water quantity and low water quantity were 0.16 mg/kg and 0.04 mg/kg, respectively.

In Chaopraya river, Atrazine residues in water and sediment samples in high water quantity was significantly correlated with 95% confidence level ($R = 0.900$). The results were the same as in low water quantities ($R = 0.903$). In Sakaekrang river, Atrazine residues in water and sediment samples in high water quantity was significantly negative correlated with 95% confidence level ($R = -0.874$). The results were contrasted in low water quantity ($R = 0.954$) with 95% confidence level. And in Pasak river, Atrazine residues in water and sediment samples in high water quantity was significantly negative correlated with 95% confidence level ($R = -0.836$). The results were contrasted in low water quantity ($R = 0.908$) with 95% confidence level.