

OCCURRENCE OF PESTICIDES IN RAIN AND AIR IN URBAN AND AGRICULTURAL AREAS OF MISSISSIPPI, APRIL-SEPTEMBER 1995

R.H. Coupe¹, M.A. Manning¹, W. T. Foreman², D.A. Goolsby³, and M.S. Majewski⁴

¹USGS, Pearl, Mississippi

²USGS, Arvada, Colorado

³USGS, Denver, Colorado

⁴USGS, Sacramento, California

In April of 1995, the U.S. Geological Survey began a study to determine the occurrence and temporal distribution of 49 pesticides and pesticide metabolites in air and rain samples from an urban and agricultural sampling site in Mississippi. The study was a joint effort between the National Water Quality Assessment and the Toxics Substances Programs and was part of a larger study examining the occurrence and temporal distribution of pesticides in air and rain in the Mississippi River Basin. Concurrent high-volume air and wet-only deposition samples were collected weekly. The air samplers consisted of a glass-fiber filter to collect particles and tandem polyurethane foam plugs to collect gas-phase pesticides. Every rain and air sample collected from the urban and agricultural site had detectable levels of multiple pesticides. The magnitude of the total concentration was 5 to 10 times higher at the agricultural site as compared to the urban site. The pesticide with the highest concentration in rain at both sites was methyl parathion. The pesticide with the highest concentration in the air samples from the agricultural site was also methyl parathion, but from the urban site the highest concentration was diazinon followed closely by chlorpyrifos. A metabolite of *p,p'*-DDT, *p,p'*-DDE, was detected in every sample from the agricultural site and in more than half of the air samples from the urban site more than two decades since DDT was banned from use in the United States.