

Agricultural Chemicals in Leary Weber Ditch Basin, Hancock County, Indiana, 2003-04

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Contents

Abstract

Introduction

References Cited

Abstract

Leary Weber Ditch Basin, Hancock County, Indiana, is part of an Agricultural Chemicals: Source, Transport, and Fate study conducted by the National Water-Quality Assessment Program of the U.S. Geological Survey. Water-quality samples were collected in Leary Weber Ditch and in the major hydrologic compartments of the Leary Weber Ditch Basin during 2003 and 2004. Hydrologic compartments that contribute water and agricultural chemicals to Leary Weber Ditch are rain water, overland-flow water, soil water, tile-drain water, and ground water. Samples were analyzed for selected pesticides, nutrients, and major ions.

Introduction

Leary Weber Ditch Basin, Hancock County, Indiana, is part of an Agricultural Chemicals: Source, Transport, and Fate study conducted by the National Water-Quality Assessment Program of the U.S. Geological Survey. The nationwide study was designed to increase the understanding of the links between the sources of water and agricultural chemicals (nutrients and pesticides) and the fate and transport of these chemicals through the environment.

This report provides water-quality data that were collected for the study. Water-quality samples were collected in Leary Weber Ditch and in the major hydrologic compartments of the Leary Weber Ditch Basin during 2003 and 2004. Hydrologic compartments that contribute water and agricultural chemicals to Leary Weber Ditch are rain water, overland-flow water, soil water, tile-drain water, and ground water. A list of the sites sampled during the study is given in table 1. Samples were collected during four storms in 2003 and three storms in 2004 for the Tile Drain, Overland Flow, and Leary Weber Ditch sites. Stable-flow samples were collected between storms at the Tile Drain and Leary Weber Ditch sites. Weekly composite rain samples were collected for 13 weeks in 2003 and 2004. Soil-water and ground-water samples were collected at selected times during 2003 and 2004. A more-detailed description of the sampling strategy is given in Baker and others (in press).

Water-quality samples were analyzed for nutrients (nitrogen and phosphorus), major-ions, and about 43 commonly used pesticides and 39 degradation products, including triazine herbicides such as atrazine and simazine, acetanilide herbicides such as acetochlor and metolachlor, and organophosphorus insecticides such as chlorpyrifos and diazinon. Table 2 provides the nutrient and major ion data collected for the Leary Weber Ditch Basin for 2003 and 2004. Table 3 provides the pesticide data that were collected for the same time period.

Tables

[Table 1. List of water-quality-data collection sites with site descriptions for Leary Weber Ditch Basin, Indiana.](#) In TXT format.

[Table 2. Nutrient and major-ion data for water-quality sites in the Leary Weber Ditch Basin, Indiana, 2003-04.](#) In TXT format.

[Table 3. Pesticide data for water-quality sites in the Leary Weber Ditch Basin, Indiana, 2003-04.](#) In TXT format.

References

Baker, N.T., Stone, W.W., Wilson, J.T., and Meyer, M.T., in press, Occurrence and transport of agricultural chemicals in Leary Weber Ditch Basin, Hancock County, Indiana, 2003-04: U.S. Geological Survey Scientific Investigations Report 2006-5251.