# Well Sampling For Pesticides In Corn-Producing Areas Of Pa.

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The Pesticide Education Program of Penn State's College of Agriculture has engaged in a project to sample drinking water wells in corn growing areas of Pennsylvania and analyze them for residues of corn pesticides.

The purpose of the study is to provide a comprehensive, statewide look at the extent and nature of contamination of drinking water wells in Pennsylvania by corn pesticides.

While the occurrence of pesticides in groundwater does not appear to be a critical health or safety problem at the present time, the U.S. Environmental Protection Agency (EPA) considers it a priority issue and has proposed a strategy to prevent it from becoming a more widespread problem.

Their plan includes more stringent regulation of products with a track record of groundwater contamination and the identification of critical groundwater resources that require special protection from certain problem pesticides. In this state, the Pennsylvania Department of Agriculture (PDA) is responsible for the regulation of pesticides and will be urged to develop pesticide-specific state management plans in the event that EPA chooses to employ their proposed strategy. It is expected that in the near future, EPA will require the state to develop such plans for a number of corn herbicides. It is this expectation, as well as the general lack of data available in Pennsylvania, that has prompted PDA to support Penn State in this project.

In recent years, pesticides have been found in a number of surface and groundwater resources around the country as the number of monitoring and analyses projects has increased. In the vast majority of cases, wells have not contained detectable residues of pesticides. In most of the remaining cases, the concentrations that have been detected have been below those determined by the EPA to be a health hazard. In general, the EPA sets enforceable or advisory health limits for contaminants in drinking water that present no more than a one-in-a-million chance of causing chronic health problems from drinking the water.

In Pennsylvania, relatively few well sampling projects have been conducted. Most of these efforts have been confined to the southeast and south central portion of the state. Thus, while there is an existing awareness of the potential for pesticide-related water problems to develop in Pennsylvania, the data needed to evaluate or manage them is not available.

Individuals directing in the well sampling project have targeted about 200 wells from various physiographic settings in an attempt to represent the state's diverse geologic, soil, and groundwater conditions. In nearly all cases, neighboring farm and residential wells were selected in pairs to provide insights on the effects of farm handling practices (storage, mixing, washing, etc.) as opposed to leaching from farm fields. Water samples will be collected by trained technicians and analyzed for about a dozen of the most widely used corn herbicides and insecticides. In addition, each site will be assessed for conditions that are believed to be factors in well contamination.

The results of these analyses will be used to develop a statewide database on the occurrence, magnitude, and nature of groundwater contamination by corn pesticides. These data will be the basis for PDA to make informed decisions about when and how to restrict the use of specific pesticides to protect groundwater.

Field sampling for the study was scheduled for completion at the end of last month. Analytical and data analyses are ongoing at the present time. Results are expected to be available in early 1994.