

Pesticides in People

This portion of the program will be conducted by HEW's Public Health Service Office of Pesticides to satisfy needs for new information about pesticide levels in the general population in comparison with those among people highly exposed to pesticides. Three groups of people will be studied:

1. People in the general urban population whose exposures largely are limited to pesticide traces in food, water, and air and amounts received during occasional use of pesticides in home or garden.
2. People living in rural environments where they may have repeated non-occupational exposures to pesticides.
3. Persons experiencing potentially high exposures to pesticides; applicators; formulators, greenhouse workers, and aerial spray pilots. Studies will be conducted in each of 15 states.

A total of 1,950 analyses will be made annually for each of several chlorinated hydrocarbons, the largest group of pesticides used.

Certain pesticide residues tend to accumulate in the fat of people (and in the fat of fish, birds and mammals). The individual sample for people will consist of 2.5 grams of fatty tissue--the size of the tip of a man's thumb--taken from any portion of the body.

The information derived will help to evaluate the significance of man's exposure to pesticides.

Fish and Wildlife

The monitoring of fish by the Department of Interior will attempt to inform scientists about aquatic environmental conditions in which fish live and may provide the basis for intensive studies on the meaning of pesticide levels to the physiological processes of fish.

A minimum of three species of fish in various parts of the United States will be studied for the presence of pesticide residues. The species will vary according to location. They should reflect the degree of residues in organisms upon which they have fed. The order of preference in fish to be sampled is: carp, buffalo, black bass, channel catfish, green sunfish, yellow perch, rainbow trout and squawfish.

Samples will be taken at 50 sites twice a year, as close to April and October as possible. These times will show the possible effect of the summer use of pesticides.

Representative wildlife to be sampled will be the mallard duck, starling, and bald and golden eagles. The mallard is the most important duck to hunters and is distributed throughout the U.S. Analyses will be made from wings of birds killed during the waterfowl hunting season.

Starlings are found throughout the country. Analysis of specimens collected in August should reflect the use of pesticides during the growing season.

Golden and bald eagles already are being monitored by Interior's Bureau of Sport Fisheries and Wildlife. Specimens found dead or injured beyond recovery from any cause are analyzed.

Major estuaries, where salt and fresh water meet, and major river drainages containing commercial quantities of shellfish will be included in the program. Oysters and clams, which filter large amounts of water to obtain food, will be studied. Samples of these shellfish and sediment will be taken three times a year.

Food and Feed

Basic to consumer safety is the surveillance of pesticide residues in food which the Food and Drug Administration has been maintaining for decades to prevent food containing pesticides in excess of safe, legal tolerances from reaching the market. Such tolerances are set by FDA on the basis of scientific data derived largely from animal feeding studies.

FDA now analyzes more than 25,000 raw agricultural commodity samples a year for compliance with the tolerances. This is about one percent of all shipments of unprocessed food in the U.S. Data obtained in this work will be made available for the government-wide monitoring program together with results from FDA's analyses of "market basket" samples now taken annually at five locations in the country.

FDA checks on the adequacy of its surveillance of raw food for pesticide residues by analyzing "market baskets" of 83 food items in 12 commodity groups representing the two-week diet of a 19-year-old boy, biggest eater in the nation. The commodity groups include dairy products; meat, fish, and poultry; grain and cereal products; and potatoes and leafy vegetables. Tests on these samples disclose the residues present on the foods when they are ready to be eaten.

The Department of Agriculture will support this part of the monitoring program by continuing to obtain yearly 3,500 samples of meat and meat products for pesticide residues analysis.

Soil

This part of the program is designed to determine the rate of accumulation of certain pesticides in the soil. Continuous sampling of areas of known heavy pesticide usage and areas known to have received low levels of pesticides, or none at all, will be undertaken.

Two categories of sampling sites are involved--those which have heavy pesticide use and those where there has been little or no use of pesticides. The Department of Agriculture has designated 20 high pesticide use sites to be studied on farm lands. Each study area consists of one square mile of agricultural land. For sampling purposes, the area is divided into blocks of approximately 50 acres and 3 to 20 samples are taken from each block.

The soil sample consists of 50 three-inch cores. In addition to the farm lands study, 32 sites of low pesticide use or no use will be selected in cooperation with Federal and State agencies responsible for activities on public lands, such as parks, forests, and western rangelands. These agencies keep records of pesticide use for control of insects. Areas that have never been known to be exposed to pesticides will be included to determine the extent, if any, that pesticides may reach those areas.

Water Resources

Fifty-five locations, covering all of the major river drainages, will be sampled by the Department of Health, Education, and Welfare or Interior to provide continuing information on pesticide residues in the nation's water supply.

Rivers generally will be sampled at places where they empty into other bodies of water. Some samples will be taken at upstream locations. Samples will be taken monthly and will be analyzed to a sensitivity of one part of pesticide to one trillion parts of water.

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