

Pesticides in Drinking Water

What happens to pesticides sprayed on lawns, golf courses, parks, or crops? They wash or filter into private wells, aquifers, and groundwater used by humans and animals alike. According to John Wargo in *Our Children's Toxic Legacy*, nearly 53 percent of the U.S. population derives drinking water from groundwater sources and 47 percent drink from surface supplies. "Given our scientific understanding that pesticides could easily migrate from field to surface waters or to underground aquifers, it is remarkable that the quality of data on contamination levels is so limited. One reason...is that patterns vary locally and seasonally....another reason is the expense of sampling and analysis."

Over 42 percent of Connecticut's population depends on ground water for drinking according to the National Ground Water Association. This includes 747,890 residents served by private wells and 612,981 residents served by ground water in public water systems. The state has over 3,200 such public water systems, 600 of them community systems that serve roughly 84 percent of its 3.4 million residents.¹

In a statewide study of pesticide contamination in groundwater conducted by the Department of Environmental Protection in 1987-1989, 59 sites were surveyed, including croplands, orchards, golf courses, and residential areas. Thirty-nine of the 59 sites, or 66%, had detectable quantities of pesticides in the groundwater, proving that these substances move down to groundwater. Dacthal (DCPA), an herbicide used for pre-emergence control of crabgrass on turf, was the most commonly found pesticide in the non-agricultural sites, being in 11 of the 13 wells tested.²

Although well water must be tested when a home is sold in Connecticut, pesticide testing is not required nor recommended because the cost is about \$1600 per well. Thus, very little data exist on the effects of pesticides in private wells in suburbia. To help assess the risks, Environment & Human Health, Inc. in conjunction with the Connecticut Agricultural Experiment Station and the Quinnipiac Valley Health District conducted a survey of 53 private residential wells³ in the town of Woodbridge, Connecticut in 1998. The town was selected because most homes have wells, the homes are on large lots using lawn and tree-care services, and the town has few agricultural pesticide uses and no industry. Six of the wells, or 11%, were found to contain traces of seven lawn and tree-care pesticides: chlordane, chlorpyrifos, chlorothalonil, dacthal, diazinon, lindane, and trifluralin.

The federal Safe Drinking Water Act sets minimum standards for drinking water and the Environmental Protection Agency has established maximum contaminant levels for 83 contaminants, 24 of which are pesticides, 14 currently in use in the U.S. Only two of the top five lawn-care pesticides—2, 4-D and glyphosate (the active ingredient in Roundup)—are restricted by the Safe Drinking Water Act.⁴ Many other commonly used lawn and garden pesticides are not regulated, or tested for, in drinking water.

Connecticut's major aquifer systems are shallow (generally less than 300 feet deep with the water table within 50 feet of the land surface) and are therefore susceptible to contamination.

The Watershed Partnership's goal is to awaken consumers to these risks and promote safer lawn-care options.

¹ *Risks From Lawn-Care Pesticides*, p. 38, Environment & Human Health, Inc., 1191 Ridge Rd., N. Haven, CT 06473 (203) 248-6582.

² A Survey of Private Drinking Water Wells for Lawn and Tree Care Pesticides in a Connecticut Town, Environment & Human Health.

³ Ibid.

⁴ Ibid, footnote 1, p. 36.