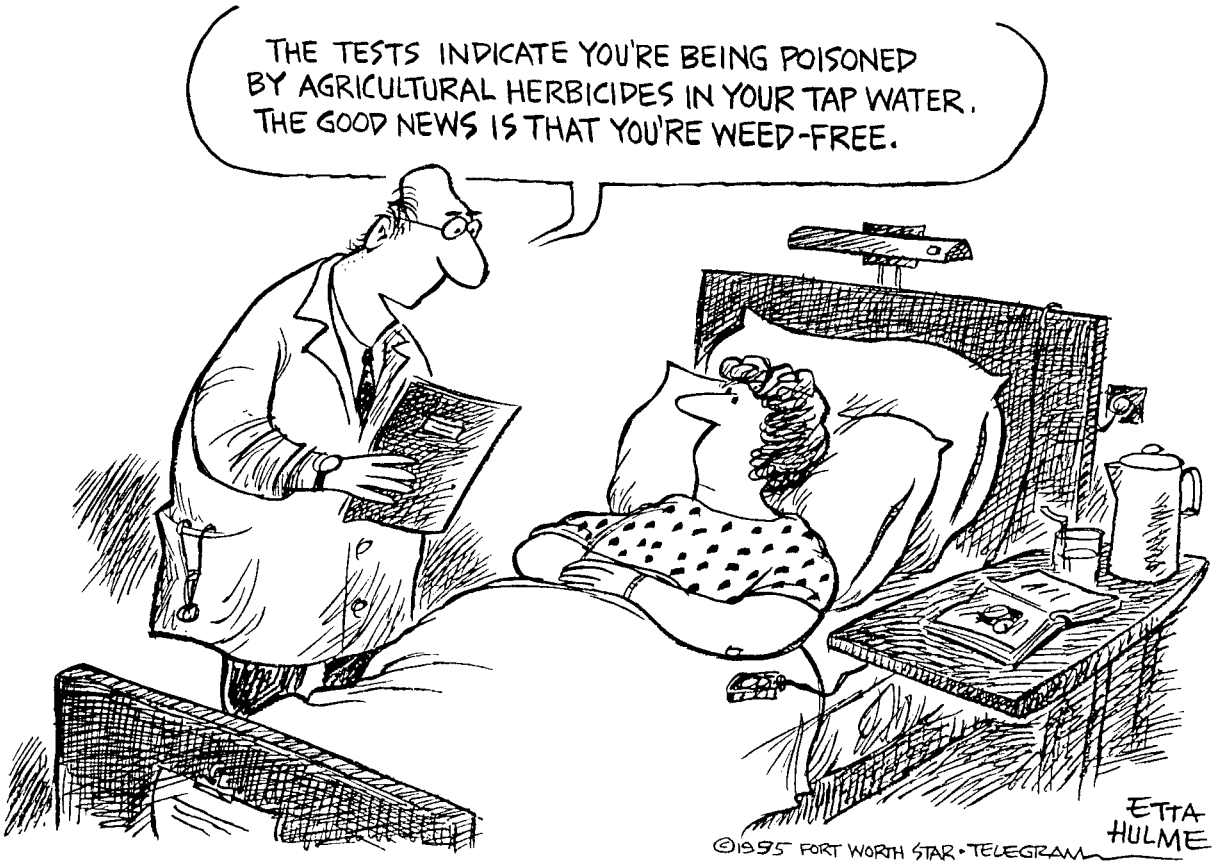

Tough To Swallow

How Pesticide Companies Profit from Poisoning America's Tap Water

Environmental Working Group™

Brian A. Cohen
Richard Wiles

Acknowledgments

Special thanks to Sandy Buchanan, Rachel Belz, Annette Meyevski, Rae Laufenberger, John Cameron, and Christopher Campbell for their assistance during preparation of this report. Thanks also to Molly Evans who designed and produced the report, and to Allison Daly for coordinating the release of *Tough to Swallow.* We are grateful to Ken Cook, Sara Savitt, and Jackie Savitz for editing and insight.

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Tough to Swallow was made possible by grants from The W. Alton Jones Foundation, The Joyce Foundation, and the Working Assets Funding Service. The opinions expressed in this report are those of the authors and do not necessarily reflect the views of the supporters listed above. Environmental Working Group is responsible for any errors of fact or interpretation contained in this report.

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Foreword

For the past twenty–five years, maybe longer, millions of people living in hundreds of midwestern communities have been routinely drinking tap water contaminated with an unhealthy dose of agricultural weed killers, many of which are carcinogens.

These people didn't know that pesticides were in their water, their iced tea, their orange juice, their infant formula, or in the jet of water squirting from water fountains at their schools and playgrounds.

They had no idea that they were often drinking—or serving their children—poisons like atrazine, simazine, cyanazine, metolachlor and alachlor, or various metabolites of these weed killers that can be even more toxic.

Why *didn't* people know that their water has been contaminated with pesticides all these years?

It's simple: No one told them.

Don't blame the water companies — the fault lies with the multi-billion dollar chemical companies that make these pesticides, who never said a word over decades of contamination.

It's not that they don't know how to communicate with the masses. Corporations like Monsanto and the Swiss firm Ciba (now Novartis) have spent tens of millions of dollars each year, aggressively advertising and promoting their weed killers to corn and soybean farmers, using menacing, macho trade names like "Bullet", "Marksman", "Shotgun" and "Ramrod." Their sales pitch has been extraordinarily successful. Well over 95 percent of all the corn and soybean fields, extending to the remotest corners of the Midwest, are sprayed each year with weed killers. All this spraying has earned pesticide companies billions, but they haven't spent a penny of it telling Midwesterners about that little shot of Ramrod in their Kool-Aid or the Shotgun in their ice cubes.

Actually, it's worse than that. Our analysis overwhelmingly shows that a single glass of Midwestern tap water commonly has

Why *didn't* people know that their water has been contaminated with pesticides all these years?

It's simple: No one told them.

Don't blame the water companies — the fault lies with the multi-billion dollar chemical companies that make these pesticides. They never said a word.

The pesticide companies knew about the contamination. Of course they knew.

had a mixture of three or more of these pesticides for many years. In June 1997, for instance, during EWG's third year of tap water testing, the Iowa State Hygienic Laboratory that conducts our analyses found *ten* different pesticides and metabolites in a single sample of water taken from a tap in Williamsburg, Ohio, a suburb of Cincinnati. That's the worst case we've seen in our limited testing. But when we analyzed 1996 data collected by state agencies across the corn belt, we found that 104 communities, with a total population of 3.3 million people, drank tap water contaminated with *five or more* toxic weed killers. And this is *after* a number of water utilities began special treatment to suppress pesticide levels.

This decades–long poisoning of tap water is not a failure of corporate science. It *is* corporate science.

Is it possible that the rich, powerful, "high tech" chemical companies that make these pesticides—these tireless champions of "sound science" in all matters environmental—just didn't happen to know that their products were getting into drinking water? That explanation hardly seems plausible. Corporate scientists knew that their pesticides were applied at very high rates (as much as 5 pounds per acre in the early years of atrazine usage). Their lobbyists vigorously worked the regulatory system to keep application rates as high as possible for as long as they could. They also knew that their weed killers were both highly soluble and relatively stable in water.

Is it remotely conceivable that the environmental quality experts employed by these pesticide companies simply never got around to testing rivers or reservoirs to see if their "crop protection chemicals" were in fact running off of farm fields and toward water treatment plants? All of their high-priced corporate science would have predicted that outcome. Were the hundreds of chemical engineers employed by these corporations incapable of determining that these particular pesticides will flow unchecked and undiminished through conventional drinking water treatment plants and right out of peoples' taps? Is it possible that the companies were so busy selling their weed killers that they *forgot* to test for them in the tap water of every state capitol in the Midwest?

Nonsense. The pesticide companies knew about the contamination. Of course they knew. This decades–long poisoning of tap water is not a failure of corporate science. It *is* corporate science.

Its practitioners at Monsanto, Ciba-Novartis and other pesticide companies are fighting to keep their Sputnik-era weed killers in commerce, no matter how much gets into water, and despite the fact that lower risk alternatives are available. Ciba-Novartis has launched an all out campaign to "save atrazine," now in special review at EPA because of risks to farmers

and water drinkers. In 1993, Monsanto pushed through the registration of acetochlor, a weed killer classified as a probable human carcinogen by EPA. It's already showing up in Midwestern tapwater after just a few seasons in use.

Fortunately, things are beginning to change. People in mid-America have some hope that their tap water will one day be entirely free of pesticides.

- A network of citizens' groups across the region has been working over the past four years to raise awareness about the issue. They've held press conferences, tested tap water, even put up billboards to inform their neighbors of the problem. Not surprisingly, once people learn about the contamination, they speak out—for pesticide-free water.

- State regulators in the Midwest are taking a closer look. After decades of not looking at all, states like Ohio, Illinois and Missouri are testing more tap water samples during the period when contamination is likely—the late spring and summer months following massive use of weed killers on corn and other crops. And guess what? When they look for it ,they find it, in just about any tap water that comes from surface water sources in corn-growing areas. Industry tests (though not publicized of course) are also showing widespread contamination, especially with atrazine.

- Dupont is sticking to its admirable decision voluntarily to phase out cyanazine, which has been a common and worrisome contaminant, in favor of a newer generation of compounds that don't get into drinking water.

- More water utilities are testing their water, and are doing more to inform their customers. Out of their own concern to provide clean water, and in response to the concerns of consumers, more utilities are treating their water to lower pesticide levels. They shouldn't have to do this, of course. They're cleaning up the pesticide company's mess for them. And then they're having to ask their customers to pick up the tab.

All of these developments are for the better. Better still, as this report documents, the new law regulating pesticides that passed Congress unanimously last year offers a new, first line of defense for midwestern water drinkers. In essence the Food Quality Protection Act says that all routes of exposure to pesticides—including water for the first time—must be taken into account to determine if the exposures are safe for kids.

Who is responsible for solving the problem? It's not the water companies or the water drinkers. It's the pesticide companies.

Our analysis concludes that the doses of weed killers that millions of children and adults in the Midwest have been getting in their water are not safe under the more protective framework mandated by the new pesticide law.

Most important of all, the new law makes it clear who is responsible for solving the problem. It's not the water companies or the water drinkers. It's the pesticide companies.

But in order for this law to work, more midwesterners have to speak out.

Anyone who lives in one of the towns listed at the back of our report (or on our web site — www.ewg.org) has had tap water contaminated by at least one pesticide. If you want to take the first step towards pesticide free tap water, dial this toll free number at EPA.

1-800-426-4791

It's the Safe Drinking Water Hot Line. Tell them where you live. Tell them you want tap water with zero pesticides in it, to protect yourself and your family. Tell EPA to ban atrazine and simazine as a first step. Tell them you believe that pesticide companies are liable for past and future contamination—and should repay in full any clean-up costs incurred or other damages.

Kenneth A. Cook
President
Environmental Working Group

Executive Summary

As the result of a law passed by Congress last year, millions of Americans and hundreds of water suppliers across the Midwestern United States have a new, first line of defense against the agricultural weed killers that have contaminated their tap water for decades.

The 1996 law—the Food Quality Protection Act (FQPA)—closed a gaping loophole in Federal pesticide laws. It requires that food tolerances (safe levels) take into account *all* exposure to pesticides—including, for the first time, exposure via drinking water—and that this aggregate exposure must be safe for infants and children. FQPA prohibits the use of a pesticide on *food* crops if the risk from the pesticide via drinking water (or any other route) exceeds the new, more protective safety benchmark in the Act. Prior to last year's law, health risks from pesticides were addressed only under the authority of the Safe Drinking Water Act.

One of the most important implications of FQPA is that it finally fixes responsibility for widespread, long term herbicide contamination of Midwestern tap water squarely where it belongs: on huge, highly profitable pesticide companies like Novartis (formerly Ciba) and Monsanto.

These pesticide companies have made billions of dollars selling more than 100 million pounds of these weed killers to farmers, every year for decades. They have sold these products with full knowledge that the pesticides will find their way into drinking water.

Table 1. Cancer risks from weed killers in tap water in hundreds of communities exceed the new health benchmark established under the Food Quality Protection Act.

State	Number of Communities	Total Population Exposed
Delaware	2	201,800
Iowa	13	275,234
Illiniois	77	715,785
Indiana	20	452,742
Kansas	9	326,061
Maryland	2	44,000
Missouri	49	249,407
Nebraska	3	396,125
Ohio	70	1,637,297
Total	245	4,298,451

EWG analysis based on cancer potency values and risk assessment methods published in EPA Special Review Document for the Triazines, 1994.

Source: Environmental Working Group, 1997. Compiled from state and pesticide industry monitoring data, 1996-1997.

The Food Quality Protection Act closed a gaping loophole in Federal pesticide laws. It requires that food tolerances take into account *all* exposure to pesticides –– including, for the first time, exposure via drinking water.

Until last year, the regulatory gap for pesticides in water allowed pesticide companies to duck their responsibility for contamination and clean up. Water treatment plants throughout the Midwest have had to step in to meet the standards of the Safe Drinking Water Act, the law that regulates all water suppliers. In an ever more difficult struggle to deliver clean tap water to their customers, an increasing number of water utilities throughout the "corn belt" are investing huge sums on special treatment measures to reduce the level of herbicides in finished drinking water. Ultimately, of course, these costs are passed on to Midwestern consumers, with a price tag of tens of millions of dollars each year.

Water suppliers and drinkers should not have to pay to clean up after polluters. And no one should have to tolerate tap water tainted by toxic weed killers.

The Food Quality Protection Act fixes responsibility for herbicide contamination of tap water squarely where it belongs: on huge, highly profitable pesticide companies like Novartis (formerly Ciba) and Monsanto.

Federal Cancer Risk Level Routinely Exceeded

Congressional committee report language accompanying FQPA makes it clear that "safe" means a negligible level of risk and that for carcinogens the Congress understood and intended that, "EPA interprets a negligible risk to be a one-in-a-million lifetime risk. The committee expects the Administrator to continue to follow this interpretation" (FQPA 1996).

Based on Environmental Working Group testing of tap water in three corn belt states, as well as EWG's review of test results from state environmental authorities in Ohio, Illinois, Missouri, and the U.S. EPA, atrazine and other weed killers are pervasive in tap water at levels that are not safe for infants and children. We found:

- Cancer risks from atrazine and simazine in tap water exceed the new FQPA cancer risk benchmark in 245 communities: Seventy-seven communities in Illinois, 70 in Ohio, 49 in Missouri, and 46 communities in six additional states (Delaware, Iowa, Indiana, Kansas, Maryland, and Nebraska) (Table 1).

- Over 4.3 million Americans — including approximately 57,000 infants — are exposed to weed killers at concentrations exceeding the new acceptable cancer risk level established under FQPA.

- Cancer risks from atrazine and simazine in tap water are ten times the new FQPA benchmark in 60 Midwestern towns: 29 in Illinois, 13 in Ohio, 7 in Missouri, and 11 in six other states. Risks are fifteen times the new FQPA benchmark level in 24 communities (Table 2).

These cancer risk estimates are based on lifetime average exposures and do not account

for the special vulnerability of infants to carcinogens, or their higher exposure to weed killers in tap water due to their higher volume of water consumption relative to their size. Under FQPA, the EPA must explicitly integrate the vulnerability of infants in their future assessment of cancer risks for these weed killers. When EPA conducts these assessments, the federal risk estimates will finally reflect the increased risks faced by infants drinking weed killers in their infant formula. Current risk estimates do not.

The federal drinking water health standard for atrazine established under the Safe Drinking Water Act is 3 parts per billion. Only 17 water suppliers identified in this analysis violated the atrazine standard in 1996-1997. Indeed, most cities listed as having contaminated tap water may still be in compliance with federal drinking water health standards.

New food tolerances mandated by the 1996 FQPA, however, require that all exposures, including drinking water, are "safe" and do not exceed a one-in-one-million cancer risk. Based on EPA's standard risk assessment methods, which do not yet account for increased risk from exposure during infancy, a safe level of exposure for *atrazine alone* would be about 0.15 parts per billion, a level far lower than virtually all contaminated tap water supplies in the Midwest. This "safe" level is roughly equivalent to the European standard for atrazine in tap water of 0.1 parts per billion, which is 30 times more protective than the U.S. standard established under the Safe Drinking Water Act.

The European standard for atrazine in tap water is 30 times more protective than the U.S. standard.

Contamination is Widespread

Commonly used agricultural weed killers contaminate the tap water of 374 Midwestern towns: 144 in Ohio, 97 in Illinois, 59 in Missouri, and 74 towns in nine other states. Over ten million Americans in the Midwestern United States and the Chesapeake Bay region are exposed to cancer causing weed killers in their tap water (Table 3).

Indeed, the pesticide industry's own internal study found atrazine in 96 percent of all water systems tested, acetochlor in 47 percent,

RECOMMENDATIONS

We believe that Americans have a right to tap water that is entirely free of pesticides. To achieve this goal:

- EWG recommends an immediate ban on all triazine herbicides. In conjunction with this Act, the EPA should announce a policy of phasing out all pesticides that contaminate tap water supplies.
- The farming community should adopt a goal of controlling weeds without contaminating drinking water.
- The EPA must scrupulously implement the Food Quality Protection Act.

Table 2. Communities facing the highest cancer risks from atrazine and simazine in tap water.

Name	State	Cancer Risk (Multiple of New Pesticide Safety Level)	Average Annual Atrazine Concentration (ppb)	Average Annual Simazine Concentration (ppb)
Shipman	IL	64.90	10.25	0.00
Gillespie	IL	53.59	8.47	0.00
Hettick	IL	53.10	8.39	0.00
White Hall	IL	43.08	6.69	0.22
Scottsburg	IN	36.52	5.77	0.00
Sorento	IL	31.60	4.99	0.00
Greenfield	IL	29.93	4.73	0.00
Omaha	IL	28.73	4.54	0.00
St Elmo	IL	26.64	3.44	1.51
Keyesport	IL	26.63	4.11	0.20
Louisville	IL	25.21	3.85	0.27
Sardinia	OH	24.01	3.66	0.26
Pittsfield	IL	23.06	3.64	0.00
S L M Water Commision	IL	22.95	3.42	0.40
Pana	IL	22.00	3.48	0.00
La Harpe	IL	20.22	3.19	0.00
North Vernon	IN	19.62	3.10	0.00
Evansville	IL	18.43	2.76	0.30
City Of Upper Sandusky	OH	17.54	2.71	0.12
Village Of Williamsburg	OH	16.95	2.60	0.15
Farina	IL	16.09	2.54	0.00
Lake Of The Woods	OH	15.89	2.30	0.41
West Salem	IL	15.31	2.21	0.42
Lamoni	IA	15.13	2.39	0.00

Source: Environmental Working Group, 1997. Compiled from state and pesticide industry monitoring data, 1996-1997.

No use restrictions on the triazines have been implemented since those issued in 1993, which failed in their intended purpose of protecting Mid-America's drinking water.

and alachlor in 26 percent. Acetochlor, a newly registered cancer causing weed killer, was allowed on the market by the Clinton Administration EPA in 1993 and has quickly found its way into Midwestern drinking water.

Multiple Weed Killers in Tap Water

In addition to widespread contamination and unacceptably high cancer risk from the triazines, infants and children face risks from mixtures of weed killers in tap water. Tap water testing by EWG in 1997 found:

- Ten (10) weed killers and metabolites in a single glass of tap water in Williamsburg, Ohio, a suburb of Cincinnati. Also in Ohio, nine pesticides or metabolites were found in a single sample of tap water in Napoleon, eight in Defiance, seven in Delaware,

and six in Sardinia.

- In Illinois, six pesticides were detected in a single sample of tap water from White Hall, and three each in tap water samples from Greenfield, Hettick, Shipman, and Gillespie.

Tap water testing by state authorities and the pesticide industry found that in 1996 and 1997:

- 104 communities, with a total population of 3.3 million people, were served tap water contaminated with five or more cancer causing weed killers. A total of 272 communities were provided tap water contaminated with more than one weed killer (Figure 1).

- In Ohio, 101 out of 144 communities had at least five different weed killers in their tap water, 121 had 4 or more, and 137 had three or more herbicides in finished tap water.

- In 65 Illinois communities tap water was contaminated by two or more of these toxic herbicides. Thirty-seven (37) Illinois communities had three or more weed killers in their tap water, and 15 had four or more.

- In 29 Missouri communities tap water was contaminated with two or more pesticides. In 15 communities at least three pesticides were found in tap water.

Table 3. Millions of Americans are exposed to toxic weed killers in their tap water.

State	Number of Communities	Total Population Exposed
Delaware	2	201,800
Iowa	16	416,738
Illinois	97	1,175,483
Indiana	23	453,042
Kansas	9	326,061
Maryland	5	60,570
Minnesota	2	515,633
Missouri	59	277,066
Nebraska	4	397,708
Ohio	144	6,072,433
Pennsylvania	8	234,873
Wisconsin	5	97,615
Total	374	10,229,022

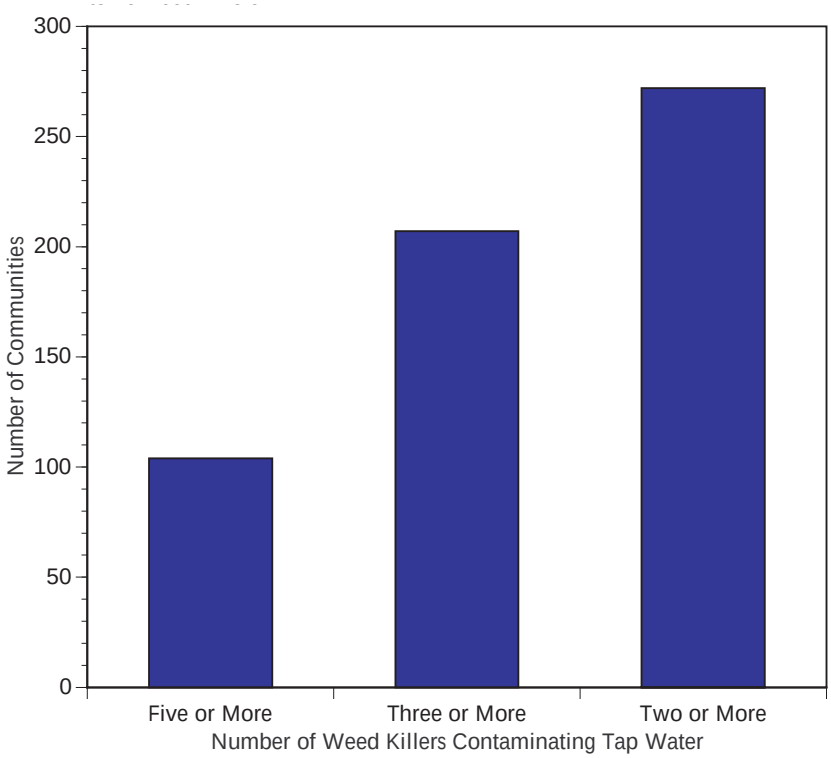
Source: Environmental Working Group, 1997. Compiled from state and pesticide industry monitoring data, 1996-1997.

Herbicide Use Remains Heavy

In the face of this widespread contamination of tap water and a special regulatory review of the triazine weed killers initiated by the EPA in 1994, herbicide use in the Midwest remains heavy. This continued heavy use contradicts the pesticide industry's claims that they can solve the problem of weed killers in tap water by controlling pesticide applications and reducing the use of hazardous pesticides. On average, in 1993-1994, corn growers in the

St. Louis, Missouri spends $7,000 per day in the late spring and summer to reduce atrazine levels below 1 part per billion in finished tap water.

Figure 1. Tap water in over 100 communities was contaminated with five or more toxic weed killers.



Source: Environmental Working Group, 1997. Compiled from state and pesticide industry monitoring data, 1996-1997.

In recent years, more and more water suppliers have begun to treat their water prior to delivery to the tap in order to suppress pesticide levels.

corn belt used 133 million pounds of triazines and acetanilides, about the same amount as they applied in the early 1990's (USDA 1995).

No use restrictions on the triazines have been implemented since those issued in 1993, which failed in their intended purpose of protecting Mid-America's drinking water.

Some Communities are Protecting Themselves

In recent years, more and more water suppliers have begun to treat their water prior to delivery to the tap in order to suppress pesticide levels. While water suppliers in small communities have been slower to react, those in larger communities with greater resources have taken several approaches to solving the problems caused by upstream polluters. According to drinking water industry officials, St. Louis, Missouri spends $7,000 per day in the late spring and summer to reduce atrazine levels below 1 part per billion in finished tap water.

Among the activities that water suppliers are engaging in:

- **Treating tap water to reduce pesticide contamination.** Water suppliers in virtually every major midwestern community — St. Louis, Indianapolis, Kansas City, Missouri, Omaha, Columbus and others — treat tap water with powdered activated carbon (PAC), a technique which reduces (but does not completely remove) the amount of weed killers found in tap water. This has had immediate public health gains, although it costs the water drinkers in these communities millions of dollars each year.

- **Upgrading water treatment plants.** In response to publicity and citizen concerns, the community of Bowling Green, Ohio, is upgrading its existing water treatment plant. The re-engineered facility will

Powdered Activated Carbon can reduce atrazine levels in finished tap water.

Community	Average Atrazine Concentration Before Treatment With PAC	Average Atrazine Concentration After Treatment With PAC	% Reduction
Des Moines, Iowa	1.36	0.77	43%
Davenport, Iowa	0.28	0.11	61%
Springfield, Illinois	3.44	1.09	68%

Source: Pesticide industry monitoring data, 1996-1997.

have the capability to use granular activated carbon (GAC), a pesticide removal technology that functions with over 99 percent efficiency. In Columbus, the community is upgrading an existing plant to expand the capability to use PAC to reduce pesticide concentrations.

- **Testing more frequently, and informing customers of contamination.** In 1994, many water suppliers would not test for pesticides even once during the peak contamination period in spring and summer. Now, many test daily or weekly. In Fort Wayne, Indiana the water supplier has set up a special telephone hotline to inform customers of daily atrazine concentrations in their tap water. Other water suppliers, including those in Kansas City, Missouri, have adopted a policy of not allowing atrazine to exceed federal standards for even one day.

Conclusions and Recommendations

Efforts to *prevent* contamination of tap water with cancer-causing weed killers have largely failed. Monitoring by EWG, state officials and the pesticide industry all show continued levels of contamination with multiple cancer causing weed killers at levels that are not safe for infants and children. Indeed, in dozens of communities, particularly small rural towns, risks from exposure to triazine herbicides is many times the new cancer risk benchmark in the FQPA.

We believe that Americans have a right to tap water that is entirely free of pesticides — and that they will support sensible measures to achieve this goal.

- **EWG recommends an immediate ban on all triazine**

To keep tap water free of weed killers we recommend an immediate ban on all triazine herbicides. In conjunction with this act, the EPA should announce a policy of phasing-out all pesticides that contaminate tap water supplies.

herbicides. In conjunction with this act, the EPA should announce a policy of phasing out all pesticides that contaminate tap water supplies. The first round of this phase-out should specifically target all of the acetanilide herbicides currently found in tap water, including alachlor, acetochlor and metolachlor.

The companies that make these pesticides claim that the costs of eliminating their products will be excessive. In the past such industry claims have proven exaggerated. But under FQPA, EPA is required to base its regulations first and foremost on public health considerations. EPA cannot approve the use of a chemical that forces the public to take health risks just because pesticide companies and farmers make a lot of money selling and using the product, unless the agency explicitly informs the public of the risk under the new "right to know" provisions of the FQPA. And, in no case can the pesticide fail the safety standard in FQPA as it specifically applies to infants and children.

- **The farming community should adopt a goal of controlling weeds without contaminating drinking water.** This objective is readily achievable with existing herbicides and other weed control techniques, and should not result in any significant additional costs to America's farmers.

- **The EPA must scrupulously implement the Food Quality Protection Act.** This will require a strict one in one million cancer risk level from all exposures to carcinogens, including the triazines, with explicit consideration of the higher exposure relative to their size, and the special vulnerability of infants.

Chapter One

New Pesticide Law Targets Triazines in Tap Water

Every year, millions of midwesterners, including hundreds of thousands of infants, are exposed to toxic weed killers in their tap water.

Previous Environmental Working Group studies (EWG 1994, 1995, 1996) have indicated that over 12 million individuals, in hundreds of corn-belt communities are exposed to these toxic weed killers. By far the most frequently detected pesticides are the triazine herbicides — atrazine, cyanazine, and simazine — and the acetanilide herbicides — alachlor, metolachlor, and acetochlor. In 1993-1994, midwestern corn growers used an average of 133 million pounds of these herbicides to control weeds (USDA 1996).

These weed killers have been linked to a host of adverse health effects including cancer and birth defects (EPA 1994). Atrazine and the other triazine herbicides cause mammary gland cancer in repeated studies in female rats through interference with the normal functioning of the hormone system. In launching a "special review" of the triazines, EPA noted that "long-term exposure to these pesticides in food and water may pose a risk of cancer to the general population" (EPA 1994). DuPont, the maker of cyanazine, announced in 1995, the voluntary phaseout of that herbicide. The phaseout will be completed in 1999. The Novartis Corporation (formerly known as Ciba), maker of atrazine and simazine, has taken the opposite approach, using an aggressive public relations campaign to help keep these toxic weed killers on the market in spite of the risk they pose to water drinkers.

These weed killers have been linked to a host of adverse health effects including cancer and birth defects.

Atrazine Is Under an EPA "Special Review"

In November 1994, the EPA placed the triazine herbicides into a "Special Review". This regulatory review — initiated only when a pesticide raises exceptional health risks — is based primarily upon the public health risks of exposure to the triazine herbicides in water, food and during application. In the Special Review announcement, the Agency noted particular concern over the cancer risks from exposure to the triazine herbicides due to possible links between the mammary tumors in female rats and breast cancer in

Under FQPA, the EPA can no longer set safety standards for pesticides individually, ignoring the common toxic effects shared by many nearly identical compounds.

women. The announcement noted that "while the EPA does not have information which supports the link between exposure to the triazine herbicides and human breast cancer, the Agency cannot dismiss the possibility that an association could exist" (EPA 1994).

The Special Review is the first step in a process that could ultimately lead to a ban of the triazine herbicides. Progress, however, has been slow. More than two years after the announcement of the Special Review, EPA has yet to take action, nor are further steps planned until 1999. Meanwhile, in the summer of 1996, the Congress radically amended federal pesticide law in ways that should have a significant impact on herbicide use in the corn belt.

Further, in a dramatic reversal of previous law, FQPA prohibits EPA from using economic benefits as a justification for exposing infants and children to otherwise unsafe levels of pesticides.

Congress has passed a new pesticide law with strict health-based standards

On August 3, 1996, President Clinton signed the Food Quality Protection Act (FQPA), new legislation governing the regulation and use of pesticides. This legislation enacts a strict and unambiguous safety standard governing allowable levels of pesticides in food and from all other non-occupational routes of exposure, including drinking water. Under the law, a pesticide will not be allowed in the food supply if the total exposure to the pesticide (exposure from food, water, and home use) is not safe. Safe is defined as a "reasonable certainty" that "no harm" will come to exposed individuals, including infants and children. For carcinogens, reasonable certainty of no harm is defined as a one in one million risk, or less, of cancer (FQPA 1996). But the law does not stop here.

Under FQPA, the EPA can no longer set safety standards for pesticides individually, ignoring the common toxic effects shared by many nearly identical compounds to which people are also exposed. Now, when the agency assesses the risk from any pesticide, the EPA must add together the exposure to all pesticides with a common mechanism of toxicity. In the case of weed killers this means that the *cumulative* risk from all triazines (atrazine, simazine, propazine) and all acetanilides (alachlor, metolachlor, and acetochlor) must meet the new safety standard in the law.

Further, in a dramatic reversal of previous law, FQPA prohibits EPA from using economic benefits as a justification for exposing infants and children to otherwise unsafe levels of pesticides. EPA cannot approve the use of a chemical that forces the public to take health risks just because pesticide companies and farmers make a lot of money selling and using the product, unless the agency explicitly informs the public of the risk under the new "right to know" provisions of the 1996 pesticide law. And in no

case can the pesticide fail the safety standard in FQPA as it specifically applies to infants and children.

In combination these new and far reaching legal requirements should have dramatic effects on herbicide use in the corn belt. In the case of atrazine, our analysis shows that exposure via drinking water alone exceeds the new one in one million cancer risk standard. Under FQPA, therefore, additional exposure to atrazine or to other triazines, for example in milk from cows fed atrazine-treated feed corn, cannot be allowed because these exposures would only further increase cancer risk from the compound.

EPA Ignores World Health Organization Cancer Finding Against Atrazine

In their analysis of the cancer risks from atrazine, EPA has relied upon a 1988 study of rats exposed to atrazine conducted by Ciba, the manufacturer of the herbicide. In this study atrazine caused a statistically significant increase and early onset of mammary gland cancer in female rats. While EPA has also relied upon a number of other animal studies, including animal data showing that all triazines cause this same cancer in female rats, their work has still been criticized by industry scientists who claim that this study represents just a single cancer in a single species of rat, and that the overall "weight of the evidence" does not prove that atrazine is a carcinogen.

In fact, the weight of the evidence shows that atrazine is a potent carcinogen. The problem is that EPA has failed to muster the full weight of the evidence in its risk assessment for the compound. Ironically, EPA continues to ignore a second critical study that clearly shows that atrazine is a carcinogen. The study was conducted for, and accepted by, the prestigious International Agency For Research on Cancer (IARC) of the World Health Organization. It forms the scientific basis for regulation of atrazine in Europe, where the drinking water standard for atrazine is 30 times more protective than the United States, and where six countries have banned the chemical. The study, which was conducted on a second species of rats, confirmed the incidence of mammary cancer in female rats (Pinter 1990). The researchers also found an increase in rare male rat mammary tumors, ovarian and uterine cancers, and leukemias and lymphomas. This study reaffirms the results of the earlier Ciba study, and adds substantially to the weight of the evidence that atrazine is a carcinogen.

In spite of the fact that the study has been peer reviewed, meets strict IARC standards, and has been published in a scientific journal, EPA bureaucrats still claim that they are unable to obtain the data, and thus cannot include it in the Special Review. It is as if the study does not exist.

EPA continues to ignore a critical study that clearly shows that atrazine is a carcinogen.

The study forms the scientific basis for regulation of atrazine in Europe, where the drinking water standard for atrazine is 30 times more protective that the United States, and where six countries have banned the chemical.

Pesticides in Tap Water 1996-1997

EWG's 1997 testing program was conducted in 12 communities — Gillespie, Shipman, White Hall, Hettick, and Greenfield, in Illinois; Sardinia, Williamsburg, Columbus, Delaware, Napoleon, and Defiance, in Ohio; and St. Louis, Missouri. Most of these are small rural communities which face the worst contamination problems. These communities were chosen for 1997 testing to document the special risks from pesticide laced tap water faced by the residents of small towns throughout the Midwest.

Results

Ohio. Weed killers were found in the tap water in all six communities where EWG conducted testing in Ohio in 1997. EWG's testing found up to ten herbicides in a single glass of tap water, and detected weed killers at concentrations above the federal lifetime health standards in four of the six cities (Table 4).

Lifetime health standards, or maximum contaminant levels (MCLs), are established under the Safe Drinking Water Act. For pesticides, MCLs are generally less protective of the public health than contaminant levels allowed under FQPA (see sidebar).

In Williamsburg, ten weed killers or metabolites were detected in the sample collected on June 26. Two of these toxins — atrazine and cyanazine — were found at concentrations at least three times above their respective federal lifetime health standards. In three years of testing conducted by EWG, we have never found so many weed killers in a single sample. Nine pesticides were detected in Napoleon, eight in Defiance, seven in Delaware, and six in Sardinia.

The highest concentration of atrazine — 9.5 ppb — was detected in Williamsburg. Atrazine was also found above the federal lifetime health standard of 3 ppb in Defiance, Delaware, and Napoleon.

Illinois. Toxic weed killers were found in the tap water in all five communities — White Hall, Greenfield, Hettick, Shipman, and Gillespie — where EWG tests were conducted in Illinois. EWG's testing found up to six herbicides in a single glass of tap

EWG's testing found up to ten herbicides in a single glass of tap water.

The Safe Drinking Water Act and the Food Quality Protection Act

The Safe Drinking Water Act (SDWA) governs acceptable levels of the pesticides, including the triazines, in drinking water. The Food Quality Protection Act (FQPA) governs acceptable levels of the pesticides in food. FQPA, however, requires the EPA to consider *all* exposures, including pesticides in drinking water, when determining acceptable levels of pesticides in food.

For carcinogens, FQPA applies a more strict health standard to pesticide exposure — a one in one million cancer risk standard — than does the SDWA.

The Safe Drinking Water Act, as currently enforced by EPA, allows a level of cancer risk from atrazine in tap water that is about 20 times higher than is allowed for all exposures by the FQPA (tap water and food exposures combined). The SDWA standard for atrazine is 3 parts per billion.

FQPA, however, does not require, nor can it compel EPA to establish more restrictive drinking water contaminant standards, even though triazine levels in tap water in hundreds of Midwestern towns exceed the FQPA cancer risk standard. Indeed, strict FQPA risk standards apply to the triazines in water only because atrazine and simazine residues appear in the food supply and thus need food tolerances to support their use. EPA has the authority under SDWA to lower tap water "maximum contaminant levels" for the triazines to amounts that meet the risk standard of FQPA. The mandate of FQPA, however, does not require the EPA to take such action.

Based on EWG analysis of state and federal data, the level of risk associated with tap water exposure alone should preclude EPA from allowing any additional exposure via food because this additional exposure in food would only push risk even further over the health standard of the Act.

water, and detected these weed killers at concentrations above the federal lifetime health standards in two of the five cities.

In White Hall, six weed killers or metabolites were detected in the sample collected in July. Atrazine was detected at 3.3 ppb, and cyanazine at 2.0 ppb — both above their respective federal standards. Cyanazine was also detected above federal standards in Greenfield (Table 5).

St. Louis. Two pesticides — atrazine and metolachlor — were detected in St. Louis tap water. Both of these weed killers were found at relatively low concentrations. However, this does not mean that contamination in the source water — the Mississippi River — is not at high concentrations. Rather, it reflects the efforts of the water supplier, which must spend hundreds of thousands of dollars each year in order to clean up

Table 4. Testing in 1997 by EWG found up to ten weed killers and toxic metabolites in a single sample of Ohio tap water.

City	Sample Date	# Detected	Pesticides Detected in Tap Water
Columbus	6/24/97	1	Atrazine
Defiance	6/13/97	8	Atrazine, Cyanazine, Metolachlor, Alachlor, Acetochlor, Desethylatrazine, Desisopropylatrazine, Simazine
Defiance	6/27/97	8	Atrazine, Cyanazine, Metolachlor, Alachlor, Acetochlor, Desethylatrazine, Desisopropylatrazine, Simazine
Defiance	6/19/97	8	Atrazine, Cyanazine, Metolachlor, Alachlor, Acetochlor, Desethylatrazine, Desisopropylatrazine, Simazine
Delaware	6/24/97	7	Atrazine, Cyanazine, Metolachlor, Acetochlor, Desethylatrazine, Desisopropylatrazine, Simazine
Napoleon	6/14/97	9	Atrazine, Cyanazine, Metolachlor, Alachlor, Metribuzin, Acetochlor, Desethylatrazine, Desisopropylatrazine, Simazine
Napoleon	6/21/97	7	Atrazine, Cyanazine, Metolachlor, Acetochlor, Desethylatrazine, Desisopropylatrazine, Simazine
Napoleon	6/28/97	8	Atrazine, Cyanazine, Metolachlor, Alachlor, Acetochlor, Desethylatrazine, Desisopropylatrazine, Simazine
Sardinia	6/26/97	6	Atrazine, Cyanazine, Metolachlor, Desethylatrazine, Desisopropylatrazine, Simazine
Williamsburg	6/26/97	10	Atrazine, Cyanazine, Metolachlor, Alachlor, Metribuzin, Acetochlor, Desethylatrazine, Desisopropylatrazine, Simazine, Propazine

Source: Environmental Working Group. Tapwater tests conducted by the University Hygienic Laboratory, Iowa City, Iowa.

pollution from upstream. According to water industry officials, St. Louis is spending about $7,000 per day on powdered activated carbon treatment to reduce levels of atrazine in finished tap water. Ultimately these costs are passed on to consumers in higher bills. Upstream polluters responsible for this contamination pay none of the costs.

1996 Ohio EPA Testing

In May 1996, the Ohio EPA began the second year of an intensive study of pesticides in the state's water supplies. In this study, the state tested 144 surface water-supplied systems for seven frequently used weed killers — atrazine, metolachlor, metribuzin, simazine, cyanazine, alachlor, and acetochlor. The state continued testing — on a quarterly ba-

Table 5. Testing in 1997 by EWG found up to six weed killers and toxic metabolites in a single sample of Illinois tap water.

City	Sample Date	# Detected	Pesticides Detected in Tap Water
White Hall	7/8/97	6	Atrazine, Cyanazine, Metolachlor, Desethylatrazine, Desisopropylatrazine, Simazine
Greenfield	7/8/97	3	Atrazine, Cyanazine, Desethylatrazine
Hettick	7/8/97	3	Atrazine, Cyanazine, Desethylatrazine
Shipman	7/8/97	3	Atrazine, Cyanazine, Metolachlor
Gillespie	7/8/97	3	Atrazine, Metolachlor, Desethylatrazine

Source: Environmental Working Group. Tapwater tests conducted by the University Hygienic Laboratory, Iowa City, Iowa.

In Ohio, at least four pesticides were detected in 54% of all samples taken by the state EPA.

sis — through December, 1996, and began testing again in May 1997. The results of the testing are posted on the Ohio EPA web site[1], and were obtained and analyzed by EWG. Our analysis shows that:

- At least one weed killer was detected in tap water from *every single one* of the 144 water systems tested by Ohio EPA.

- Metolachlor was the most frequently detected weed killer (in 142 of the 144 water systems), followed by atrazine (135 systems), alachlor (132 systems), cyanazine (107 systems), simazine (101 systems), metribuzin (87 systems), and acetochlor (13 systems) (Figure 2).

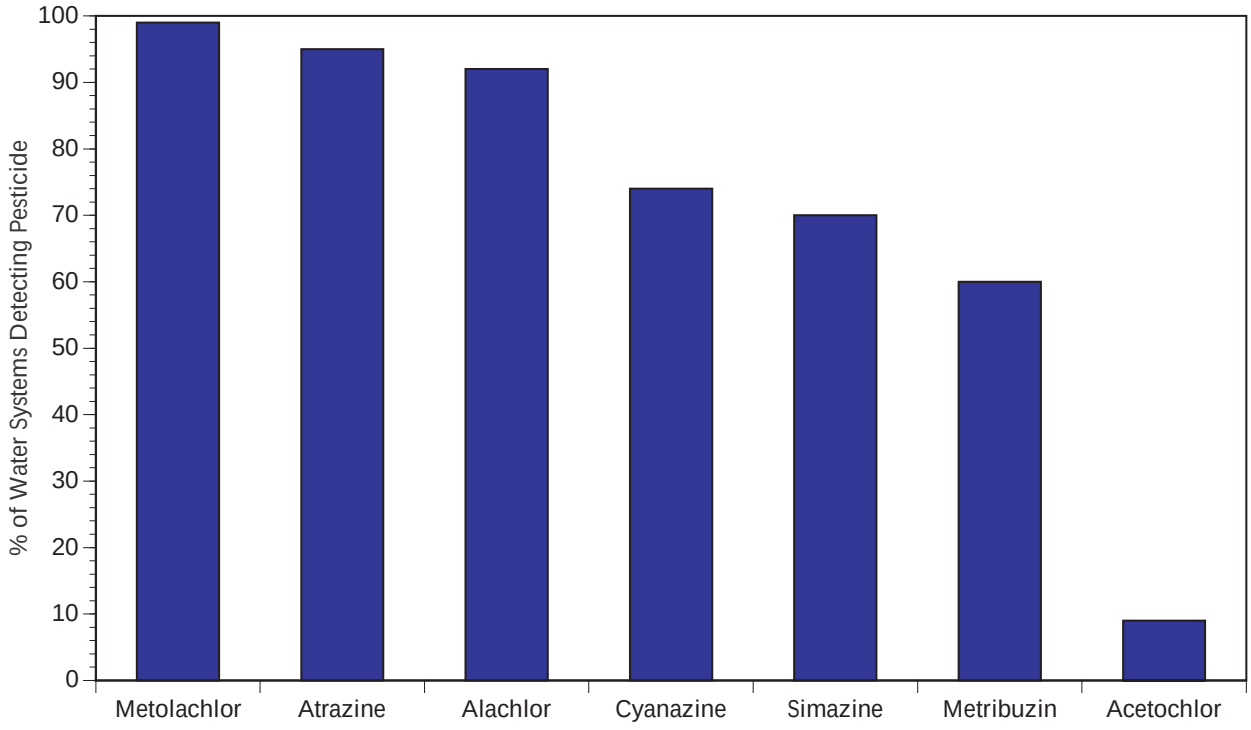
- At least one weed killer was detected in 92% of all samples — 828 of the 884 that were collected. Even more disturbing, at least two pesticides were detected in 82% of all samples, at least three pesticides were detected in 69% of all samples, at least four pesticides were detected in 54% of all samples, and at least *five* pesticides were detected in 35% of all samples.

- At least one sample exceeded EPA's atrazine drinking water standard in 25 communities.

Ohio EPA May 1997 Testing

The Ohio EPA testing program continued during the 1997 growing season, with most water suppliers collecting two samples in May. Ohio EPA analyzed these

Figure 2. Metolachlor and atrazine were the most frequently detected weed killers in Ohio tap water.



Source: Environmental Working Group, 1997. Compiled from Ohio EPA Pesticide Special Study.

samples, and recently released them on their web site. These data show that, if anything, the pesticide contamination problem is worse in 1997 than it was in 1996.

- In May, 1997, atrazine was detected in 84% of all communities that tested. This marked a slight increase from May, 1996, when atrazine was detected in 79% of all water supplies.

- In May, 1996, acetochlor was only detected in 2 water suppliers. In May, 1997, acetochlor was detected in 13.

- In May, 1996, the average concentration of atrazine exceeded the federal drinking water standard of 3 ppb in only one community. In May, 1997, the average concentration of atrazine exceeded the federal drinking water standard in 13 Ohio communities.

- In 65 Ohio communities, the average atrazine concentration was higher in May, 1997 than it was in May, 1996.

- In seven Ohio communities — Newark,

Atrazine was detected in tap water at concentrations up to 49.8 parts per billion — more than 16 times the current EPA drinking water standard.

Monroeville, Port Clinton, Conesville, Vermillion, Marysville, and Piqua — the average atrazine concentration in May, 1997 was more than 25 times higher than the average concentration in May, 1996.

Illinois EPA Pesticide Testing

Illinois has one of the nation's best and most comprehensive databases of pesticide monitoring in public water systems. EWG obtained this database via a Freedom of Information request. The database contains over 70,000 monitoring records from January 1996 through April 1997 for over 650 water systems. Our analysis indicates that in the most recent year in Illinois:

- Pesticides were found in finished tap water in 97 Illinois communities with a population of 1.175 million people.

- Atrazine was the most frequently detected weed killer (in 93 water systems), followed by metolachlor (51 systems), cyanazine (34 systems), simazine (25), alachlor and acetochlor (7 each).

- In sixty-five Illinois communities, tap water is contaminated by two or more of these toxic herbicides. Thirty seven (37) communities have three or more weed killers in their tap water, and 15 have four or more.

- In 37 communities, at least one sample of atrazine was found above the EPA Maximum Contaminant Level of 3 ppb.

- In 13 of these communities, the annual average concentration was above current EPA standards.

1996-1997 Monitoring By The State of Missouri

Under the Safe Drinking Water Act, water supplies must sample for pesticides at least four times during the year. In Missouri, the results of these samples are reported to the Missouri Department of Natural Resources. EWG has obtained a computer database of these samples, and found that, in 1996-1997:

- At least one weed killer was detected in 59 Missouri communities, with a combined population of over 277,000.
- Atrazine was the most frequently detected weed killer (in 53 water systems), followed by cyanazine (27 systems), and metolachlor (19).

- At least two pesticides were found in 29 communities, and at least three pesticides were found in 15 communities, with a total population of 156,788.

- At least one sample exceeded EPA's atrazine drinking water standard in 15 communities with a total population of over 40,000. The highest concentration of

atrazine, 10.40 ppb (three and one half times the federal lifetime standard) was found in Edina.

Pesticide Industry Monitoring

Beginning in January, 1996, a coalition of pesticide producers began testing for atrazine, alachlor, and acetochlor in 178 communities in 12 midwestern and eastern states with significant use of corn herbicides - Delaware, Iowa, Illinois, Indiana, Kansas, Maryland, Minnesota, Missouri, Nebraska, Ohio, Pennsylvania, and Wisconsin. This testing was done as part of an agreement with EPA (Hackett 1997). Environmental Working Group has obtained and analyzed these results. To our knowledge these results have not been previously published. We found that:

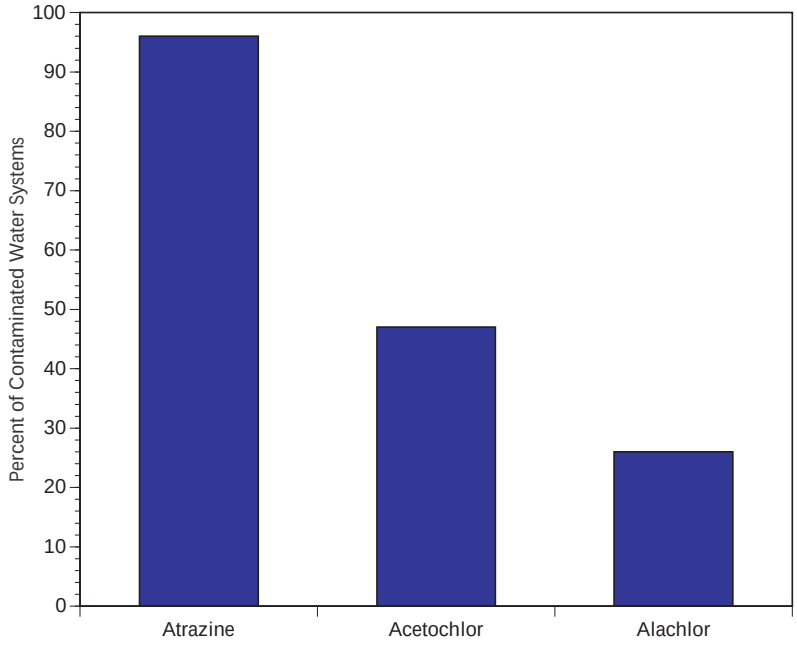
- Atrazine, the most commonly detected weed killer, was found in 171 of 178 communities. Acetochlor was found in 74 water supplies, and alachlor was found in 47 (Figure 3).

- Atrazine was detected in tap water at concentrations up to 49.8 parts per billion — more than 16 times the current EPA drinking water standard.

- In seventy-one of the 176 communities, at least one sample of atrazine was found above the EPA standard of 3 ppb.

- In 12 of these water supplies, the average concentration of atrazine exceeded the EPA standard.

Figure 3. Industry studies have found atrazine in the tap water of 96% of all surface-water systems sampled.



Source: Environmental Working Group. Compiled from industry data, 1996.

Note

[1] http://www.epa.ohio.gov/ddagw/pestspst.html

The Cancer Risk from Weed Killers in Tap Water

New pesticide legislation passed by Congress in 1996 requires that all pesticides in food meet an unambiguous benchmark of safety. Under the law, pesticides cannot be present in the food supply if the cancer risk from exposure in food, water, or by other means (excluding the workplace) exceeds one additional cancer case per million individuals (see sidebar).

To calculate cancer risk from triazines in tap water we applied standard EPA cancer risk assessment methods to seasonally adjusted annual averages of all pesticide concentrations in tap water across the midwest. This method ignores the potential toxic effect of spring and summer spikes in exposure that typically exceed the annual average by two or three fold for months at a time. The method makes no explicit accounting for the fact that infants and children consume twice as much water relative to their size than the average adult (Figure 4). Instead, average lifetime water consumption values are used. Nor does the EPA cancer risk methodology account for the increased vulnerability of infants to pesticides.

Cyanazine was not included in the analysis because it is being phased out by DuPont. Exposure to triazine metabolites was also not included due to the fact that no monitoring data are available. Consequently, this analysis significantly *underestimates* the current and historical risk from the herbicides in tap water.

This analysis significantly underestimates the current and historical risk from the herbicides in tap water.

Ohio

Among the 144 Ohio water systems tested:

- Seventy communities — almost half of the 144 that were tested — face cancer risks from atrazine and simazine that exceed the acceptable limit of one in a million.

- Twenty-six communities face cancer risks from atrazine and simazine that are more than five times the acceptable limit.

- Thirteen communities face cancer risks from atrazine and simazine in drinking water that are more than ten times the acceptable limit of one in a million (Table 6). The highest can-

The New Federal One in One Million Cancer Risk Benchmark

The Food Quality Protection Act of 1996 amends the Federal Food Drug and Cosmetic Act to provide a strict new standard of safety for pesticides. Under the new law, all pesticides must be safe, meaning that allowable levels in food must ensure a "reasonable certainty of no harm" to any exposed individual from all food and other non-occupational exposures to the pesticide. For cancer causing pesticides like atrazine, the Congress intended that this benchmark be interpreted as a one in one million cancer risk. While the language allows the EPA administrator to chose a different interpretation of the statutory language in the future, any new regulation of pesticide residues must provide at least the same level of protection for the public health.

According to the Full Commerce Committee Report:

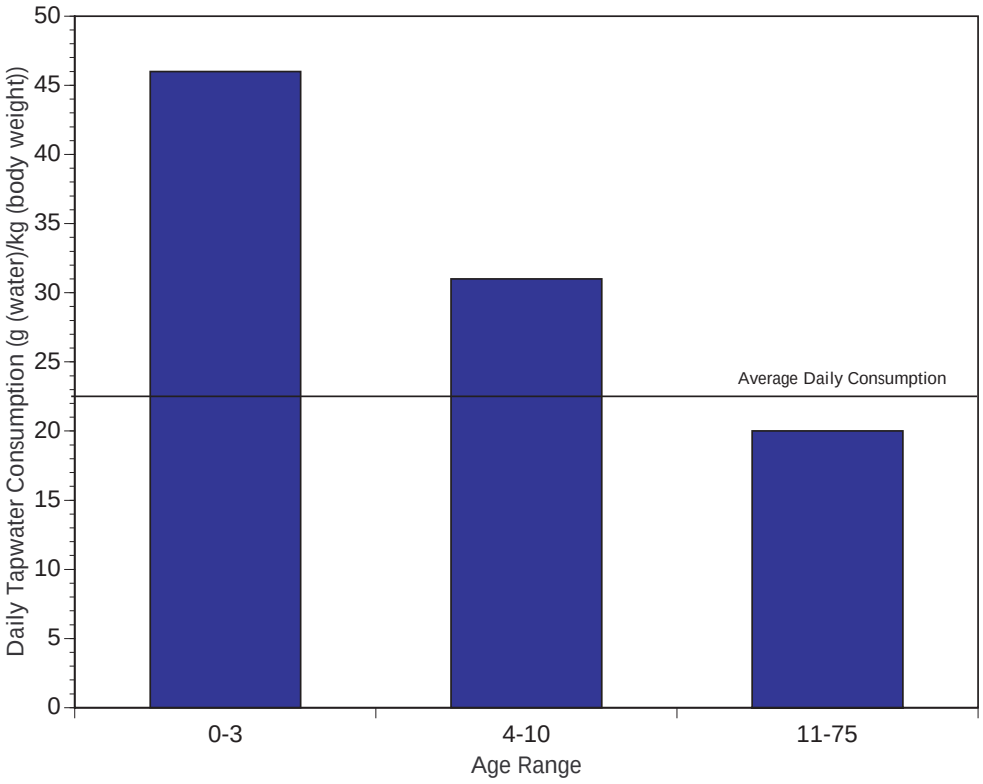
"New Section 408(b)(2)(A)— Determination of Safety defines 'safe' as a determination that there is a reasonable certainty that no harm will result from aggregate exposure to the residue, including all dietary exposures and all other exposures for which there is reliable information.

Subsection (b)(2)(A) establishes the standard of 'safe' for tolerances of pesticide chemical residues in or on food. For the purposes of this section, 'safe' means there is a reasonable certainty that no harm will result from aggregate exposure to the pesticide chemical residue. The Committee understands 'aggregate exposure' to the pesticide chemical residue to include dietary exposures under all tolerances for the pesticide chemical residue, and exposure from other non-occupational sources as well.

In the case of a non-threshold effect which can be assessed through quantitative risk assessment, such as a cancer effect, the Committee expects, based on its understanding of current EPA practice, that a tolerance will be considered to provide 'a reasonable certainty of no harm' if any increase in lifetime risk, based on quantitative risk assessment using conservative assumptions, will be no greater than 'negligible'. It is the Committee's understanding that, under current EPA practice, utilizing quantitative risk assessment to calculate Potency Factors called 'Q star', EPA interprets a negligible risk to be a one-in-a-million lifetime risk. The committee expects the Administrator to continue to follow this interpretation.

The statutory language does not preclude EPA from changing its risk assessment methodology as the science of risk assessment evolves. If the Administrator in the future chooses to adopt a different interpretation of 'reasonable certainty of no harm', however, the new interpretation should be adopted by regulation and should be at least equally protective of public health. Any new interpretation must be scientifically based and the Administrator should bear the burden to demonstrate that the revised interpretation is equally protective of the public."

Figure 4. Infants and children receive the highest doses of tap water contaminants.



Source: Ershow and Cantor. Report prepared for the National Cancer Institute, Life Sciences Research Office, 1989.

cer rates, 24 times the federal benchmark, were in Sardinia.

Illinois

Our analysis of tap water monitoring data from the Illinois EPA found that:

- Seventy-seven communities face cancer risks from atrazine and simazine that exceed the acceptable limit of one in a million.

- Fifty-one Illinois communities face cancer risks from atrazine and simazine that are more than five times the acceptable limit.

- Twenty-nine Illinois communities face cancer risks from atrazine and simazine in drinking water that are more than ten times the acceptable limit of one in a million (Table 7). The highest risks, 65 times the FQPA benchmark, were in Shipman.

Missouri

- Forty-nine Missouri communities face cancer risks from the triazines that exceed the

Twenty-nine Illinois communities face cancer risks from atrazine and simazine in drinking water that are more than ten times the acceptable limit of one in a million.

Table 6. Thirteen Ohio communities face cancer risks from just 2 weed killers in tap water at least 10 times the new health benchmark in the Food Quality Protection Act.

Name	Cancer Risk (Multiple of New Pesticide Safety Level)	Average Annual Atrazine Concentration (ppb)	Average Annual Simazine Concentration (ppb)
Sardinia	24.0	3.66	0.26
City Of Upper Sandusky	17.5	2.71	0.12
Village Of Williamsburg	17.0	2.60	0.15
Lake Of The Woods	15.9	2.30	0.41
Mt. Orab	14.4	2.08	0.39
Columbus (Hap Cremean Treatment Plant)	13.6	1.91	0.47
Village Of Blanchester	13.3	2.02	0.15
City Of Norwalk	13.0	2.01	0.07
Clermont County	11.3	1.70	0.15
City Of Delaware	10.8	1.60	0.19
Village Of McClure	10.8	1.60	0.19
City Of Wilmington	10.2	1.47	0.28
City Of Napoleon	10.0	1.48	0.20

Source: Environmental Working Group. Compiled from state and pesticide industry monitoring data, 1996.

acceptable limit of one in a million.

- Twenty-two communities face cancer risks from the triazines are at least five times the acceptable limit.

- Seven Missouri communities face cancer risks from triazines in drinking water that are more than ten times the acceptable limit of one in a million (Table 8). The highest risks — 15 times the level allowed under FQPA — were in Smithville.

Pesticide Industry Monitoring

Industry tap water testing results from 178 communities show that:

- In 132 communities in nine states - Delaware, Iowa, Illinois, Indiana, Kansas, Maryland, Missouri, Nebraska, and Ohio — cancer risks from atrazine were greater than the one in one million risk level.

- Cancer risk was more than five times the allowable level in 74 communities, and more than 10 times the allowable level in 37 communities.

Summary

The combination of state and federal tap water testing reveals that:

- Commonly used agricul-

Table 7. Twenty-nine Illinois communities face cancer risks from just 2 weed killers in tap water at least 10 times the new health benchmark in the Food Quality Protection Act.

Name	Cancer Risk (Multiple of New Pesticide Safety Level)	Average Annual Atrazine Concentration (ppb)	Average Annual Simazine Concentration (ppb)
Shipman	64.9	10.25	0.00
Gillespie	53.6	8.47	0.00
Hettick	53.1	8.39	0.00
White Hall	43.1	6.69	0.22
Sorento	31.6	4.99	0.00
Greenfield	29.9	4.73	0.00
Omaha	28.7	4.54	0.00
St Elmo	26.6	3.44	1.51
Keyesport	26.6	4.11	0.20
Louisville	25.2	3.85	0.27
Pittsfield	23.1	3.64	0.00
S L M Wtr Commission	23.0	3.42	0.40
Pana	22.0	3.48	0.00
La Harpe	20.2	3.19	0.00
Evansville	18.4	2.76	0.30
Farina	16.1	2.54	0.00
West Salem	15.3	2.21	0.42
Carlyle	14.7	2.18	0.28
Neoga	13.8	2.18	0.00
Effingham	13.3	1.88	0.45
Canton	13.1	2.07	0.00
Illinois American Water Company-Camelot	13.1	2.07	0.00
Waverly	12.6	1.99	0.00
Coulterville	12.2	1.93	0.00
Centralia	11.2	1.65	0.24
Mount Olive	10.8	1.71	0.00
Patoka	10.6	1.56	0.24
Decatur	10.0	1.59	0.00
Rend Lake Int-City Water System	10.0	1.58	0.00

Source: Environmental Working Group. Compiled from ILEPA and Safe Drinking Water Act Compliance Monitoring data, 1996.

tural weed killers contaminate the tap water of 374 Midwestern towns: 144 in Ohio, 97 in Illinois, 59 in Missouri, and 74 towns in nine other states.

- Cancer risks from atrazine and simazine in tap water exceed the new FQPA cancer risk benchmark in 245 communities. Seventy-seven communities in Illi-

Cancer risks from atrazine and simazine in tap water exceed the new FQPA cancer risk benchmark in 245 communities.

nois, 70 in Ohio, 49 in Missouri, and 46 communities in six additional states (Delaware, Iowa, Indiana, Kansas, Maryland, and Nebraska), face cancer risks from the triazines that exceed the new federal limit of one in one million additional cancers in the population.

- Over 4.3 million Americans — including approximately 57,000 infants — are exposed to weed killers at concentrations exceeding the new federal cancer risk level.

- Cancer risks from atrazine and simazine in tap water are ten times the new FQPA benchmark in 60 Midwestern towns: 29 in Illinois, 13 in Ohio, 7 in Missouri, and 11 in six other states (Table 9).

Table 8. Missouri communities facing the highest cancer risk from atrazine in tap water.

Name	Cancer Risk (Multiple of New Pesticide Safety Level)
Breckinridge	13.4
Cameron	11.0
Smithville	14.8
Baring	13.0
Marceline	11.6
Vandalia	13.6
Wellsville	11.4

Source: Missouri Dept. of Natural Resources Safe Drinking Water Act compliance monitoring data, 1996.

Drinking Water Standards are Inadequate

Current federal drinking water standards allow unacceptably high levels of atrazine and total triazines in drinking water. For example, the current maximum contaminant level (MCL) for atrazine is 3 parts per billion, which according to the EPA's Office of Pesticide Program translates into a cancer risk 20 times higher than the new, one-in-one-million acceptable risk level established in FQPA (EPA 1994). In order to meet the health mandate of FQPA, atrazine exposures need to be reduced to 0.15 parts per billion, on par with the 0.1 ppb standard adopted by the European Community (Carney 1991).

Federal law (FQPA), however, requires that EPA add the risk of all triazines when determining risk and compliance with the FQPA health mandate. Current drinking water standards for atrazine, simazine, and cyanazine allow a combined cancer risk from these three triazines that is more than 60 times the new federal health benchmark. Cyanazine use, however, will be terminated in 1999. Even so, drinking water standards promulgated for atrazine and simazine under the SDWA allow risks more than 30 times higher than the new one in one million cancer level. While FQPA does not compel EPA to set drinking water standards, it prohibits ex-

Table 9. Communities facing the highest cancer risk from atrazine and simazine in tap water.

Name	State	Cancer Risk (Multiple of New Pesticide Safety Level)	Average Annual Atrazine Concentration (ppb)	Average Annual Simazine Concentration (ppb)
Shipman	IL	64.90	10.25	0.00
Gillespie	IL	53.59	8.47	0.00
Hettick	IL	53.10	8.39	0.00
White Hall	IL	43.08	6.69	0.22
Scottsburg	IN	36.52	5.77	0.00
Sorento	IL	31.60	4.99	0.00
Greenfield	IL	29.93	4.73	0.00
Omaha	IL	28.73	4.54	0.00
St Elmo	IL	26.64	3.44	1.51
Keyesport	IL	26.63	4.11	0.20
Louisville	IL	25.21	3.85	0.27
Sardinia	OH	24.01	3.66	0.26
Pittsfield	IL	23.06	3.64	0.00
S L M Water Commision	IL	22.95	3.42	0.40
Pana	IL	22.00	3.48	0.00
La Harpe	IL	20.22	3.19	0.00
North Vernon	IN	19.62	3.10	0.00
Evansville	IL	18.43	2.76	0.30
City Of Upper Sandusky	OH	17.54	2.71	0.12
Village Of Williamsburg	OH	16.95	2.60	0.15
Farina	IL	16.09	2.54	0.00
Lake Of The Woods	OH	15.89	2.30	0.41
West Salem	IL	15.31	2.21	0.42
Lamoni	IA	15.13	2.39	0.00

Source: Environmental Working Group. Compiled from state and pesticide industry monitoring data, 1996.

posure in food, if the combined food and water exposure exceeds the one in one million cancer risk standard of the Act.

Heavy Use of Weed Killers Continues

Since the announcement of the Special Review, the pesticide industry, as well as corn producers, have claimed that they can solve the problem of drinking water contaminated with atrazine on their own — by controlling pesticide applications, and reducing the use of hazardous pesticides. Instead, herbicide use in the Midwest remains unchanged, and the use of pesticide combinations to control weeds remains routine. Prophylactic applications are the norm, and the use of basic integrated weed management practices that could reduce herbicide applications to their most profitable level, like weed and weed seed scouting, are virtually unused.

In 1993-1994, the most recent crop years for which reliable data are available, midwestern corn producers used over 133 million pounds of atrazine, cyanazine, simazine, alachlor, acetochlor, and metolachlor, virtually the same amount used since the early 1990's. Atrazine was the most widely used corn herbicide, with growers applying 45,735,000 pounds. Although average application rates for atrazine have dropped slightly since 1990 (from 1.16 to 1.12 pounds) total atrazine use has remained the same. Among other triazine herbicides over this same time period, use of cyanazine has increased by approximately 1.6 million pounds and the use of simazine has increased by almost 1.2 million pounds — more than doubling in the process.

Metolachlor is the most commonly used acetanilide herbicide, with over 35 million pounds used in 1995 (USDA 1995). In that same year corn producers used 23 million pounds of acetochlor, which was not used at all prior to 1993, and 8.8 million pounds of alachlor. While there have been shifts within the market (with alachlor sales decreasing and acetochlor sales increasing) overall use of the acetanilides has increased slightly since 1990.

A more detailed analysis shows that multiple applications are still routine, and applications on highly erodible land (where runoff can be expected to be higher), are consistently greater than on flat, less erodible land.

In 1993, EPA and Ciba agreed to use restrictions or atrazine that were intended to reduce the run-

Basic integrated weed management practices that could reduce herbicide applications to their most profitable level, like weed and weed seed scouting, are virtually unused.

For the years 1993 through 1995, 39 percent of corn acres in the corn belt were sprayed with three or more different weed killers.

Ohio and Illinois, two states with major drinking water contamination problems, rank number one and two in pound per acre application rates of the triazines.

off of atrazine to surface waters. As discussed in a previous report (EWG 1994) these use restrictions were virtually meaningless at the time they were issued because nearly all farmers in the corn belt were already using less atrazine than required by the new rules. To make matter worse, the restrictions did nothing to limit atrazine applications on fields adjacent to streams and rivers, the principle means by which atrazine contaminates drinking water sources in the Midwest. The rules did specify lower rates on highly erodible land, but the benefits of this targeting were next to nothing because 86 percent of corn growers farming highly erodible land were already applying less atrazine per acre than required by the new "reduced" rates, and because HEL is not in any systematic way linked with potential herbicide runoff to drinking water sources.

On average, triazine application rates on HEL are 24 percent higher than triazine application rates on non-highly-erodible land. Since the EPA/Ciba label rate "reductions" were announced in 1993, the use of triazine herbicides on highly erodible land actually appears to have increased. From 1993 through 1995, total triazine application rate increases were reported in Illinois, Indiana, Missouri, Nebraska, Ohio, and Wisconsin. Rates decreased in Minnesota and Michigan, and remained the same in Iowa. Across the corn belt average triazine application rates on HEL for the three year period 1993-95 are 12 percent higher than the previous three year period, 1990-1992.

Farmers rarely apply a single herbicide to a field, but instead, herbicide mixtures are the rule. For the years 1993 through 1995, 39 percent of corn acres in the corn belt were sprayed with three or more different weed killers. During the same years, more than half the fields were treated with two or more of the six weed killers most often found in drinking water (the three triazines and the three acetanilides).

Ohio and Illinois, two states with major drinking water contamination problems, rank number one and two in pound per acre application rates of the triazines, with 1.9 and 1.85 pounds per acre respectively. These same two states ranked two and three in applications of the six weed killers most commonly found in tap water, at 2.96 pounds per acre each, topped only by Indiana with 3.1 pounds per acre. Eighty-four percent of all corn acres in the corn belt were treated with one of the six herbicides commonly found in tap water, and 70 percent were treated with one of the three triazines.

The most common mixture of weed killers was the, metolachlor/atrazine mix, which was applied to 11 percent of crop acres. Not surprisingly atrazine and metolachlor are the weed killers most often detected

in tap water. This mix was followed by cyanazine/atrazine and alachlor/atrazine. Atrazine was a component of eight of the top ten mixture of weed killers applied to corn acreage in the corn belt.

State by State Summary of Weed Killers in Tap Water

Pesticide contamination in Delaware tap water, 1996-1997.

Name	Number Detected	Cancer Risk (Multiple of New Pesticide Safety Standard)	Average Annual Atrazine Concentration (ppb)	Average Annual Acetochlor Concentration (ppb)	Average Annual Alachlor Concentration (ppb)	Maximum Atrazine Concentration (ppb)
Newark	1	1.2	0.19	0.00	0.00	2.82
Wilmington	1	1.2	0.19	0.00	0.00	3.51

Source: Environmental Working Group. Compiled from pesticide industry tap water monitoring data.

Pesticide contamination in Iowa tap water, 1996-1997.

City	Number Detected	Cancer Risk (Multiple of New Pesticide Safety Standard)	Average Annual Atrazine Concentration (ppb)	Average Annual Acetochlor Concentration (ppb)	Average Annual Alachlor Concentration (ppb)	Maximum Atrazine Concentration (ppb)
Lamoni	1	15.1	2.39	0.00	0.00	6.62
Centerville	2	11.5	1.82	0.02	0.00	2.37
Mount Ayr	1	11.0	1.74	0.00	0.00	6.63
Montezuma	2	10.6	1.68	0.21	0.00	4.09
Chariton	2	10.3	1.62	0.02	0.00	3.63
Lenox	2	9.6	1.51	0.03	0.00	2.25
Osceola	2	9.2	1.45	0.02	0.00	2.90
Bloomfield	1	6.5	1.03	0.00	0.00	1.56
Panora	2	4.8	0.75	0.07	0.00	3.12
Iowa City	3	3.7	0.58	0.04	0.01	3.69
Winterset	1	1.6	0.25	0.00	0.00	0.57
Des Moines	2	1.4	0.22	0.01	0.00	0.77
Okoboji	1	1.3	0.21	0.00	0.00	0.24
Spirit Lake	1	0.7	0.11	0.00	0.00	0.18
Davenport	2	0.6	0.09	0.01	0.00	0.35
Milford	1	0.1	0.02	0.00	0.00	0.24

Source: Environmental Working Group. Compiled from pesticide industry tap water monitoring data.

Pesticide contamination in Illinois tap water, 1996-1997.

Name	Number Detected	Cancer Risk (Multiple of New Pesticide Safety Standard)	Average Annual Atrazine Concentration (ppb)	Average Annual Cyanazine Concentration (ppb)	Average Annual Simazine Concentration (ppb)	Average Annual Acetochlor Concentration (ppb)	Average Annual Alachlor Concentration (ppb)	Average Annual Metolachlor Concentration (ppb)	Average Annual Metribuzin Concentration (ppb)	Maximum Atrazine Concentration (ppb)
Shipman	2	64.9	10.25	0.00	0.00	0.00	0.00	3.28	0.00	19.00
Gillespie	4	53.6	8.47	0.28	0.00	1.16	0.00	3.49	0.00	42.00
Hettick	3	53.1	8.39	5.44	0.00	0.00	0.00	1.58	0.00	11.00
White Hall	4	43.1	6.69	4.59	0.22	0.00	0.00	1.66	0.00	10.00
Sorento	3	31.6	4.99	0.00	0.00	0.00	0.00	1.11	0.14	8.00
Greenfield	3	29.9	4.73	6.01	0.00	0.00	0.00	0.24	0.00	7.50
Omaha	2	28.7	4.54	0.00	0.00	0.00	0.00	0.55	0.00	11.00
St Elmo	3	26.6	3.44	0.00	1.51	0.00	0.00	0.24	0.00	5.70
Keyesport	5	26.6	4.11	0.38	0.20	0.30	0.00	1.63	0.00	10.00
Louisville	7	25.2	3.85	0.43	0.27	0.32	0.04	1.23	0.09	17.00
Pittsfield	1	23.1	3.64	0.00	0.00	0.00	0.00	0.00	0.00	5.60
S L M Water Commission	4	23.0	3.42	0.55	0.40	0.00	0.00	1.08	0.00	7.00
Pana	2	22.0	3.48	0.00	0.00	0.00	0.00	0.32	0.00	4.70
La Harpe	2	20.2	3.19	1.59	0.00	0.00	0.00	0.00	0.00	7.80
Evansville	4	18.4	2.76	0.38	0.30	0.00	0.00	0.85	0.00	5.40
Farina	4	16.1	2.54	0.00	0.00	0.59	0.05	1.94	0.00	3.20
West Salem	3	15.3	2.21	0.00	0.42	0.00	0.00	0.57	0.00	3.40
Carlyle	4	14.7	2.18	0.13	0.28	0.00	0.00	0.50	0.00	3.80
Neoga	5	13.8	2.18	0.11	0.00	0.84	0.04	0.53	0.00	6.80
Effingham	3	13.3	1.88	0.00	0.45	0.00	0.00	0.34	0.00	2.50
Canton	3	13.1	2.07	1.55	0.00	0.00	0.00	0.24	0.00	3.40
Illinois American Water Company-Camelot	2	13.1	2.07	3.52	0.00	0.00	0.00	0.00	0.00	2.80
Waverly	4	12.6	1.99	0.72	0.00	0.00	0.04	0.20	0.00	5.40
Coulterville	3	12.2	1.93	3.57	0.00	0.23	0.00	0.00	0.00	4.00
Centralia	4	11.2	1.65	1.08	0.24	0.00	0.00	0.12	0.00	4.40
Mount Olive	2	10.8	1.71	0.00	0.00	0.00	0.00	0.29	0.00	5.40
Patoka	3	10.6	1.56	0.00	0.24	0.00	0.00	0.14	0.00	2.40
Decatur	4	10.0	1.59	0.10	0.00	0.38	0.00	1.03	0.00	6.90
Rend Lake Int-City Water System	2	10.0	1.58	0.57	0.00	0.00	0.00	0.00	0.00	2.40
Kinmundy	4	10.0	1.42	0.22	0.30	0.00	0.00	0.19	0.00	3.40
Salem	3	9.8	1.52	0.00	0.06	0.00	0.00	0.36	0.00	5.00
Knkd Reeds Crk Int-Cty Water System	3	9.7	1.43	0.00	0.19	0.00	0.00	0.62	0.00	2.80
Oakland	3	9.6	1.52	0.31	0.00	0.00	0.00	0.47	0.00	4.00
Chester	3	9.6	1.51	0.53	0.00	0.00	0.00	0.57	0.00	4.60
Menard Crctl. Center	4	9.6	1.51	0.60	0.00	0.00	0.05	0.58	0.00	4.70
Lakeview MHP	2	9.1	1.43	0.00	0.00	0.00	0.00	0.16	0.00	4.30
Staunton	2	8.4	1.31	0.00	0.05	0.00	0.00	0.00	0.00	3.30
Flora	2	8.4	1.32	0.00	0.00	0.00	0.00	0.44	0.00	4.30
ADGPTV Water Commision	2	8.4	1.32	1.61	0.00	0.00	0.00	0.00	0.00	3.10
Carlinville	3	8.1	1.28	0.13	0.00	0.00	0.00	0.13	0.00	5.40
Vandalia	2	7.6	1.20	0.00	0.00	0.00	0.00	0.55	0.00	2.40
Ashland	3	7.5	1.18	0.28	0.00	0.00	0.00	0.55	0.00	1.80
Olney	2	7.3	1.03	0.00	0.24	0.00	0.00	0.00	0.00	1.80
Pinckneyville	2	6.9	0.92	0.00	0.34	0.00	0.00	0.00	0.00	1.50
Springfield	3	6.8	1.07	0.96	0.00	0.00	0.00	0.12	0.00	1.80
Paris	1	6.6	1.04	0.00	0.00	0.00	0.00	0.00	0.00	2.30
Mattoon	2	6.5	1.02	0.00	0.00	0.00	0.00	0.24	0.00	2.30
Altamont	2	6.3	1.00	0.00	0.00	0.00	0.00	0.60	0.00	1.40
Hillsboro	3	5.9	0.92	0.00	0.03	0.00	0.00	0.28	0.00	2.00
Kaskaskia Water District	2	5.6	0.88	0.00	0.00	0.00	0.00	0.16	0.00	1.50
Holiday Shores Sndst.	1	5.4	0.85	0.00	0.00	0.00	0.00	0.00	0.00	1.30

Pesticide contamination in Illinois tap water, 1996-1997 (continued).

Name	Number Detected	Cancer Risk (Multiple of New Pesticide Safety Standard)	Average Annual Atrazine Concentration (ppb)	Average Annual Cyanazine Concentration (ppb)	Average Annual Simazine Concentration (ppb)	Average Annual Acetochlor Concentration (ppb)	Average Annual Alachlor Concentration (ppb)	Average Annual Metolachlor Concentration (ppb)	Average Annual Metribuzin Concentration (ppb)	Maximum Atrazine Concentration (ppb)
Ashley	3	4.7	0.44	0.70	0.58	0.00	0.00	0.00	0.00	0.74
Wilmington	3	4.5	0.70	0.26	0.00	0.00	0.00	0.24	0.00	3.20
Palmyra-Modesto Water Commision	3	4.2	0.66	1.78	0.00	0.00	0.00	0.09	0.00	2.30
Vermont	3	4.1	0.64	0.69	0.00	0.00	0.00	0.10	0.00	1.20
Kincaid	2	3.9	0.61	0.00	0.00	0.00	0.00	0.30	0.00	1.50
Bloomington	2	3.7	0.59	0.00	0.00	0.00	0.48	0.00	0.00	0.98
Alto Pass Water Dstrct	1	3.7	0.58	0.00	0.00	0.00	0.00	0.00	0.00	1.40
Nauvoo	2	3.6	0.57	0.00	0.00	0.00	0.00	0.28	0.00	1.70
Nashville	1	3.2	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.20
Litchfield	2	2.9	0.45	0.00	0.02	0.00	0.00	0.00	0.00	2.10
Quincy	2	2.7	0.43	0.00	0.00	0.00	0.00	0.25	0.00	1.70
Save Site	4	2.4	0.14	0.11	0.47	0.00	0.00	0.11	0.00	0.82
Macomb	1	2.4	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Marion	1	2.4	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.90
Consumers Ilinois Water Co.-Vermillon	2	2.3	0.37	0.17	0.00	0.00	0.00	0.00	0.00	0.90
Vienna Crctl Center	1	2.3	0.36	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Illinois American Water Co. - Alton	2	2.2	0.35	0.00	0.01	0.00	0.00	0.00	0.00	1.20
Illinois American Water Co. - Granite City	1	2.1	0.33	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Oakwood	3	2.1	0.33	0.22	0.00	0.00	0.00	0.49	0.00	1.30
Sparta	1	1.9	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.66
Breese	1	1.6	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.90
Fairfield	1	1.6	0.25	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Georgetown	1	1.6	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Marshall	1	1.3	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.72
Jacksonville	1	1.3	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.82
Wayne City	1	1.0	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.61
Mount Vernon	1	1.0	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.30
Greenville	1	1.0	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.76
Carthage	1	0.9	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.40
Highland	2	0.9	0.14	0.07	0.00	0.00	0.00	0.00	0.00	1.10
New Berlin	1	0.9	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.38
East Moline	1	0.8	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Rock Island	2	0.6	0.10	0.00	0.00	0.00	0.00	0.07	0.00	0.39
Lake of Egypt PWD	1	0.6	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.37
Hamilton	1	0.6	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.55
Teutopolis	1	0.5	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.34
Warsaw	2	0.5	0.08	0.00	0.00	0.00	0.00	0.08	0.00	0.33
Mount Carmel	1	0.5	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.30
Rock Island Arsenal WTP	1	0.5	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.30
Carbondale	2	0.3	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.30
Clay City	1	0.3	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.31
Illinois American Water Co. - East St. Louis	1	0.2	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.70
Illinois American Water Co. - Peoria	1	0.2	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.27
Illinois American Water Co. - Cairo	1	0.0	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.80
Lakeview Ranch MHP	1	0.0	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.30
South Pekin	1	0.0	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.30

Source: Environmental Working Group. Compiled from Illinois EPA Safe Drinking Water Act compliance monitoring data.

Pesticide contamination in Kansas tap water, 1996-1997.

Name	Number Detected	Cancer Risk (Multiple of New Pesticide Safety Standard)	Average Annual Atrazine Concentration (ppb)	Average Annual Acetochlor Concentration (ppb)	Average Annual Alachlor Concentration (ppb)	Maximum Atrazine Concentration (ppb)
Milford	3	10.4	1.65	0.01	0.02	4.80
Topeka	3	7.4	1.17	0.09	0.30	6.89
Kansas City	3	6.6	1.04	0.09	0.05	11.77
Horton	3	5.9	0.93	0.02	0.13	4.58
Atchison	3	5.4	0.85	0.08	0.05	6.72
Valley Falls	2	5.2	0.82	0.00	0.04	3.77
Leavenworth	3	3.9	0.62	0.04	0.02	3.91
Richmond	1	2.8	0.44	0.00	0.00	1.02
Garnett	1	2.6	0.41	0.00	0.00	0.64

Source: Environmental Working Group. Compiled from pesticide industry tap water monitoring data.

Pesticide contamination in Indiana tap water, 1996-1997.

Name	Number Detected	Cancer Risk (Multiple of New Pesticide Safety Standard)	Average Annual Atrazine Concentration (ppb)	Average Annual Acetochlor Concentration (ppb)	Average Annual Alachlor Concentration (ppb)	Average Maximum Atrazine Concentration (ppb)
Batesville	1	10.3	1.63	0.00	0.00	3.29
Dubois	1	2.3	0.36	0.00	0.00	0.88
Evansville	3	1.8	0.28	0.01	0.01	1.10
Ferdinand	1	1.3	0.20	0.00	0.00	0.39
Fort Wayne	2	2.7	0.43	0.00	0.03	2.52
Holland	3	10.8	1.70	0.02	0.24	7.73
Kokomo	3	5.1	0.80	0.05	0.05	5.17
Logansport	3	7.3	1.16	0.22	0.05	13.13
Mitchell	3	8.2	1.29	0.11	0.06	15.29
Mount Vernon	3	2.9	0.46	0.03	0.01	2.80
North Vernon	3	19.6	3.10	0.34	0.38	24.84
Oakland City	1	1.3	0.20	0.00	0.00	0.44
Paoli	3	5.0	0.79	0.03	0.06	4.44
Richmond	1	0.2	0.03	0.00	0.00	0.09
Salem	1	3.4	0.53	0.00	0.00	0.96
Santa Claus	1	1.7	0.26	0.00	0.00	0.82
Scottsburg	2	36.5	5.77	0.00	0.21	14.90
Seymour	1	0.5	0.08	0.00	0.00	0.18
Speedway	2	11.6	1.83	0.01	0.00	4.23
St. Meinrad	1	0.5	0.08	0.00	0.00	0.95
Warsaw	1	1.7	0.27	0.00	0.00	0.43
Westport	3	3.4	0.54	0.02	0.01	1.59

Source: Environmental Working Group. Compiled from pesticide industry tap water monitoring data.

Pesticide contamination in Maryland tap water, 1996-1997.

Name	Number Detected	Cancer Risk (Multiple of New Pesticide Safety Standard)	Average Annual Atrazine Concentration (ppb)	Average Annual Acetochlor Concentration (ppb)	Average Annual Alachlor Concentration (ppb)	Maximum Atrazine Concentration (ppb)
Frederick	2	2.3	0.36	0.00	0.01	2.96
Laurel	1	1.8	0.29	0.00	0.00	1.00
Bel Air	1	0.6	0.10	0.00	0.00	0.58
Elkton	1	0.6	0.10	0.00	0.00	1.01
Havre de Grace	1	0.5	0.08	0.00	0.00	0.66

Source: Environmental Working Group. Compiled from pesticide industry tap water monitoring data.

Pesticide contamination in Minnesota tap water, 1996-1997.

Name	Number Detected	Cancer Risk (Multiple of New Pesticide Safety Standard)	Average Annual Atrazine Concentration (ppb)	Average Annual Acetochlor Concentration (ppb)	Average Annual Alachlor Concentration (ppb)	Maximum Atrazine Concentration (ppb)
St. Cloud	1	0.2	0.03	0.00	0.00	0.35
Minneapolis	1	0.1	0.01	0.00	0.00	0.13

Source: Environmental Working Group. Compiled from pesticide industry tap water monitoring data.

Pesticide contamination in Nebraska tap water, 1996-1997.

Name	Number Detected	Cancer Risk (Multiple of New Pesticide Safety Standard)	Average Annual Atrazine Concentration (ppb)	Average Annual Acetochlor Concentration (ppb)	Average Annual Alachlor Concentration (ppb)	Maximum Atrazine Concentration (ppb)
Plattsmouth	2	5.2	0.82	0.03	0.00	1.28
Blair	3	1.7	0.27	0.03	0.01	4.04
Omaha	2	1.5	0.23	0.02	0.00	3.35
Hartington	2	0.3	0.05	0.01	0.00	0.46

Source: Environmental Working Group. Compiled from pesticide industry tap water monitoring data.

Pesticide contamination in Missouri tap water, 1996-1997.

Name	Number Detected	Cancer Risk (Multiple of New Pesticide Safety Standard)	Average Annual Atrazine Concentration (ppb)	Average Annual Cyanazine Concentration (ppb)	Average Annual Simazine Concentration (ppb)	Average Annual Alachlor Concentration (ppb)	Maximum Atrazine Concentration (ppb)
Smithville	3	14.8	2.33	0.26	0.00	0.00	3.71
Vandalia	2	13.6	2.14	0.00	0.00	0.00	6.18
Breckenridge	2	13.4	2.12	0.00	0.00	0.00	6.45
Baring	1	13.0	2.05	0.00	0.00	0.00	3.64
Marceline	3	11.6	1.83	1.23	0.00	0.00	2.60
Wellsville	2	11.4	1.80	0.00	0.00	0.13	4.89
Cameron	3	11.0	1.73	0.33	0.00	0.00	3.16
Edina	3	9.6	1.52	1.05	0.00	0.00	10.40
Unionville	3	8.1	1.13	0.22	0.29	0.00	4.91
Plattsburg	3	8.0	1.26	0.20	0.00	0.00	2.72
Concordia	3	7.4	1.17	0.21	0.00	0.00	3.40
Labelle	3	7.4	1.17	1.33	0.00	0.00	3.00
Bowling Green	2	7.3	1.16	0.06	0.00	0.00	2.32
Maryville	2	7.2	1.14	0.45	0.00	0.00	1.76
Holden	1	7.0	1.10	0.00	0.00	0.00	1.90
Higbee	1	7.0	1.10	0.00	0.00	0.00	1.10
Lewis Co PWSD #1	3	7.0	1.10	0.47	0.00	0.00	2.36
Butler	1	5.8	0.92	0.00	0.00	0.00	7.34
Green City	2	5.6	0.89	1.51	0.00	0.00	1.99
Harrisonville	2	5.4	0.85	0.00	0.00	0.00	1.63
Macon	2	5.2	0.82	1.09	0.00	0.00	2.48
Sedalia	2	4.8	0.76	0.09	0.00	0.00	2.91
Odessa	1	4.7	0.74	0.00	0.00	0.00	2.00
Amoret	1	4.6	0.73	0.00	0.00	0.00	2.88
Lawson	1	4.6	0.72	0.00	0.00	0.00	3.05
Ridgeway	1	4.4	0.70	0.00	0.00	0.00	4.05
Wyaconda	1	4.4	0.69	0.00	0.00	0.00	1.43
King City	2	4.2	0.66	1.33	0.00	0.00	3.42
Higginsville	3	3.8	0.60	0.02	0.00	0.00	1.67
Downing	1	3.7	0.58	0.00	0.00	0.00	1.56
Louisiana	3	3.5	0.55	0.10	0.00	0.00	1.81
Clinton	1	3.3	0.52	0.00	0.00	0.00	4.58
Cape Girardeau	3	3.3	0.52	0.35	0.00	0.00	2.22
Glasgow	2	3.1	0.49	0.00	0.00	0.00	2.64
Bates Co. PWSD #2	1	3.0	0.48	0.00	0.00	0.00	1.01
Freeman	1	2.7	0.00	0.00	0.83	0.00	0.00
Jamesport	3	2.5	0.39	0.54	0.00	0.00	2.04
Henry Co. PWSD #2	1	2.2	0.34	0.00	0.00	0.00	0.56
Rich Hill	1	2.0	0.32	0.00	0.00	0.00	0.70
Savannah	1	2.0	0.32	0.00	0.00	0.00	0.96
St Joseph	3	2.0	0.31	0.13	0.00	0.00	1.86
Assoc. Electric-Thomas Hill 3	2	1.7	0.27	0.22	0.00	0.00	0.84
Lexington	3	1.7	0.26	0.07	0.00	0.00	2.09
Middle Fork Water Co	1	1.6	0.25	0.00	0.00	0.00	0.86
Clarence Cannon Whole- Sale Wt	1	1.3	0.20	0.00	0.00	0.00	0.54
Bethany	1	1.1	0.17	0.00	0.00	0.00	1.31
Drexel	1	1.1	0.17	0.00	0.00	0.00	0.68
Monroe City	2	1.1	0.17	0.25	0.00	0.00	0.88
Armstrong	1	1.0	0.15	0.00	0.00	0.00	0.88
Harrison Co. PWSD #1	1	0.9	0.14	0.00	0.00	0.00	0.55
Hannibal	1	0.9	0.14	0.00	0.00	0.00	1.07
Shelbina	1	0.7	0.11	0.00	0.00	0.00	0.83
Hamilton	2	0.6	0.10	0.09	0.00	0.00	0.76
Memphis	1	0.4	0.07	0.00	0.00	0.00	0.58
Dearborn	1	0.0	0.00	0.00	0.00	0.00	0.00
Bucklin	1	0.0	0.00	0.10	0.00	0.00	0.00
Laplata	1	0.0	0.00	0.20	0.00	0.00	0.00
Lewistown	1	0.0	0.00	0.35	0.00	0.00	0.00

Source: Environmental Working Group. Compiled from pesticide industry tap water monitoring data.

Pesticide contamination in Ohio tap water, 1996-1997.

Name	Number Detected	Cancer Risk (Multiple of New Pesticide Safety Standard)	Average Annual Atrazine Concentration (ppb)	Average Annual Cyanazine Concentration (ppb)	Average Annual Simazine Concentration (ppb)	Average Annual Acetochlor Concentration (ppb)	Average Annual Alachlor Concentration (ppb)	Average Annual Metolachlor Concentration (ppb)	Average Annual Metribuzin Concentration (ppb)	Maximum Atrazine Concentration (ppb)
Sardinia	7	24.0	3.66	2.10	0.26	0.19	3.65	4.34	0.09	38.73
City of Upper Sandusky	7	17.5	2.71	0.25	0.12	0.09	0.12	0.78	0.02	12.00
Village of Williamsburg	7	17.0	2.60	1.09	0.15	0.02	0.26	0.76	0.01	10.10
Lake of The Woods	6	15.9	2.30	0.57	0.41	0.00	0.08	1.09	0.02	12.00
Mt. Orab	6	14.4	2.08	0.76	0.39	0.00	0.29	1.16	0.01	6.00
Columbus- Hap Cremean Plant	5	13.6	1.91	0.59	0.47	0.00	0.10	1.01	0.00	4.46
Village of Blanchester	6	13.3	2.02	0.04	0.15	0.00	0.09	0.99	0.01	12.00
City of Norwalk	6	13.0	2.01	0.75	0.07	0.02	0.11	0.49	0.00	3.60
Clermont Co	5	11.3	1.70	1.09	0.15	0.00	0.28	0.81	0.00	8.00
City of Delaware	7	10.8	1.60	0.48	0.19	0.02	0.13	1.48	0.01	10.00
Village of McClure	6	10.8	1.60	0.80	0.19	0.00	0.47	1.05	0.02	10.00
City of Wilmington	7	10.2	1.47	0.98	0.28	0.05	0.06	0.55	0.01	3.38
City of Napoleon	7	10.0	1.48	0.98	0.20	0.14	0.53	1.44	0.07	10.16
Lake Lorelei	5	9.6	1.44	0.72	0.16	0.00	0.40	0.62	0.00	6.00
City of Defiance	7	8.1	1.00	0.41	0.54	0.14	0.31	1.50	0.04	5.99
Village of North Baltimore	6	8.1	1.24	0.50	0.07	0.00	0.11	0.50	0.01	2.00
Cinnamon Lake	6	8.1	1.27	0.60	0.01	0.00	0.11	0.10	0.02	2.77
Village of Somerset	6	7.3	1.12	0.04	0.07	0.00	0.04	0.38	0.01	6.00
City of Fremont	7	7.3	1.06	0.42	0.17	0.04	0.26	1.25	0.01	10.00
Village of West Milton	5	7.0	1.04	1.17	0.12	0.00	0.26	0.79	0.00	10.00
Village of Ottawa	6	6.9	0.97	0.24	0.23	0.00	0.15	0.57	0.02	3.57
City of Bowling Green	7	6.5	0.97	0.51	0.10	0.05	0.25	0.88	0.02	5.35
Village of Paulding	6	6.4	0.97	0.14	0.07	0.00	0.13	0.31	0.01	1.74
City of Piqua	6	5.7	0.85	1.17	0.10	0.00	0.07	0.94	0.01	12.00
Village of New Washington	5	5.2	0.80	0.04	0.04	0.00	0.19	0.37	0.00	6.00
City of Oregon	6	5.1	0.72	0.42	0.17	0.00	0.26	0.64	0.01	3.00
Campbell's Soup	6	4.7	0.72	0.23	0.04	0.00	0.19	0.47	0.03	6.00
Village of Monroeville	6	3.9	0.57	0.07	0.08	0.04	0.17	0.36	0.00	4.86
Shadow Lake	5	3.7	0.39	0.02	0.38	0.00	0.00	0.07	0.02	1.00
City of Barberton	6	3.6	0.48	0.36	0.17	0.00	0.03	0.12	0.01	2.00
Ohio American - Marion	7	2.9	0.43	0.09	0.06	0.02	0.12	0.51	0.01	4.00
City of Port Clinton	5	2.6	0.37	0.46	0.09	0.00	0.12	0.32	0.00	1.02
Toledo Edison-davis Bess	5	2.6	0.38	0.26	0.05	0.00	0.11	0.35	0.00	2.00
Del. County - Alum Creek	6	2.5	0.35	0.13	0.08	0.00	0.15	0.32	0.01	1.28
Village of McComb	6	2.4	0.27	0.12	0.20	0.00	0.17	0.11	0.01	1.03
City of Newark	5	2.4	0.30	0.16	0.14	0.00	0.07	0.45	0.00	1.34
City of Greenville	6	2.3	0.36	0.22	0.01	0.00	0.05	0.39	0.06	2.00
City of Alliance	5	2.3	0.36	0.11	0.00	0.00	0.04	0.20	0.01	2.00
Conesville Gener.	6	2.1	0.24	0.10	0.17	0.00	0.03	0.21	0.12	1.00
Village of Sunbury	6	2.0	0.28	0.07	0.06	0.00	0.11	0.14	0.01	1.46
City of Westerville	6	1.9	0.25	0.06	0.11	0.00	0.12	0.14	0.02	1.00
City of Findlay	5	1.9	0.23	0.06	0.15	0.00	0.08	0.09	0.00	0.87
Oberlin	6	1.9	0.26	0.06	0.09	0.00	0.11	0.30	0.01	1.36
Village of Ashley	6	1.9	0.29	0.52	0.03	0.00	0.06	0.16	0.01	2.00
Del. County - Olentangy	6	1.9	0.27	0.06	0.06	0.00	0.10	0.20	0.01	2.00
City of Newton Falls	5	1.8	0.24	0.08	0.09	0.00	0.04	0.19	0.00	1.00
Erie Industrial Park	6	1.8	0.28	0.19	0.01	0.00	0.08	0.22	0.01	2.00
Columbus-Dublin Plant	7	1.8	0.25	0.22	0.06	0.02	0.09	0.38	0.01	1.58
City of Lima	5	1.8	0.25	0.04	0.05	0.00	0.16	0.23	0.00	1.00

Source: Environmental Working Group. Compiled from pesticide industry tap water monitoring data.

Pesticide contamination in Ohio tap water, 1996-1997, continued.

Name	Number Detected	Cancer Risk (Multiple of New Pesticide Safety Standard)	Average Annual Atrazine Concentration (ppb)	Average Annual Cyanazine Concentration (ppb)	Average Annual Simazine Concentration (ppb)	Average Annual Acetochlor Concentration (ppb)	Average Annual Alachlor Concentration (ppb)	Average Annual Metolachlor Concentration (ppb)	Average Annual Metribuzin Concentration (ppb)	Maximum Atrazine Concentration (ppb)
City of Van Wert	5	1.8	0.22	0.15	0.11	0.00	0.10	0.13	0.00	1.00
City of Shelby	5	1.7	0.20	0.20	0.13	0.00	0.11	0.12	0.00	1.00
City of Fostoria	6	1.6	0.21	0.15	0.09	0.00	0.12	0.20	0.01	1.00
Village of Sebring	6	1.6	0.14	0.09	0.22	0.00	0.06	0.10	0.04	1.00
City of Wauseon	6	1.5	0.19	0.19	0.10	0.00	0.20	0.18	0.01	1.12
Village of Attica	5	1.5	0.23	0.02	0.02	0.00	0.10	0.16	0.00	1.00
Village of Willshire	6	1.4	0.16	0.07	0.13	0.00	0.05	0.16	0.02	1.00
Lakeside Association	5	1.4	0.19	0.11	0.06	0.00	0.04	0.08	0.00	1.00
City of Toledo	5	1.4	0.21	0.16	0.02	0.00	0.06	0.26	0.00	1.00
City of Sidney	6	1.4	0.18	0.07	0.07	0.00	0.07	0.19	0.01	1.15
Consumers Water-Shenango	6	1.4	0.14	0.02	0.15	0.00	0.01	0.11	0.01	0.97
City of Galion	6	1.4	0.20	0.03	0.03	0.00	0.04	0.11	0.05	1.00
Ohio-American Tiffin	5	1.3	0.19	0.03	0.04	0.00	0.08	0.19	0.00	1.12
Le-ax	2	1.2	0.14	0.00	0.11	0.00	0.00	0.00	0.00	0.41
Village of Archbold	6	1.2	0.14	0.07	0.11	0.00	0.10	0.08	0.01	0.90
City of Willard	6	1.2	0.15	0.02	0.09	0.00	0.09	0.04	0.01	0.75
Village of Rock Creek	6	1.2	0.13	0.01	0.11	0.00	0.04	0.13	0.03	0.92
City of Hillsboro	5	1.2	0.14	0.04	0.08	0.00	0.02	0.05	0.00	0.68
City of East Liverpool	5	1.1	0.12	0.01	0.09	0.00	0.01	0.08	0.00	0.79
Consum-Ohio - Struth	6	1.1	0.13	0.02	0.07	0.00	0.04	0.13	0.01	0.86
City of Celina	5	1.1	0.14	0.07	0.05	0.00	0.08	0.05	0.00	0.65
Harbor Island Association	5	1.0	0.12	0.04	0.07	0.00	0.05	0.05	0.00	0.60
City of Warren	6	1.0	0.14	0.02	0.03	0.00	0.03	0.07	0.01	0.80
City of Portsmouth	5	1.0	0.12	0.02	0.06	0.00	0.01	0.08	0.00	0.46
Village of West Farmington	6	0.9	0.14	0.02	0.01	0.00	0.04	0.07	0.01	1.00
City of Toronto	5	0.9	0.10	0.01	0.08	0.00	0.00	0.08	0.01	0.56
Village of New Concord	6	0.9	0.12	0.03	0.04	0.00	0.04	0.06	0.02	0.82
City of Mansfield	6	0.9	0.10	0.08	0.08	0.00	0.01	0.19	0.01	0.74
City of Clyde	5	0.9	0.13	0.07	0.02	0.00	0.11	0.05	0.00	1.00
City of Vermilion	5	0.9	0.10	0.04	0.07	0.00	0.18	0.13	0.00	0.53
Washington Court	6	0.8	0.10	0.02	0.06	0.00	0.05	0.08	0.01	0.43
Atwood Resort	5	0.8	0.09	0.01	0.06	0.00	0.04	0.15	0.00	0.70
City of Marysville	5	0.8	0.11	0.08	0.02	0.00	0.09	0.22	0.00	0.94
City of Akron	6	0.7	0.07	0.01	0.08	0.00	0.02	0.07	0.01	0.54
Village of Delta	6	0.7	0.10	0.02	0.01	0.00	0.10	0.04	0.01	0.39
City of Jackson	6	0.7	0.07	0.01	0.07	0.00	0.04	0.05	0.03	0.33
City of Steubenville	5	0.7	0.08	0.00	0.05	0.00	0.01	0.08	0.01	0.66
Mahoning Valley	6	0.7	0.07	0.02	0.07	0.00	0.04	0.05	0.01	0.56
Village of Kelleys Island	3	0.6	0.10	0.07	0.00	0.00	0.04	0.00	0.00	0.29
Twin City	4	0.6	0.09	0.00	0.00	0.00	0.05	0.08	0.02	0.91
City of Huron	6	0.5	0.06	0.04	0.05	0.00	0.11	0.14	0.01	0.28
Village of Metamora	6	0.5	0.08	0.02	0.01	0.00	0.10	0.10	0.02	0.33
City of Medina	5	0.5	0.07	0.01	0.03	0.00	0.06	0.05	0.00	0.45
City of New Lexing	5	0.5	0.08	0.00	0.01	0.00	0.02	0.03	0.01	0.54
City of Berea	4	0.5	0.08	0.00	0.00	0.00	0.08	0.07	0.01	0.53
Waynoka	4	0.5	0.07	0.00	0.01	0.00	0.02	0.04	0.00	0.45
Village of Wellsville	6	0.5	0.06	0.01	0.03	0.00	0.02	0.10	0.01	0.66
City of Sandusky	5	0.5	0.06	0.02	0.03	0.00	0.02	0.07	0.00	0.27
Village of New London	6	0.5	0.07	0.01	0.01	0.00	0.06	0.08	0.04	0.44

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Pesticide contamination in Ohio tap water, 1996-1997, continued.

Name	Number Detected	Cancer Risk (Multiple of New Pesticide Safety Standard)	Average Annual Atrazine Concentration (ppb)	Average Annual Cyanazine Concentration (ppb)	Average Annual Simazine Concentration (ppb)	Average Annual Acetochlor Concentration (ppb)	Average Annual Alachlor Concentration (ppb)	Average Annual Metolachlor Concentration (ppb)	Average Annual Metribuzin Concentration (ppb)	Maximum Atrazine Concentration (ppb)
City of Bucyrus	5	0.4	0.07	0.01	0.00	0.00	0.04	0.06	0.02	0.47
Village of Swanton	4	0.4	0.07	0.01	0.00	0.00	0.13	0.05	0.00	0.32
City of Elyria	5	0.4	0.07	0.02	0.00	0.00	0.05	0.13	0.01	0.30
Village of Marblehead	4	0.4	0.07	0.05	0.00	0.00	0.02	0.07	0.00	0.43
Green Co. Cedarville	4	0.4	0.06	0.00	0.01	0.00	0.02	0.11	0.00	0.31
City of Lorain	5	0.4	0.05	0.02	0.03	0.00	0.04	0.08	0.00	0.23
City of Bellevue	4	0.4	0.06	0.00	0.00	0.00	0.13	0.06	0.01	0.35
City of Painesville	4	0.4	0.06	0.01	0.00	0.00	0.06	0.02	0.00	0.25
City of Ironton	5	0.4	0.04	0.01	0.04	0.00	0.00	0.04	0.01	0.34
Village of Put-in-Bay	4	0.4	0.06	0.02	0.00	0.00	0.02	0.03	0.00	0.34
Village of Fairport Harbor	5	0.3	0.04	0.01	0.02	0.00	0.00	0.11	0.01	0.21
City of Avon Lake	3	0.3	0.05	0.00	0.00	0.00	0.02	0.11	0.00	0.21
Lockheed Martin	5	0.3	0.05	0.01	0.00	0.00	0.03	0.09	0.09	0.31
City of Conneaut	5	0.3	0.04	0.01	0.00	0.00	0.02	0.04	0.01	0.21
Village of Bethel	4	0.3	0.04	0.00	0.00	0.00	0.07	0.09	0.01	0.30
Consumers Water -Me	3	0.3	0.04	0.00	0.00	0.00	0.01	0.07	0.00	0.13
Salt Fork State Park	3	0.2	0.03	0.00	0.01	0.00	0.00	0.03	0.00	0.21
Camp Perry	4	0.2	0.00	0.02	0.06	0.00	0.04	0.13	0.00	0.00
City of Bellaire	2	0.2	0.03	0.00	0.00	0.00	0.00	0.02	0.00	0.22
City of Cleveland-Baldwin Plant	5	0.2	0.03	0.02	0.00	0.00	0.03	0.04	0.01	0.20
City of Cleveland-Morgan Plant	3	0.2	0.03	0.00	0.00	0.00	0.04	0.01	0.00	0.10
City of Cleveland-Nottingham Plant	4	0.2	0.03	0.01	0.00	0.00	0.05	0.01	0.00	0.18
Oh-amer. Ashtabula	4	0.1	0.02	0.01	0.00	0.00	0.00	0.03	0.01	0.14
Burr Oak State Park	4	0.1	0.02	0.00	0.00	0.00	0.04	0.05	0.01	0.11
Village of Barnesville	3	0.1	0.02	0.00	0.00	0.00	0.02	0.01	0.00	0.29
City of Salem	3	0.1	0.02	0.00	0.00	0.00	0.01	0.05	0.00	0.12
City of Cleveland-Crown Plant	4	0.1	0.01	0.00	0.02	0.00	0.03	0.06	0.00	0.07
Village of Woodsfield	4	0.1	0.02	0.00	0.00	0.00	0.02	0.05	0.01	0.13
Maysville Reg Water	3	0.1	0.02	0.00	0.00	0.00	0.02	0.03	0.00	0.15
Village of Caldwell	4	0.1	0.02	0.00	0.00	0.00	0.03	0.04	0.01	0.20
Village of Salineville	2	0.1	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.16
Village of Rio Grande	4	0.1	0.01	0.00	0.00	0.00	0.03	0.06	0.02	0.10
City of Cambridge	3	0.1	0.01	0.00	0.00	0.00	0.00	0.04	0.01	0.13
Village of Cadiz	3	0.1	0.01	0.00	0.00	0.00	0.02	0.08	0.00	0.14
Village of Hopedale	4	0.1	0.01	0.00	0.00	0.00	0.04	0.05	0.03	0.09
Lake County West	2	0.1	0.01	0.00	0.00	0.00	0.00	0.07	0.00	0.10
Village of Crooksville	4	0.1	0.01	0.00	0.00	0.00	0.02	0.04	0.01	0.20
City of Ravenna	3	0.1	0.01	0.00	0.00	0.00	0.02	0.07	0.00	0.19
Nelsonville	3	0.0	0.00	0.00	0.00	0.00	0.01	0.05	0.06	0.00
Village of Quaker City	2	0.0	0.00	0.00	0.00	0.00	0.01	0.06	0.00	0.00
City of Cincinnati- Mill.	3	0.0	0.00	0.00	0.00	0.00	0.03	0.02	0.01	0.00
City of Wellston N.	3	0.0	0.00	0.00	0.00	0.00	0.01	0.03	0.02	0.00
Lake County East	1	0.0	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
Village of South Amherst	2	0.0	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.00
Village of Wellington	3	0.0	0.00	0.00	0.00	0.00	0.03	0.11	0.02	0.06
City of Campbell	3	0.0	0.00	0.00	0.00	0.00	0.01	0.07	0.15	0.00

Source: Environmental Working Group. Compiled from pesticide industry tap water monitoring data.

Pesticide contamination in Pennsylvania tap water, 1996-1997.

Name	Number Detected	Cancer Risk (Multiple of New Pesticide Safety Standard)	Average Annual Atrazine Concentration (ppb)	Average Annual Acetochlor Concentration (ppb)	Average Annual Alachlor Concentration (ppb)	Maximum Atrazine Concentration (ppb)
Carlisle	1	1.0	0.15	0.00	0.00	0.44
Denver	1	0.7	0.11	0.00	0.00	0.70
Reading	1	0.6	0.10	0.00	0.00	0.38
Mechanicsburg	1	0.6	0.09	0.00	0.00	0.19
Phoenixville	1	0.5	0.08	0.00	0.00	0.67
Norristown	1	0.3	0.05	0.00	0.00	0.26
West Chester	1	0.1	0.02	0.00	0.00	0.52
New Holland	1	0.1	0.01	0.00	0.00	0.15

Source: Environmental Working Group. Compiled from pesticide industry tap water monitoring data.

Pesticide contamination in Wisconsin tap water.

Name	Number Detected	Cancer Risk (Multiple of New Pesticide Safety Standard)	Average Annual Atrazine Concentration (ppb)	Average Annual Acetochlor Concentration (ppb)	Average Annual Alachlor Concentration (ppb)	Maximum Atrazine Concentration (ppb)
Oshkosh	1	0.6	0.09	0.00	0.00	0.25
Menasha	1	0.4	0.06	0.00	0.00	0.16
Cudahy	2	0.1	0.02	0.00	0.01	0.09
Oak Creek	1	0.1	0.01	0.00	0.00	0.06
Port Washington	1	0.1	0.01	0.00	0.00	0.06

Source: Environmental Working Group. Compiled from pesticide industry tap water monitoring data.

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