

Commentary

Taking Off the Blindfold

EPA ignores toxic exposures in risk assessment

By John Kepner and Jay Feldman

Even when risk assessment is working “properly,” increasing numbers of environmentalists and public health advocates say it is not really working. To make matters worse, the questionable numbers spit out of risk assessments are typically mismanaged by risk management decisions that accept a certain amount of harm and a high degree of uncertainty.

Risk assessment calculations under the *Federal Insecticide, Fungicide and Rodenticide Act* (FIFRA) and the *Food Quality Protection Act* (FQPA) – the federal pesticide registration and tolerance laws, respectively – evaluate harm based on false realities about daily toxic exposure and individual sensitivities. Risk management decisions under these laws assume the benefits of toxic pesticide products to society or to various sectors of users, then make a determination that the risks are “reasonable.” Even under FQPA, which has been touted for its health-based standard, there is an inherent assumption that if a pesticide meets a highly questionable “acceptable” risk threshold, it has value or benefit. This is the practice even though there are typically less or non-toxic methods or products available. Absent altogether is any analysis of whether the so-called “pest” (insect or plant) has been accurately defined. EPA does not regularly consider non-chemical alternatives (such as organic agricultural methods), nor does it evaluate the need for or the benefit provided to society (do we need to use toxic chemicals to kill clover in our yards?). The agency assumes 100 percent compliance with pesticide product labels, ignoring real world violations or accidents, which are widespread.

The interpretation of “reasonable” risk varies. EPA sometimes allows a cancer risk, for example, of one in a million (risking 280 people nationwide for cancer from exposure to a single pesticide) and other times accepts one in 10,000. Other environmental laws such as the *Clean Air Act* and *Clean Water Act*, while arguably more protective than FIFRA, also assume a certain amount of pollution is acceptable. At the same time, environmental illnesses, such as cancer and asthma, are on the rise.

While everyone is exposed on some level to pesticides, the harm to society is not spread across society equally. Pesticide exposure harms certain population groups more than others, a

fact that is not fully accounted for in the registration and reregistration of pesticides. The risks inherent in the mathematical risk calculations fail to take into account the numerous circumstances and realities that make some population groups more vulnerable to daily pesticide exposures than others – including children, farmworkers and their families and communities, the elderly, those with compromised immune systems and the chemically sensitive. Those living in poverty are the hardest hit with poor nutrition and weakened respiratory and immune systems, inadequate health care, lack of information on

pesticide hazards and non-toxic alternatives to pesticides, and contaminated air and water from chemical manufacturing plants and waste sites located in their communities. People of color are disproportionately represented in these impoverished areas.

And remember, all these inherent deficiencies arise when risk assessment is working “properly.”

So what happens when risk assessments are actually manipulated, altering the risk management decisions and skewing calculations to meet acceptable risk standards?

What happens when EPA picks and chooses between which environmental laws it wants to enforce, or trumps stronger laws with weaker ones? What follows are just three examples of EPA's flawed assumptions that lead to hundreds of thousands of people being unfairly, unacceptably, and unnecessarily poisoned by toxic pesticides.

Pentachlorophenol: The missing risk

On November 30, 2004, thousands of pentachlorophenol (PCP)-treated wooden utility poles mysteriously disappeared from backyards, schoolyards, parks and street corners around the country. Hundreds of poles previously used by neighborhood kids as “bases” for tag, a place to rest one's forehead and count for hide and seek, and backstops for wiffleball were gone forever. Actually, they didn't really go anywhere. The risk scenario simply disappeared from EPA's PCP risk assessment without an adequate explanation!

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In its preliminary analysis of pentachlorophenol in 1999, EPA estimated that children's residential post-application exposure resulting from widespread use of PCP-treated utility poles poses an unacceptable cancer risk (2.2 cancer cases in 10,000). This was more than 200 times above EPA's acceptable threshold. However, instead of addressing the need to protect children in 2004, this risk miraculously disappeared with a simple unsubstantiated statement that this exposure does not occur, a claim provided to EPA by the Penta Council, a pro-chemical industry lobby. EPA states, "Where utility poles are installed on home/school or other residential sites, child contact via the dermal or oral routes is not anticipated since play activities with or around these pole structures would not normally occur." Poof, it's gone!

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While it is important to protect public health, it is inappropriate to simply ignore pesticide exposure when a product is used for public health threats. All exposures are significant to a cumulative risk assessment, regardless of the purpose of the application. In theory, other OP uses may have to be restricted to make way for public health uses. It cannot be assumed that *any* pesticide broadcast throughout communities presents zero risk. In its *Revised OP Cumulative Risk Assessment*, EPA ignores widespread public exposures for: naled (black fly control), phosmet (fire ant mound treatment), chlorpyrifos (mosquito, black fly and fire ant mound treatment), and temephos (all registered uses).

While the agency considered the impacts of four OPs in the golf course section of its risk assessment, it chose to ignore chlorpyrifos (Dursban) because *most* residential uses were phased out in 2000...but not golf course uses! EPA explains that use on golf courses is allowed to continue because, "children will not be exposed." Children have been determined to be at high risk to chlorpyrifos and other OPs. By the way, the National Golf Foundation reported that in 2000 children, ages 12-17, played 33.8 million rounds of golf, with a 35% annual increase in junior golfers in recent years.

CWA vs. FIFRA: Pesticide registrations trump clean water

Imagine being pulled over by a police officer for driving at a normal speed in a school zone during school hours, disobeying a local crossing guard. You argue that because you were driving safely under the normal speed limit, you should not have to obey a local decision that you find arbitrary. This may seem ridiculous, but the pesticide industry and EPA make a similar argument regarding FIFRA and the *Clean Water Act* (CWA).

Through rulemaking, EPA decided that registered pesticides "applied" to waters of the U.S. do not require the CWA's *National Pollutant Discharge Elimination System* (NPDES) permits. The pesticide industry argues that because pesticides, especially those used to control mosquitoes, are evaluated through the FIFRA risk assessment process, they should not be subject to the CWA as well. Environmentalists maintain that FIFRA and CWA have fundamental differences and distinct purposes, that general FIFRA label requirements do not automatically satisfy the requirements of CWA, which are intended to address local conditions and situations relative to use patterns, deposition of pesticides into water, protection of water sources and ultimately public health.

Cumulative risk assessment... almost

Under FQPA, EPA is required to evaluate the cumulative effects of pesticides with a common mechanism of exposure, such as organophosphate (OP) insecticides. All OPs inhibit the body's production of the enzyme cholinesterase in the same way. When EPA completed the *Revised Organophosphate Cumulative Risk Assessment*, environmentalists saw this as a positive step towards this goal. Unfortunately, the report is sloppy, excluding several pesticide uses and specific vulnerable populations.

EPA excludes public health uses in its revised assessment.

The argument for precaution

Whether or not our system of pesticide regulation is broken, and it clearly is, many believe that risk assessment will never adequately protect human health and the environment. The current system does not consider the necessity of the product. If a pesticide manufacturer wants to make an herbicide to kill clover, there is no "use screen" to weigh the need for the product before the risks are assessed. While some may accept a one in 1,000,000 (sometimes greater) cancer risk for a public health pesticide, the public might have a harder time accepting a similar risk from an aesthetic lawn pesticide. But the system has no mechanism to screen out unnecessary use. The "benefit" side of the coin is largely left up to the marketplace.

There is a growing movement for safety from highly toxic chemicals based on the common sense principle of precaution. In registering pesticides, the *Precautionary Principle* flips the burden of proof to the chemical industry to prove safety and address uncertainties before the product is allowed on the market. Even then, the principle requires a showing of need and a finding that less or non-toxic approaches are not acceptable. Polls show that many Americans think such an approach is already in use in the U.S. Of course, it is not. Under our current regulatory system, by the time we have undeniable scientific proof of harm - the damage is often too severe to correct. By using the *Precautionary Principle*, advocates seek to prevent chemical exposure and utilize known non-harmful, or least-toxic alternative techniques and products.