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Pyrethroid pesticides are health hazards

Scientific studies of sumithrin, resmethrin reveal serious safety concerns

For three years, government officials soothingly told us that malathion, sumithrin (Anvil), resmethrin (Scourge) and other pesticides used in repeated rounds of mass spraying are harmless. But almost every product brought to us by the highly profitable chemical industry is said to be harmless until, the hard way, we frequently find out otherwise. During the 1960s, even deadly DDT was said to be harmless!

This is not to say that every human-made product is dangerous. Raising unnecessary alarms should not be the goal of any environmental organization. But neither should we blindly accept assurances that every chemical put to wide use is safe. Government officials blandly assure us these pesticides are safe (while telling us to hide indoors!) and the newspapers, radio and television seek to incite hysteria without finding the space or time to report pertinent facts.

The health effects of these pesticides have been studied in sufficient detail to draw the conclusion that they are not safe. Worse, what research has been conducted on them raises serious concerns. A thorough investigation into the pesticides being used in New York aerial and ground pesticide-spraying programs can result in only one conclusion: they cause serious harm to human, animal and marine health.

People naively assume that pesticides undergo lengthy testing by the government before being cleared for use. But that is not so. Instead the government accepts the minimal testing done by the manufacturers themselves until sufficient evidence of injury accumulates.

Another common misconception: Pesticides such as sumithrin are not natural and are not made from chrysanthemum flowers as is often claimed. Sumithrin, resmethrin and permethrin belong to a class of pesticides known as pyrethroids, which are synthetic *analogs* of chrysanthemums (Anvil) and dandelions (Scourge). Pyrethroids are not natural! **These pesticides are often promoted as "safer" than malathion, an unrelated organophosphate, but this is not true.**

Pyrethroids are toxic to the thyroid and immune system, among other concerns. No safe exposure level has been scientifically established for avoiding hormonal and other adverse effects, nor has the Occupational Safety and Health Administration (OSHA) set an exposure limit.

Sumithrin/Anvil could lead to breast cancer

The link between sumithrin and breast cancer is not proven - much more research is needed in this area. But a study conducted by a scientist at the Mount Sinai School of Medicine is troubling. This study, published in the peer-reviewed *Environmental Health Perspectives* [Vol. 107, No. 3, March 1999], concludes "These findings suggest that **pyrethroids should be considered to be hormone disruptors, and their potential to affect endocrine function in humans and wildlife should be investigated.**" This study indicates pyrethroids disrupt the endocrine system by mimicking the effects of the female hormone estrogen. This in turn can cause breast cancer in women and lowered sperm counts in men. When estrogen levels are elevated,

old cells are not removed from the body and cell proliferation occurs, whether benign or malignant.

The Roger Williams General Hospital, Brown University in Providence, R.I., conducted a study on pyrethroids, which concluded: "chronic exposure of humans or animals to pesticides containing these compounds may result in disturbances in endocrine effects." [*Steroid Biochem*, March 1990; 35(3-4):409-14.]

A report issued in June 2000 by the Royal Society in England and written by a group from Cambridge University called for international cooperation to deal with the dangers posed by endocrine-disrupting chemicals, including pyrethroids, and recommends reducing human exposure to these chemicals. Due to concern in this area, Health Canada is currently conducting a retrospective study of around 2,000 Ontario farm families related to the risk of various reproductive outcomes, such as time to pregnancy, spontaneous abortion and pre-term delivery.

Other health dangers of Sumithrin

There are several other health concerns associated with sumithrin, and still more health concerns with other chemicals used with sumithrin in the product known as Anvil. Don't take our word for it—the United States government and the manufacturer of Anvil give plenty of evidence of these dangers. The U.S. Environmental Protection Agency lists sumithrin as a suspected gastrointestinal or liver toxicant. The National Institute for Occupational Safety and Health's Registry of Toxic Effects of Chemical Substances lists sumithrin as a suspected kidney toxicant and suspected neurotoxicant.

Sumithrin is on the Toxic Release Inventory (TRI) list. The TRI listing requires manufacturers to report the release of sumithrin. TRI-listed chemicals require such information due to their exceptionally hazardous status under the Emergency Planning and Community Right-to-Know Act.

The International Chemical Safety Card, produced by the International Programme on Chemical Safety and the Commission of the European Communities, writes about sumithrin: "prevent generation of mists. This substance may be hazardous to the environment; special attention should be given to fish." It also states that no tolerable levels have been established for this substance. [This report is available from the Centers for Disease Control's web site, www.cdc.gov/niosh/ipcsneng/neng0313.html.]

There are many effects that can result from exposure to sumithrin. Inhaling can cause coughing, wheezing, shortness of breath, nausea, vomiting, runny or stuffy nose, chest pain or difficulty breathing, as well as delayed long-term neurotoxic effects, including optic and peripheral neuropathy. Skin contact can cause rashes, itching or blisters. Young children, seniors and people with asthma are the most at risk from sumithrin exposure. The Pesticide Management Education Program at Cornell University reports: "Asthmatic wheezing may be precipitated by exposure of predisposed individuals." Additionally, according to the second edition of the book "The Best Control" by Steve Tvedten, people with multiple sclerosis are in danger because they may be on medication that affects sodium and potassium ion diffusion through neuron axons.

Sumithrin is highly toxic to bees and fish. The label on Anvil, the brand of sumithrin used, states "This product is toxic to fish. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark." It can also remain in the environment—the half-life (the length of time for 50 percent of a substance to disintegrate or to decay into another substance) of sumithrin in soil has been calculated to be as long as 16 weeks (although it can be less than this).