



Top-Selling Weed Killer Disrupts Sexual Development in Frogs

While giving a talk on endocrine disruption at a Beyond Pesticides conference, University of Florida Zoologist Lou Guillette said, "When you want to get the attention of politicians in Washington, DC, talk about penis size." Environmentalists hope that a recent study out of the University of California (UC) at Berkeley, which finds that the nation's top-selling weed killer, atrazine, disrupts the sexual development of frogs at concentrations 30 times lower than allowed by the Environmental Protection Agency (EPA), will do just that. In an article published in the April 16 issue of *Proceedings of the National Academy of Sciences*, (vol. 99, no. 8), UC Berkeley developmental endocrinologist Tyrone B. Hayes reports that atrazine, at levels often found in the environment, demasculinizes tadpoles and turns them into hermaphrodites – creatures with both male and female sexual characteristics. The herbicide also lowers testosterone levels in sexually mature male frogs by a factor of ten. "Atrazine-exposed frogs do not have normal reproductive systems," Dr. Hayes said. "The males have ovaries in their testes and much smaller vocal organs," which are essential in calling potential mates. The

findings come at a time when EPA is re-evaluating allowable levels of atrazine in drinking water, which stand today at three parts per billion (ppb), and has drafted new criteria for the protection of aquatic life, limiting four-day average exposures to 12 ppb. Hayes found hermaphroditism in frogs at levels as low as 0.1 ppb. Even with today's limits, 40 ppb atrazine has been measured in rain and spring water in parts of the Midwest, as well as in agricultural runoff.

Now There's Proof: Organic Foods DO Have Less Pesticide Residues

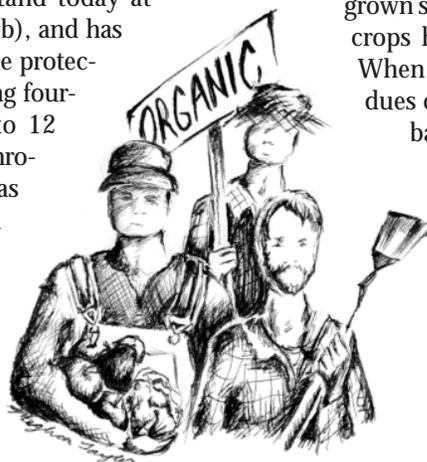
Health-conscious shoppers around the country have always known that buying organic is better for their families, the environment and farmworkers. Yet there have always been those in the media doubting the health and environmental benefits of organic food. Remember when ABC's 20/20 news reporter John Stossel claimed organic produce had the same amount of pesticide residue as conventional produce and suggested that organic produce may actually be more dangerous because of e-coli contamination

(but later made an on-air apology for fabricating the data)? Although common sense would suggest crops coated in toxic, carcinogenic chemicals would have more residue on the final product, until now there have been no "scientific" studies proving this is the case. According to a study by Consumers Union (CU), the publisher of *Consumer Reports* magazine, and the Organic Materials Research Institute (OMRI), published in the May 8, 2002 issue of the peer-reviewed journal *Food Additives and Contaminants*, organic foods do have less pesticide residue than conventional foods. The study, which used U.S. Department of Agriculture (USDA) data, shows that 73 percent of conventionally grown foods have at least one pesticide residue, while only 23

percent of organically grown samples of the same crops have any residues.

When they exclude residues of persistent, long-banned organochlorine insecticides such as DDT from their analysis of the USDA data, the fraction of organic samples with residues drops from 23 to 13 percent. The remaining residues

on organic produce are most likely due to pesticide drift. *For a summary of the study see www.consumer.org.*



Health Canada To Ban Some DEET Products

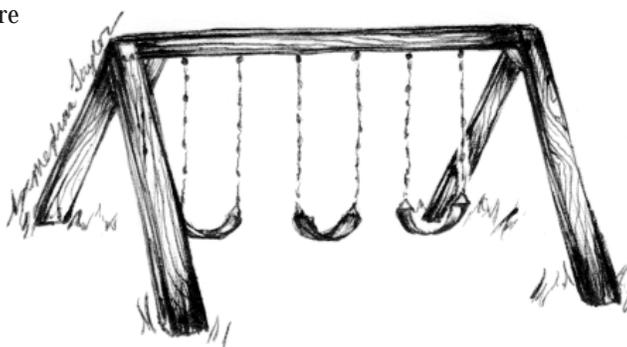
Canada, a country where the mosquito is often referred to as the national bird, recently announced that it intends to phase-out insect repellents containing more than 30% of the active ingredient DEET (N,N-diethyl-metoluamide) by December 2004. Health Canada, the agency of the Canadian government charged with promoting

good health among its citizens, cites health risks and evidence that increasing the amount of DEET does not repel insects more effectively as reasons for the decision. Products mixing sunscreen and insect repellent will also be barred because of the potential to absorb too much of the pesticide while lathering on the lotion. Recent studies on U.S. soldiers and park employees using DEET regularly found evidence of such skin reactions as large, painful blisters, rashes and a numb sensation on the lips. Park employees in Florida using DEET heavily were more likely to have insomnia, mood disturbances, and impaired cognitive functions. Researchers have also recorded several instances of brain problems in children, with the most severe cases involving seizures, coma and death. Because of dangerous synergistic interactions, Duke University professor Mohammed Abou-Donia, Ph.D., warns that DEET should not be mixed with any chemicals, including medications. The U.S. Environmental Protection Agency (EPA) decided recently not to tighten the regulations on DEET. *For a ChemicalWATCH factsheet on DEET, see pages 9-10.*

Pennsylvania Lawmakers Vote for Healthier Schools

On April 17, 2002, after nine years of grassroots organizing and lobbying by pesticide activists and concerned parents, the Pennsylvania General Assembly passed the *Pesticide Notification Act* (HB 1289 and SB 705), which requires schools to adopt integrated pest management (IPM) and provide notification of pesticide applications. According to the Beyond Pesticides report, *The Schooling of State Pesticide Laws 2002 Update*, Pennsylvania is now one of 11 states that require school districts to adopt IPM programs. The bill, which was immediately

signed into law by Governor Mark Schweiker (R), specifically requires that schools post notification signs 72 hours prior to indoor and outdoor applications and remain posted for 48 hours, provide 72 hour universal prior notification to school staff, and gives schools the option whether to provide a registry or universal system of notification to parents. The Act also prohibits pesticide applications within seven hours of students occupying the school building or using school grounds. While school pesticide



activists favor universal notification, they agree that the *Pesticide Notification Act* is a necessary improvement over the old state policy. "Studies have shown that many of the pesticides used in schools can have both short and long term health effects that range from headaches, nausea and diarrhea to learning disabilities, cancer and birth defects. There are about 15,000 Pennsylvania children who experience at least one asthma attack in the course of a year," said Robert Wendelgass, Pennsylvania Director for Clean Water Action and coordinator of the Campaign to Reduce Pesticide Exposure in Schools. "The *Pesticide Notification Act* will help parents, teachers and school officials protect these students from the known asthma attack trigger of pesticide exposure."



Pesticides Used in Simulated Terrorist Attack

As Mile High Stadium in Denver, CO crumbled, emergency response crews arrived on the scene only to be overwhelmed by the second phase of the attack. Malathion, a highly toxic organophosphate pesticide, had been packed into the bomb that had exploded in the stadium. While this was only a simulation set up by the city to test and train emergency response teams responding to a terrorist attack, government officials realize the danger of toxic chemicals, like pesticides, and the ease with which they can be obtained. According to the Washington Post, the simulated attack in Denver was timed to coincide with the final stages of the demolition of Mile High Stadium, the former home of the National

Football League's Denver Broncos. Mayor Wellington E. Webb decided that the stadium's destruction could provide an ideal backdrop for a weekend of exercises testing the region's ability to respond to terrorists and weapons of mass destruction. To help prevent such an incident, Maryland State Delegate Dan Morhaim proposed legislation, Restricted Use Pesticides – Use and Access (HB 809), that would help prevent pesticides from being used as weapons. The bill, which was supported by the Maryland Pesticide Network and Beyond Pesticides, required that anyone having access to restricted use pesticides (RUP) have a criminal background check, applicators of RUPs act under the instructions and control and within visual or voice contact of a certified applicator, and anyone purchasing, mixing or loading RUPs be certified. The Maryland Farm Bureau

opposes the bill because it says that it would be too difficult to restrict farmworker access to the chemicals, which are often stored in the same or nearby facilities used by workers as housing. The Maryland Pest Control Association lead the charge against the legislation, saying employee background checks are unnecessary and other safety provisions are too costly. See www.beyondpesticides.org for a copy of the legislation which could be introduced in state legislatures across the country.

Washington State Bans Controversial Herbicide on Lawns

While compost is usually seen as a natural alternative to chemical fertilizers, many communities were surprised to find that their local compost supplies were contaminated with the persistent herbicide clopyralid, making the compost toxic to many of their garden plants. The herbicide, which has been at the center of the GrassRoots Recycling Network's (GRRN) 'Confront Dow' campaign (see "Herbicides Threaten Recycling Industry" in the Winter 2001-2002 issue of *Pesticides and You*), has been found in compost made from recycled grass, straw, and manure in California, Washington, Pennsylvania, and New Zealand. To address the issue, the Washington Department of Agriculture banned the use of the herbicide clopyralid on lawns and turf. "This ban is meant to keep clippings from grass that has been treated with clopyralid from being sent to municipal and commercial compost facilities," said Cliff Weed, manager of the Pesticide Compliance Program for the Washington Department of Agriculture. "We focused on grass clippings because they are the major source of contaminated materials." Clopyralid, the active ingredient in the herbicide Confront, is mobile in soil and water allowing it to



seriously damage non-target plants. Evidence shows that when clopyralid-tainted compost is used to enrich soils, it can harm certain flowers, such as asters and sunflowers. Damage also has been found with vegetables, such as beans, peas and tomatoes. Residue testing of compost at the facilities revealed clopyralid levels between 73 and 80 ppb. These levels have the potential to damage crops, gardens and nurseries. The resulting occurrence of revenue losses, claim settlements, testing and additional labor cost one facility at the University of Washington \$250,000.

Oyster Growers Propose Spraying Pesticides To Kill Native Shrimp

The Willapa Bay/Grays Harbor Oyster Growers Association of Washington State wants to spray more than three tons of the pesticide carbaryl onto the tidelands of Willapa Bay and Grays Harbor in order to control native shrimp that are considered a problem for oyster production. Despite the concerns of local residents, including other oyster growers who produce oysters without pesticides and the Shoalwater Bay Tribe, the Washington State Department of Ecology has now issued a draft "special local need" permit that opponents say violates the *Clean Water Act* and allows the oyster growers to pollute water with huge quantities of the pesticide. If the final permit allows the spray, Willapa Bay and Grays Harbor would be the only place in the country where spraying carbaryl into water or on tidelands is allowed. Carbaryl, a suspected endocrine disruptor and reproductive toxicant, is harmful to both people and animals. Because its use in Willapa Bay results in such high concentrations, it poses a particular threat to salmon and

other aquatic life. Five species of salmon are present in Willapa Bay, as well as cutthroat trout. Coho in Willapa Bay are candidates for *Endangered Species Act* listing, and listing of cutthroat trout has been proposed. Carbaryl has a number of effects on salmon and trout, including impaired growth and reproductive success, bone abnormalities, and disruption of schooling behavior. It is also certain to affect their food supply. Burrowing shrimp are considered a problem for oyster production because they make the tideflats too soft for "bottom culture," or oyster production directly on the tideflats. Many oyster growers, however, use production methods that do not rely on pesticides by keeping oysters off the tideflat surface.

Welcome



We would like to welcome the most recent addition to the Beyond Pesticides staff. Jessica Lunsford, our new program associate, joins us with a Masters of Science in Public Health (MSPH) from the Tulane School of Public Health and Tropical Medicine, with an emphasis in environmental health science and environmental policy and a B.S. in anthropology and in environmental studies from Tulane University.

We would also like to welcome our summer interns, Cortney Piper and Asheesh Siddique.