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Millions Against Monsanto Campaign

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Monsanto's Roundup Pesticide is a Major Threat to Public Health

From PANNA, Pesticide Action Network North America

From <www.panna.org>

Rethinking Roundup

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A recent study of Roundup presents new evidence that the glyphosate-based herbicide is far more toxic than the active ingredient alone. The study, published in the June 2005 issue of Environmental Health Perspectives, reports glyphosate toxicity to human placental cells within hours of exposure, at levels ten times lower than those found in agricultural use. The researchers also tested glyphosate and Roundup at lower concentrations for effects on sexual hormones, reporting effects at very low levels. This suggests that dilution with other ingredients in Roundup may, in fact, facilitate glyphosate's hormonal impacts.

Roundup, produced by Monsanto, is a mixture of glyphosate and other chemicals (commonly referred to as "inerts") designed to increase the herbicide's penetration into the target and its toxic effect. Since inerts are not listed as "active ingredients" the U.S. Environmental Protection Agency (EPA) does not assess their health or environmental impacts, despite the fact that more than 300 chemicals on EPA's list of pesticide inert ingredients are or were once registered as pesticide active ingredients, and that inert ingredients often account for more than 50% of the pesticide product by volume.

The evidence presented in the recent study is supported by earlier laboratory studies connecting glyphosate with reproductive harm, including damaged DNA in mice and abnormal chromosomes in human blood. Evidence from epidemiological studies has also linked exposure to the herbicide with increased risk of non-Hodgkin's lymphoma, and laboratory studies have now begun to hone in on the mechanism by which the chemical acts on cell division to cause cancer. A Canadian study has linked glyphosate exposure in the three months before conception with increased risk for miscarriage and a 2002 study in Minnesota connected glyphosate exposure in farm families with increased incidence of attention deficit disorder.

Studies have also documented glyphosate's toxicity to wildlife and especially to amphibians. Recently, studies conducted in small ponds with a variety of aquatic populations have presented evidence that levels of glyphosate currently applied can be highly lethal to many species of amphibians.

Glyphosate is the world's most commonly used agricultural pesticide, and the second most-applied residential pesticide in the U.S. Recent evidence notwithstanding, glyphosate is considered less hazardous than other herbicides, an attitude that has increased the pesticide's use and

desensitized policymakers to its impacts. The spraying program in Colombia to eradicate coca and opium poppy-the raw materials for cocaine and heroin-is one example. A mixture of glyphosate and several inerts has been sprayed aerially over more than 1.3 million acres of farm, range and forest lands in that biologically diverse nation for five years. The U.S. Drug Czar recently noted that despite the spraying, which is funded by the U.S. government, the number of hectares in coca production has remained essentially unchanged. A report on the impacts of the spraying produced for the Organization of American States has been sharply criticized by AIDA, an environmental organization, because the analysis failed to assess the impacts of deforestation resulting from movement of illicit crops into previously forested areas, adverse effects on endangered and endemic species, substantial collateral loss of food crops, livestock and fish, and human health effects. Authorization of next year's funding for the spray program is now underway in the U.S. Congress, where the Senate Appropriations Committee complained in a non-binding narrative report, "The Committee is increasingly concerned ... that the aerial eradication program is falling far short of predictions and that coca cultivation is shifting to new locations."

The herbicide is used in forestry in North America to reduce grasses, shrubs and trees that compete with commercial timber trees. Glyphosate is also widely introduced into the environment and the human food chain through cultivation of transgenic, or genetically engineered crops that are tolerant to the herbicide and contain glyphosate residues. "Roundup Ready" crops have been responsible for increased use of the herbicide in recent years. Monsanto's sales of glyphosate have expanded approximately 20% each year through the 1990s, accounting for 67% of the company's total sales as of 2001. EPA estimates glyphosate use in the U.S. is 103-113 million pounds annually.

Sources: Sophie Richard, Safa Moslemi, Herbert Sipahutar, Nora Benachour, and Gilles-Eric Seralini, *Environmental Health Perspectives*, Vol. 113, No. 6 June 2005, <http://ehp.niehs.nih.gov/members/2005/7728/7728.html> ; Glyphosate Herbicide Fact Sheet, *Journal of Pesticide Reform*, Winter 2004, Vol. 24, No. 4, Northwest Coalition for Alternatives to Pesticides NCAP, <http://www.pesticide.org> ; Rethinking Plan Colombia, New Science on Roundup: Threats to Human Health and Wildlife, Las Lianas, June 2005, <http://www.laslianas.org/Colombia/RoundupFactSheet--June2005.doc> ; Critical Omissions in the CICAD Environmental and Health Assessment of the Aerial Eradication Program in Colombia, Interamerican Association for Environmental Defense (AIDA); The Center for International Policy's Colombia program, Relevant Text from the Bills So Far, the 2006 Aid Request, <http://ciponline.org/colombia/aid06.htm#Senate> ; PANNA, Monsanto Corporate Fact Sheet; PANNA, Global Pesticide Campaigner, Inert Ingredients in Pesticides, Sept. 1998. Contact: PANNA

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