Glyphosate Health Hazards
Updated September 30, 2013 by Carrie Lovelace Carrier

Parkinson’s Disease and Other Neurodegenerative Conditions
• Ya-xing Gui et al. “Glyphosate induced cell death through apoptotic and autophagic mechanisms.” 2012.1
• Benachour, N. et al. “Glyphosate Formulations Induce Apoptosis and Necrosis in Human Umbilical, Embryonic, and Placental Cells.” 2009.2

Cancer and Systemic Human Health Effects
• Samsel A. et al. “Glyphosate’s Suppression of Cytochrome P450 Enzymes and Amino Acid Biosynthesis by the Gut Microbiome: Pathways to Modern Diseases.” 2013.3
• Thongprakaisang S. et al. “Glyphosate induces human breast cancer cells growth via estrogen receptors.” 2013.4
• Jasper R. et al. “Evaluation of biochemical, hematological and oxidative parameters in mice exposed to the herbicide glyphosate-Roundup®.” 2012.5

Fertility and Fetal Impacts
• Romano RM et al. "Prepubertal exposure to commercial formulation of the herbicide glyphosate alters testosterone levels and testicular morphology." 2010.9

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**Ground and Surface Water Contamination:**


**Toxicity to Frogs and Aquatic Organisms**


• Kreutz L.C. et al. “Exposure to sublethal concentration of glyphosate or atrazine-based herbicides alters the phagocytic function and increases the susceptibility of
silver catfish fingerlings (Rhamdia quelen) to Aeromonas hydrophila challenge.” 2010.18

- Relyea, R. “The lethal impact of Roundup on aquatic and terrestrial amphibians.” 2005.20

Weed Resistance

- Powles, S. B. “Evolved glyphosate-resistant weeds around the world: lessons to be learnt.” 2008.22

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19 Brausch, J. M., & Smith, P.N. "Toxicity of Three Polyethoxylated Tallowamine Surfactant Formulations to Laboratory and Field Collected Fairy Shrimp, Thamnocephalus platyurus." Arch Environ Contam Toxicol. 2007 52(2), 217-221.