



# GENETICALLY MODIFIED ORGANISMS

Environmental Toxins  
CU Boulder Jun 2013

# WHAT ARE GMOS?

- ✗ GMOs explained
- ✗ 90% of seeds are owned by Monsanto
- ✗ Believed to be a solution to world hunger





# STUDIES-POTENTIAL ADVERSE AFFECTS

- ✗ Allergenicity, antibiotic resistance, production of natural pesticides, heavy-metal sequestration (Bakshi 2003)
- ✗ Infertility, hair growth in mouths in hamsters (Surov, [naturalsociety.com](http://naturalsociety.com))
- ✗ Inconclusive or no findings

# STUDIES AFFECTS OF GLYPHOSATE

- ✖ Nile tilapia exposed to sub-lethal doses (Jiraungkoorskul et al. 2002)
- 1. Damaged gills, swollen livers and kidneys





# WHAT'S NEW FOR GMOS

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- ✖ Pesticide emitting produce – doomed to fail
- ✖ Recent infertility in livestock is attributed to GMO diets
- ✖ Stomach problems in pigs
- ✖ Labeling laws coming into effect

# SOURCES

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- ✖ Bakshi, Anita. "Potential adverse health effects of genetically modified crops." *Journal of Toxicology and Environmental Health Part B: Critical Reviews* 6.3 (2003): 211-226.
- ✖ Jiraungkoorskul, W., et al. "Biochemical and histopathological effects of glyphosate herbicide on Nile tilapia (*Oreochromis niloticus*)." *Environmental toxicology* 18.4 (2003): 260-267.
- ✖ GMO-Fed Hamsters Become Infertile, Have Stunted Growth." *Natural Society*. N.p., n.d. Web. 02 July 2013
- ✖ Rappoport, Jon. "Biotech's Next Big Disaster: Seeds That Emit Multiple Pesticides." *Infowars Biotechs Next Big Disaster Seeds That Emit Multiple Pesticides Comments*. Infowars, n.d. Web. 02 July 2013.
- ✖ Visser, Nick. "GMO Feed Left Pigs With Higher Stomach Inflammation, Study Reports." *The Huffington Post*. TheHuffingtonPost.com, 11 June 2013. Web. 02 July 2013.