

Groundbreaking study shows Roundup link to birth defects

International scientists confirm dangers of Roundup at GMO-Free Regions Conference in Brussels

Brussels 16 September 2010 Glyphosate, the active ingredient in the world's best-selling weedkiller Roundup, causes malformations in frog and chicken embryos at doses far lower than those used in agricultural spraying and well below maximum residue levels in products presently approved in the European Union. This is reported in research (1) published by a group around Professor Andrés Carrasco, director of the Laboratory of Molecular Embryology at the University of Buenos Aires Medical School and member of Argentina's National Council of Scientific and Technical Research.

Carrasco was led to research the embryonic effects of glyphosate by reports of high rates of birth defects in rural areas of Argentina where Monsanto's genetically modified "Roundup Ready" (RR) soybeans are grown in large monocultures sprayed from airplanes regularly. RR soy is engineered to tolerate Roundup, allowing farmers to spray the herbicide liberally to kill weeds while the crop is growing.

At a press conference during the 6th European Conference of GMO Free Regions in the European Parliament in Brussels Carrasco said, "The findings in the lab are compatible with malformations observed in humans exposed to glyphosate during pregnancy." Reporting of such problems started in 2002, two years after large scale introduction of RR soybeans in Argentina. The experimental animals share similar developmental mechanisms with humans. The authors concluded that the results raise "concerns about the clinical findings from human offspring in populations exposed to Roundup in agricultural fields." Carrasco added, "I suspect the toxicity classification of glyphosate is too low. In some cases this can be a powerful poison."

The maximum residue level (MRL) allowed for glyphosate in soy in the EU is 20 mg/kg. The level was increased 200-fold from 0.1 mg/kg to 20 mg/kg in 1997 after GM RR soy was commercialized in Europe. Carrasco found malformations in embryos injected with 2.03 mg/kg glyphosate. Soybeans can contain glyphosate residues of up to 17mg/kg.

In August 2010 Amnesty International reported that an organized mob violently attacked people who gathered to hear Carrasco talk about his research in the town of La Leonesa, Chaco province. Witnesses implicated local agro-industry figures in the attack.

Carrasco is also the co-author of a report, "GM Soy: Sustainable? Responsible?" released on September 16 by a group of international scientists. The report documents a bulk of evidence in scientific studies on the harmful health and environmental impacts of GM RR soy and Roundup.

This report is released together with the testimonies of people who have suffered from such spraying. Viviana Peralta, a housewife from San Jorge, Santa Fe, Argentina was hospitalized together with her baby after Roundup spraying from planes flying near her home. Peralta and other residents launched a lawsuit that resulted in a regional court ban on the spraying of Roundup and other agrochemicals near houses.

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- (1) Paganelli, A., Gnazzo, V., Acosta, H., López, S.L., Carrasco, A.E. 2010. Glyphosate-based herbicides produce teratogenic effects on vertebrates by impairing retinoic acid signalling. *Chem. Res. Toxicol.*, August 9.

<http://pubs.acs.org/doi/abs/10.1021/tx1001749>

- (2) GM Soy: Sustainable? Responsible?" is released on September 16 by Andrés Carrasco and eight other international scientists: <http://www.gmo-free-regions.org/conference2010/press.html>