

Argentine neuroscientist who challenged safety of glyphosate in Monsanto's Roundup dies

Dr. Andres Carrasco, an Argentine neuroscientist who challenged pesticide regulators to re-examine one of the world's most widely used weed killers, has died. He was 67. Carrasco, a molecular biologist at the University of Buenos Aires and past-president of Argentina's CONICET science council, was a widely published expert in embryonic development whose work focused on how neurotransmitters affect genetic expression in vertebrates.

But none of his research generated as much controversy as his 2010 study on glyphosate, which became a major public relations challenge for the St. Louis, Missouri-based Monsanto Company. Carrasco, principal investigator at his university's Cellular Biology and Neuroscience Institute, told The Associated Press in a 2013 interview that he had heard reports of increasing birth defects in farming communities after genetically modified crops were approved for use in Argentina, and so decided to test the impact of glyphosate on frog and chicken embryos in his laboratory.

His team's study, published in the peer-reviewed Chemical Research in Toxicology journal, found that injecting very low doses of glyphosate into embryos can change levels of retinoic acid, causing the same sort of spinal defects that doctors are increasingly registering in communities where farm chemicals are ubiquitous. Retinoic acid, a form of vitamin A, is fundamental for keeping cancers in check and triggering genetic expression, the process by which embryonic cells develop into organs and limbs.

When asked by the AP last year to explain how scientists can rule out birth defect risks without testing the effect of pesticides on genetic expression in embryos, company spokesman Thomas Helscher said these methods are "relatively new" and that scientists don't yet understand "how to translate genetic modulations into predictions of adverse outcome." Injecting embryos with pesticides, Helscher said, is "less reliable and less relevant for human risk assessments" than methods the industry uses.

Read the full, original article: [Argentine Scientist Who Challenged Monsanto Dies](#)