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The Hidden Dangers of Roundup

by Dr. Gregory Damato, Ph.D., citizen journalist

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(NaturalNews) Roundup is the world`s most popular herbicide used to control weeds all over the planet and is omnipresent in the food chain of animals and humans. Roundup is claimed to have an active ingredient known as glyphosate (G) and said to be safe for humans even though plants are readily killed. In a first of its kind published study, French researchers recently sought to examine the toxicity of four popular G-based herbicide formulations on human placental cells, kidney cells, embryonic cells and neonate umbilical cord cells and surprisingly found total cell death of each of these cells within 24 hours.

As the percentage of genetically modified (GM) [soy](#) in the US burgeons to over 91 percent [1], researchers are beginning to publish harbingers for the potential of a maelstrom of future [health](#) problems from GMOs (genetically modified organisms) [2, 3]. One of the potential harmful triggers includes the increased amounts of chemicals present in the environment disseminating at an alarming rate with few researchers examining the combined effects of these xenobiotics on plants, animals or humans. Similarly, much of the existing research on [GMOs](#) has been undertaken on the individual organism itself and neglects to examine the more important ecological issue of synergism. This point is very notable because the world`s most popular [herbicide](#) known as Monsanto`s [Roundup](#) contains a blend of glyphosate (G) and several unknown adjuvants. The exact ingredients in Roundup are not disclosed to the general public and are kept confidential as they are labeled, "trade secrets". [Monsanto](#) assures the public these ingredients are inert and are therefore non-toxic. The most predominant adjuvant in Roundup seems to be polyethoxylated tallowamine or POEA [4, 5], which has been implicated in ocular burns, redness, swelling, blisters, nausea and diarrhea [6]. POEA is one of the most prevalent pollutants found in rivers all over the world. Problems begin to arise when G alone interacts with POEA and other unknown ingredients activating and accelerating the resultant mixture known as Roundup [7].

Monsanto patented its G propriety blend and named it Roundup in the 1970`s to kill broadleaf and cereal leave weeds. G is the active ingredient utilized in nearly 75% of all edible GM plants that have been engineered to tolerate high levels of this form of G [8]. G works by inhibiting an enzyme that synthesizes the amino acids tyrosine, tryptophan and phenylalanine thereby killing the weed. Researchers examining the amounts of herbicide used on [GMO](#) soy have concluded that the GMO soy typically receives several more pounds of G than conventionally grown soy per acre [9]. Furthermore, researchers have found that several types of newly created superweeds resistant to Roundup (e.g., pigweed, ryegrass and marehail) have been rapidly surfacing leading to increased amounts of Roundup on such [crops](#) [10]. These farmers have been told to use increasingly potent mixtures of [herbicides](#) and not Roundup alone [11]. In fact, there has been a more than 1900% increase in G use on Roundup Ready soybeans from 1994 to 2006 [12].

For the first time, French researchers recently sought to examine the [toxicity](#) of four G-based herbicide formulations on human placental cells, kidney cells, embryonic cells and neonate umbilical cord cells [13]. The researchers used the four most common types of Roundup utilized worldwide: Roundup Express, Roundup Bioforce, Roundup Grand Travaux and Roundup Grand Travaux Plus at lower concentration levels than would be normally found in plants and in animal feed. The researchers sought to determine the levels of necrosis (death of cells due to injury, [disease](#) or loss of blood supply) and apoptosis (programmed cell death) of each of these cells based on exposure to various dilutions of each

of the four Roundup products as well as G, POEA and AMPA (the main metabolite of G at 14 different concentrations of 10 ppm to 2%).

The researchers were surprised by the findings and reported that all four herbicides caused cellular death for all four types of cells within 24 hours. The researchers reported several mechanisms by which the herbicides caused the cells to die including: cell membrane rupture and damage, mitochondrial damage and cell asphyxia. Following these findings, the researchers tested G, AMPA and POEA by themselves and concluded that, "It is very clear that if G, POEA, or AMPA has a small toxic effect on embryonic cells alone at low levels, the combination of two of them at the same final concentration is significantly deleterious".

Although Monsanto claims that G metabolizes into a harmless and inert substance known as AMPA, the researchers found that AMPA was more toxic to human cells than G. This finding is very noteworthy considering AMPA is more stable and present in soil, plants, food and wastewater (2 to 35 ppm) compared with G (.1 to 3 ppm) [14]. AMPA was also found to synergistically increase the toxicity of G and POEA.

The researchers also reported that G acted very quickly at concentrations 500 to 1000 times lower than present agricultural levels to induce programmed cell death. G alone was found to induce mitochondrial toxicity without cell membrane damage. Furthermore, the researchers tested very weak concentrations (.005%) of Roundup and reported cell death, lack of adhesion, shrinking and fragmentation in the cells undergoing apoptosis. The embryonic cells were the most sensitive indicating another major reason to eat only organic foods while pregnant.

Although previous researchers have proposed that the supposed "inert ingredients" alter the role of cell membrane disruptors in fish, amphibians, microorganisms [15] and plants [16], independent of G, this study is the first of its kind to report similar findings in human cells and immediately calls for strict monitoring of the agricultural usage of Roundup. The researchers concluded that, "the proprietary mixtures available on the market could cause cell damage and even death around residual levels to be expected, especially in food and feed derived from R [Roundup] formulation-treated crops".

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About the author

Dr. Gregory Damato enjoys a vegan lifestyle and runs a Quantum Biofeedback clinic treating various clients ranging from autism to cancer. He is currently authoring a book for parents educating on the many hidden dangers of vaccines, chemical toxicity in toys, GM foods, the effects of EMFs and EMRs and ways to combat rising childhood illness and neurological disease by naturally building immunity, detoxification and nutrition. His goal is to increase global awareness of the myriad of health issue facing us today and the fact that 100% of them are preventable and completely reversible. His website publishes the latest health and [wellness](#) news and information and can be found at www.wellnessuncovered.com.

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