

Gilles-Eric SERALINI  
Professor of molecular biology and biochemistry

To the executive director, EFSA  
Cc: French Ministry of Agriculture

**Subject: Re-evaluation of glyphosate herbicides**

Caen, 17 November 2015

Dear Sir:

On 12 November EFSA decided not to classify glyphosate as a carcinogen, suggesting that its point of difference with the International Agency for Research on Cancer (IARC) arose from the toxicity of the co-formulants added to glyphosate herbicides, which national Ministries are responsible for evaluating. You suggested that the effects of these co-formulants should be taken into account.

Co-formulants are not assessed for long-term toxicity, yet they may indeed explain many of toxicities from the herbicide formulations, which have not been studied. My research team has just published a review on these issues (Mesnage et al. Food and Chemical Toxicology, 2015, 84, 133-153). This follows a number of discoveries published since 2005 that show the more than 1000-fold higher toxicity of co-formulants, relative to the toxicity of the supposed "active ingredient". The co-formulants are, however, always classified as inert and are kept confidential, as requested by the manufacturers.

It is therefore a shared responsibility to reassess the toxicological and environmental toxicity of glyphosate formulations (including the co-formulants) over the long term. For now, only the short-term irritating effects on the skin and eyes are taken into account. There is thus a crucial data gap.

In the immediate future, therefore, I suggest that you propose to reduce the acceptable daily intake of glyphosate by a factor of at least 1000, since it was established for glyphosate alone, without its co-formulants – even though glyphosate is never used alone, but only in formulations.

Finally, our tests show that glyphosate does not even act as a herbicide when used in isolation at agricultural doses, but the complete formulations do have herbicidal action (Séralini, J. Biol. Physics and Chemistry, 2015, 15, 26 August). We studied their properties for two years (Mesnage et al., Toxicology, 2013, 313, 122-128). It would therefore seem reasonable to start legal proceedings for the false declaration of the "active ingredient" in glyphosate formulations.

These measures would protect public health and the environment. The matter is urgent.

Yours faithfully,

Prof Gilles-Eric Séralini

