

Comparing the Cytotoxicity of Food Additives to Agrochemicals. (A05-freeman112045-Poster)

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Abstract:

Herbicides are a class of agrochemicals that are finding their way into potable water supplies. With the advent of minimum tillage for soil conservation, farmers have become increasingly more reliant on chemical means to control weeds. One major problem with the use of herbicides is that much of their application occurs in early spring, usually a period of heavy rains. As herbicides are increasingly found in water, one becomes concerned with potential health effects. Comparing the cytotoxicity of agrochemicals with food additives may demonstrate that the risk presented by agrochemicals is minimal and that the agrochemicals pose no more threat than approved food additives. Cell culture experiments are the most rapid, efficient and cost effective way to screen a large number of chemicals. Experiments have indicated that the food additive caffeine is slightly less cytotoxic than atrazine. However, caffeine levels in the food supply may be more of a concern than the levels of atrazine allowed by the US EPA. Comparisons of several additional agrochemicals and food additives will also be presented.

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