

Hemolysis and lipid peroxidation in human erythrocytes incubated with roundup

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The effects of exposure of human erythrocytes to different concentrations of Roundup were studied, with particular attention to hemolysis, lipid peroxidation, acetylcholinesterase activity (AChE) and hemoglobin oxidation. Human erythrocytes were incubated with Roundup at concentrations from 100 to 1500 ppm (100 µg /ml erythrocytes at 5% hematocrite), for 1 to 24 hours. The results show that Roundup decreases AChE activity, increases the level of methemoglobin, products of lipid peroxidation and hemolysis. Taking into account the limited accumulation of Roundup in the organism as well as the fact that 500 ppm was the threshold dose which caused changes in erythrocytes, it is possible to draw a conclusion that this pesticide is safe to human erythrocytes.