INTERACTION OF THE GLYPHOSATE + 2,4-D MIX AS A CARCIOGENESIS FACTOR

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ABSTRACT: Currently, Brazil is the largest consumer of pesticides in the World, there are cases of use of products in the country that are banned in other markets. And if on the one hand the quantity of products generates concern, on the other hand the form of use also requires attention, since 97% of the application made is taken in combination, so-called agrochemical cocktails and their effects are not widely known. In these mixtures, 72% of the use occurs with Glyphosate and another compound, it is worth mentioning that Glyphosate is being reevaluated by the regulatory bodies of these products in the country. In this sense, we selected a mixture of great relevance to the field, given its vast use, two herbicides (Glyphosate and 2,4-D) that correspond to different stages of planting. The evaluation was concerned with a variable that compose the computational model of carcinogenicity: o Heat of formation. For this, the design of the two molecules was carried out in the Avogadro software followed by optimization of the geometry in the Gaussian 09 with B3LYP functional. Formation heat values obtained are associated with interactions with human DNA for the purpose of mutagenesis induction estimates. For this mixture the value found indicated a low carcinogenicity, however, for a more complete analysis, other results are needed in the cited model.

Key words: Carcinogenic, Formation heat, Agrotoxic