Glyphosate Concentrations in Organic vs. Conventional Wheat

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Glyphosate is a systemic herbicide that is absorbed through foliage and is translocated via the phloem throughout the plant following absorption through the leaf tissues. Most commonly, Glyphosate is used in products that control weeds and any other unwanted vegetation in farmland, due to the many adverse effects that exposure to Glyphosate, many have chosen to not consume products that have been grown on land that has been treated with Glyphosate products. This study examined the differences in Glyphosate concentrations in both organic and conventionally grown wheat samples. It was hypothesized that conventional wheat would contain a higher concentration of Glyphosate than the organic wheat. To test this hypothesis, samples were analyzed in a gas chromatography mass-spectrometer. Concentrations were calculated by comparing the concentrations of known concentration values to recovered values. The identity of the compound was found by analyzing the retention time in the GC/MS column. Results indicate that the organic did contain a Glyphosate concentration of 12 PPB (parts per billion) as compared to the conventionally grown wheat's concentration of 23 PPB, both of these values are vastly below the acceptable levels set by the EPA of 30 PPM. The experimental hypothesis was accepted as the organic wheat contained less Glyphosate as the conventional.

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