Determining the Presence of Genetically Modified Organisms in Our Daily Foods

Minguela Torres, Paulina

Some crops have been genetically modified to obtain desired traits; such as pesticide-producing or drought resistant. There has been a debate on whether Genetically Modified Organisms (GMOs) can be harmful or beneficial. Regardless of whether they are harmful or not, many products containing these have not been labeled, therefore the consumer isn't informed. The hypothesis is that supermarket products have been genetically modified and are not labeled as such. The objective is to test supermarket foods and investigate if they have been genetically modified using the Polymerase Chain Reaction (PCR) method. The chosen foods were mainly corn-based. As constants, a certified non-GMO food sample and a GMO positive control DNA were used, to be able to identify which food samples had been modified. After preparing the food samples, these were placed in the PCR, where it amplified the DNA samples to better identify a GM gene, if present. The samples were inserted on an agarose gel where it indicated whether the food was plant derived or if it had been genetically modified, according to band size. The samples that were positive of being genetically modified, were the corn chips, the cream of corn cereal, and the GMO positive control DNA. The products that were positive of containing plant DNA were the certified non-GMO food control, the papaya, corn chips, and the GMO positive control DNA. The hypothesis was partially approved because some of the products that we buy have been genetically modified and are not being labeled as such.

Awards Won: