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A Biotechnology Revolution: An Analysis Of Genetically Modified DNA

The purpose of this project was to analyze how the amount of modified DNA varies between seed, plant and product of genetically modified corn. Two types of seed were used; Roundup ready seed corn and conventional seed corn. Roundup ready seed is modified corn that allows the farmers to spray herbicide (roundup) on their field to control weeds, without damaging the crop. The gene in modified crops is thought to diminish over several generations, this investigation will determine if the amount of genetically modified DNA reduces in one generation. The amount of GM genes will be analyzed and measured in the corn seed, corn plant, and corn product. The researcher hypothesizes that in one generation the amount of genetically modified corn will reduce between seed and plant. The percentage will also change among products based on how the product was made. First corn must be grown in order to test the leaf tissue. Then corn seed must be crushed in a coffee grinder for later use. Next, DNA must be extracted from the seed, plant and each product. After this the samples will then be placed in a thermal cycler to amplify DNA. A gel electrophoresis test will be able to tell whether or not genetically modified DNA is present. However, an error occurred during this process and results were inconclusive. Further research, using a real-time PCR would reveal percentages of the modified DNA. The data could conclude whether or not the amount of modified DNA is reduced or not.