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Curriculum Units by Fellows of the National Initiative
2013 Volume VI: Genetic Engineering and Human Health

Effects of Genetically Modified Organisms on Agriculture

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This unit is written for a general chemistry course in an urban setting which will have covered bonding, polarity, molecular structure, and types of chemical reactions. Students will use their chemistry background to reason through how basic chemistry concepts can be used to help explain the structure of DNA and how genetic engineering works. The intent is to relate the foods we eat and genetically engineered crops to what they have learned in science and the effects on Agriculture. This unit is meant to elicit their prior knowledge of particle behavior and relate it to their everyday lives in order to provide meaning behind why they should choose to study science. Students will read several articles and case studies around genetically modified foods and have a chance to grow and analyze crops. As a culminating project students will be asked to create a position paper using the claim-evidence-reasoning model to state why they think genetic engineering of crops should continue or not and most importantly why they believe that. Since students will actually grow both modified and nonmodified zucchini they will have real data to help guide their opinions and use facts from their research to back it up.

(Developed for Chemistry I PSP and Conceptual Chemistry, grade 10; recommended for High School Chemistry, grade 10)

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