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The Economy, Immigration... GMOs?

New research sheds light on controversial topic of GMOs



by Charles Simmons

Genetically modified organisms (GMOs) have become one of the most controversial issues in today's society. With the 2016 presidential election approaching, this issue is likely to arise in debates, as opinions among candidates and the public is not uniform. GMOs have been portrayed in a negative light as of late, as Chipotle recently became the first national restaurant chain to cook with only non-GMO ingredients, and as Senator Bernie Sanders recently proposed a bill in Congress to allow states to require companies to label food products made with genetically modified ingredients. However, a recent study has found that genetically modified crops are actually good for the environment, since they require fewer pesticides.

The study, published in *Nature* by researchers at the Chinese Academy of Agricultural Sciences, found that planting crops that are genetically engineered to produce toxins that poison pests were able to cut pesticide usage to half from 1997 to 2012. The plant, Bt cotton, contains a gene from *Bacillus thuringiensis* (Bt) that codes for endotoxins that are toxic to many pests, especially cotton bollworms.

You may not have heard of Bt cotton before, but it's likely to be in everything that contains cotton, from blue jeans to furniture. Not only have Bt cotton crops reduced pesticide use by half, but also the number of predators - namely spiders, lacewings, and ladybirds, that prey on agricultural pests have doubled in this time frame.



So how do crops designed to be toxic to some pests affect the population of other pests who are not affected by the new toxin? Those against the use of crops genetically modified to require fewer pesticides hypothesized that by reducing pesticide usage, pests unaffected by the toxins produced by the plant would go through a population boom, which would require extensive spraying. It turns out that this was not the case, as the rise in predator population was able to compensate for the reduction of spraying. The researchers behind this study point out that the genetic engineering in this capacity has only been around for 30 years, and that it is important to continue evaluating the potential uses of GM crops.

One issue that may hinder the continued evaluation of GM technology is public opinion. Many have raised serious concerns about how mandatory labeling of GMOs could affect continuing biotechnology development in agriculture. Requiring all GMOs to be labeled could promulgate the idea that GMOs are innately unsafe and dangerous and could start to circulate around the general public and GMO could be unfairly targeted. This effect can be seen in a poll done by *The New York Times*, in which 93% of individuals interviewed were in support of mandatory labeling of GMOs. Since public opinion shapes policy, the current views could thwart the discovery of new GM technologies. All major presidential candidates, with the exception of Bernie Sanders, are actually against labeling GMOs. With this divide between the candidates and the public, do not be surprised to see GMOs show up in debates and on ballot next November. 🐾

“...crops genetically engineered to poison pests were able to help cut pesticide usage in half from 1997 to 2012.”