



What could be the benefits of planting genetically-engineered maize in Mexico?

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Mexico is the fifth largest maize producer of the world, representing close to a third of its internal agricultural production. Paradoxically, Mexico imports a third of the maize that it consumes, and its internal production yields 40% below of the world's average. Arthropod pests are partially responsible for lowering Mexican pest production. A group of Mexican scientists and crop advisors conducted a census of the impact of arthropod pests throughout the country. Results indicate that *Spodoptera frugiperda*, the most problematic pest, requires up to 3 sprays per crop season, representing 3,000 tons of insecticidal active ingredients (a.i.) for its control, followed by other destructive Lepidoptera such as *Agrotis ipsilon* and *Helicoverpa zea*, requiring also 1-3 insecticide applications per crop cycle, amounting to 2.8 and 0.8 tons of insecticidal a.i. for its control, respectively. Coleopteran pests require less insecticide than the previous pests and have narrower special distribution. The white grub complex (*Phyllophaga* spp.) is controlled in only a few Mexican regions with 1-2 insecticide applications, representing up to 1.6 tons of a.i., while *Diabrotica* spp. only requires an average of 1.5 applications but in a larger area of the country, amounting to 0.4 tons of a.i. Since genetically engineered (GE) maize hybrids have proven to be effective against these pests, and because these arthropods occur at different times of the maize development, in some regions of Mexico this crop is sprayed multiple times to control Lepidoptera and Coleoptera that otherwise could be effectively managed with certain GE maize hybrids, with the potential of reducing thousands of insecticidal active ingredient.