

The background of the slide is a light gray gradient, decorated with numerous realistic water droplets of various sizes. Some droplets are large and prominent, while others are small and scattered. They are rendered with soft shadows and highlights, giving them a three-dimensional appearance.

GM Corn

An Italian Case study

Topics to be Addressed

- Agronomic Analysis:
- Insect Biology Surrounding BT Corn:
- Botanist in the Industry:
- Environmental Ethics:
- Corn Market Analysis:
- Representative from EFSA:

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Agronomic Analysis of Bt Corn

- What are GMOs?
- *Bacillus*
Thuringiensis - used
to produce MON810
corn

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Insect Biology surrounding Bt-Corn

Insecticides	<i>Bt</i> Corn
Difficult to control Corn Borer	Eliminates need for contact insecticides
Broken down by UV light. Washed away by rainfall.	Protected from weather conditions



Concerns regarding affect of bt-corn on biodiversity

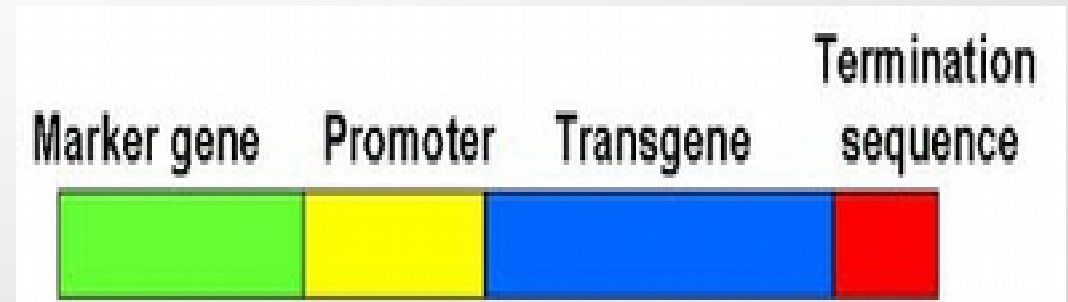
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- Monarch butterfly controversy
- Non-target species/natural enemies
- Soil
- Threat to humans
- Contamination
- Resistance management



Bt-Corn and its effect on Plant bioDiversity

- Genetic Engineering
 - Genetic markers – antibiotic resistance
- Is bt-resistant corn a threat to plants?
 - hybridisation



What can we do?

- Further study - antibiotic resistance
- Growth buffer zones -
Pollen movement



The environmental ethics of Bt corn

- *ethical issues* :
 - Altering nature?
 - Should we use biotechnology for our advantage?
 - Who gets the profit?
 - Public opinion - mainly emotive, not backed up by sound science.

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- *environmental ISSUES:*

- 1) Effects to non-target organisms
- 2) Cross contamination
- 3) Other ecosystems

🌀 Little content discussing bt corn in a negative light

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What will bt corn mean for the corn market

- Larger crop yields - increased profit!!!!
- Reduction in pesticide - Saves money \$\$\$\$\$
- Countries such as argentina and india who don't use pesticides will benefit most
- Beneficial for Developing countries in particular
- In 2007 Bt corn income was \$302 million for developing countries



Corn market comparison

United States of America	Philippines
Largest producer - 32%	First asian country to use bt corn
Sales of \$63.9 Billion	BT corn accounts for 45% of land use for yellow corn
Of corn grown – 63% BT	High cost of BT corn seed
Adopted due to billions of dollars worth of damage from insects	Prevalence 84% over yellow corn
major decrease in use of pesticides	Small farmers can make up to a 5% loss on bt corn – loans & pesticides
Bt corn seed prices have increased	Educate farmers

- Efsa VIEWPOINT ON MON 810 PROHIBITION
- Issues Raised in Italian argument



- It is the view of the GMO panel THAT no new information has been put forward to invalidate the GMO panels risk assessment of mon 810 maize

- e.U LEGISLATION stance
- Article 34, regulation (ec) no 1829/2003
- Italy failed to comply, efsa deems adoption of
- 2013 decree illegal.



- Recommendations
 - ∞ Transcribing of efsa's regulations on cultivation of gm crops into legal text
 - ∞ Ban on gm cultivation be lifted
 - ∞ updating of legislation to include advances in conventional breeding
 - ∞ Gm crop faRmers refunded BY REGIONAL GOVERNMENT

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