

Haileybury MUN

Research report



Environmental commission: committee 2

The question of genetically modified insects

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What is a genetically modified insect?

A genetically modified insect is an insect that has been genetically modified, either through mutagenesis, or more precise processes of transgenesis, or cisgenesis. Motivations for using GM insects include biological research purposes and genetic pest management.

Why might genetically modified insects be useful?

Some GM insects may act as a way to reduce/ control the population of pathogen carrying insects such as mosquitos. Mosquitoes kill up to 725,000 people a year via the diseases they spread. These mosquitoes are being used to stop the spread of malaria and the zika virus amongst other diseases. These GM mosquitoes are given genes preventing them from reproducing.

Why is there opposition to GM insects?

There is uncertainty to whether the artificially insertion of genes could destabilise the genes causing harmful mutations. There is also uncertainty as wether the genes will carry over multiple generations. There is also religious opposition as it is seen as "Playing God" as it is not natural.

Examples of GM insects:

Mosquito – As I stated earlier mosquitoes are being modified with the inability to reproduce to battle against insect born pathogens. This is the best known GM insect. The male GM mosquitoes can still fertilize the females eggs however, the offspring will die before reaching full maturity. Some of these mosquitoes have been released into the environment for trials in the Cayman Islands, Brazil, Panama, and Malaysia.

Diamondback moths- Similar to the GM mosquitoes the offspring will die before full maturity. The reason to reduce these moths is because they feed on crops like cabbage.

GM honeybees (work in progress)- scientists plan to create honeybees that more resistant to pathogens and other threats, too help regenerate the honeybee population.

Possible Solutions:

1. Remember that some member states are against genetic modification whilst some are so check your country's stance on the topic and tailor your resolution from that.
2. Try to think of common problems that all member states would want to solve such as harmful gene mutations.