

## Genetically Modified Organisms

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### **Varietal effects of eight paired lines of transgenic Bt maize and near-isogenic non- Bt maize on soil microbial and nematode community structure**

In a glass house experiment, GM plants increased the soil concentration of Bt proteins but this change in soil conditions had no measureable effect on nematode or soil bacteria populations.

The aim of the experiment was to compare soil microbe and nematode populations in soils used to grow GM and non GM maize crops. Plants were grown under glass using standardised soil, sunlight, temperature and irrigation conditions. GM plants had been modified to express the Bt proteins; providing protection against insect pests.

Differences in populations of nematodes and soil microorganisms were detected but the biggest differences were associated with differences in basic plant type, not between GM and non GM versions of the same plant type. Lack of difference was confirmed at all stages of plant growth.

Bt concentrations in soils containing GM varieties ranged from 3 to 5 µg per gramme but did not vary significantly between varieties. Bt in soils containing non-Bt varieties were not significant < 0.04 µg per gramme.

#### Comment

GM plants clearly introduce Bt proteins into soil but although these are known to be a biologically active substances there was no effect on populations of nematodes or soil bacteria.

Liability for changes in soil microorganisms would seem to be a remote possibility.