Intervention

Cultivation of Bt maize

- Bt cotton, potato, rice, ...
- HT soy, maize, beet, rape, cotton, ...
- Resistance to viruses, bacteria, fungi, ...
- Tolerance to drought, salt, heat, ...
- Altered composition of starch, fatty acids, ...

Specific areas of risk to be addressed in ERA

EFSA J (2010) 8:1879

Stressor

Potential pathways to harm

Risk: Valued non-target species show adverse effects on important life-table parameters (hazard) when ingesting realistic amounts (exposure) of...

- Bt maize produces Bt protein(s)
- Bt maize has changed composition of nutrients/toxicants/volatiles...
- Reduced populations of target organisms

Interactions of the GM plant with non-target organisms

- ...the produced Bt protein(s)
- ...hosts or prey that have fed on Bt maize
- ...Bt maize

Noxious non-target species...
- face reduced direct or indirect herbivore-herbivore competition
- show positive effects on important life-table parameters when ingesting realistic amounts of Bt maize

Populations of valued non-target species decline

Decline in biodiversity

Populations of noxious non-target species increase

Disruption of agro-ecological functions

Decrease in yield

Potential harm / Environmental concern

Environmental protection goals

- Biodiversity conservation
  - Species richness
  - Species of conservation or cultural value, red list species
  - Protected habitats, landscapes

- Sustainable land use by maintaining agro-ecological functions (functional biodiversity)
  - Biological control (pests, diseases)
  - Pollination
  - Decomposition of plant materials
  - Nutrient fixing and cycling
  - Soil quality and fertility
  - Structural stability

Agronomic protection goals