

POLLEN OF GENETICALLY MODIFIED CROPS AND BUTTERFLIES

Summary

The Authors' critical review of laboratory and field experiments and observations on the effect of Bt maize pollen on butterflies (Lepidoptera) was provoked by two factors: (a) continuous uncritical reference by various groups of public in Europe and especially in Poland to the first report by LOSEY *et al.* (1999) and ignoring following publications by other US researchers, and (b) recent discussions by members of the Polish Parliament (June 2006) and various advisory groups to the European Commission (May and June 2006). LOSEY *et al.* (1999) in their correspondence to *Nature* reported that pollen from Bt maize could be hazardous to the larvae of the monarch butterfly, receiving much attention from the media. The following detailed studies by other scientists have proven that the experimental techniques and data extrapolation by the LOSEY's

group did not reflect a real relation between maize pollen and monarch butterfly. The hazard is a function of exposure, e.g. larval development must coincide with maize anthesis (pollen shed), which takes place only in a few regions in the USA. Again, pollen movement and deposition decreased rapidly 2 to 3 m from the maize fields. The field observations on differences in butterfly fauna around Bt and non-Bt maize fields carried out in some European countries demonstrated that a special attention should be paid to a proper methodology (a number of replications and size of field margin under observation) and a caution should be taken in drawing conclusions. There is consensus between the EU experts that more research is needed on butterfly fauna in and around maize fields before the release of Bt maize for a wide cultivation in Europe is approved.