GMO corn cultivation in Europe has no adverse environmental effects, decade-long study confirms

In European regulations for the deliberate release into the environment of genetically modified organisms (GMO), the objective of General Surveillance in Post-Market Environmental Monitoring is defined as the identification of the occurrence of adverse effects of the GMO or its use which were not anticipated in the environmental risk assessment (ERA).

Accompanying the commercial cultivation in the EU of maize event MON 810 [insect resistant corn], General Surveillance was implemented by Monsanto, the authorization holder, on a voluntary basis. We carried out a statistical analysis on the pooled results of ten years of farmer questionnaires, which were a part of this General Surveillance, amounting to 2,627 farmer fields in eight European countries in the period 2006–2015.

[Editor's note: Several authors of this study are employees of Bayer, which owns Monsanto.]

This analysis did not reveal any unexpected adverse effects associated with the cultivation of MON 810. Results from farmer questionnaires confirmed that the cultivation of MON 810 resulted in a significant reduction in the use of pesticides, efficient protection against the target pests, and healthier, higher yielding crops compared to conventional maize. MON 810 also had reduced susceptibility to disease and pests when compared to conventional maize.

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Statistically significant differences between the cultivation of conventional maize and of MON 810 observed in the farmer questionnaires can be directly attributed to the insect protection provided by Cry1Ab expressed in MON 810.

MON 810 provided tangible and non-tangible benefits and allowed farmers to adapt their crop management as illustrated by some of the trends. It provided flexibility in management while ensuring that the crop was adequately protected against the target pests, a protection that likely spanned beyond the specific fields and provided benefits to non Bt-maize growing farmers.

Furthermore, the searches of peer-reviewed literature, guaranteeing a broad coverage of potential issues, did not reveal any adverse effects that changed the conclusions of the initial risk assessment that demonstrated the safety of MON 810.

These results are in line with EFSA's assessment of the 2007 renewal application, confirming the conclusions of the original safety assessment: "...MON 810 is as safe as its conventional counterpart with respect to potential effects on human and animal health. The EFSA GMO Panel also concludes that maize MON 810 is unlikely to have any adverse effect on the environment in the context of its intended uses..."

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