

Testbiotech comment on EFSA's assessment of genetically engineered maize MON 87427 x MON87460 x MON 89034 x MIR162 x NK603 and subcombinations (application EFSA-GMO-NL- 2016-131) from Bayer / Monsanto (October 2019)

The EFSA GMO panel assessed the five-stacked maize MON 87427 x MON87460 x MON 89034 x MIR162 x NK603, which is derived from crossing genetically engineered maize events (EFSA, 2019a). The parental plants were assessed by EFSA in previous opinions. The maize contains genes conferring triple resistance to glyphosate and produces three insecticides, further it is supposed to render drought tolerance:

- MON87427 expressing CP4 EPSPS protein for tolerance to glyphosate-containing herbicides;
- MON87460 produces a so-called cold shock protein (CSPB) associated with enhanced abiotic stress tolerance in bacteria; furthermore, it produces neomycin phosphotransferase II (NPTII) which inactivates a range of important antibiotics, including kanamycin and neomycin;
- MON 89034 expressing the insecticidal proteins Cry1A.105 (artificially synthesized) and Cry2Ab2;
- MIR162 expressing the insecticidal protein Vip3Aa20 and phosphomannose isomerase (PMI) which is a selectable marker;
- NK603 expressing two variants of CP4 EPSPS protein for tolerance to glyphosate-containing herbicides.

Consequently, the stacked GE maize has triple resistance to glyphosate, making it tolerant to high dosages and repeated sprayings as applied in fields with herbicide-resistant weeds. Further, it produces three toxins against the larvae of Lepidoptera (butterflies) that feed on the plants ('pest insects'). In addition, the cold shock protein is supposed to render drought tolerance. However, experience from US and South Africa show that little or no advantage can be expected in comparison to drought-tolerant maize derived from conventional breeding. Implementing Regulation 503/2003 has been applied in the risk assessment as performed by EFSA.

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File attachments: Attachment

Size

242.37 KB

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