

Testbiotech comment on EFSA Scientific Opinion on an application (EFSA-GMONL- 2009-70) for the placing on the market of genetically modified drought tolerant maize MON 87460 for food and feed uses, import and processing under Regulation (EC) No 1829/2003

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Testbiotech comment on EFSA Scientific Opinion on an application (EFSA-GMONL-2009-70) for the placing on the market of genetically modified drought tolerant maize MON 87460 for food and feed uses, import and processing under Regulation (EC) No 1829/2003 from Monsanto



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Maize MON87460 is a genetically engineered, drought tolerant maize, which is used in the EU in food and feed, import and processing. It was made drought tolerant by introducing a bacterial protein (cold shock protein, CSPB) that is assumed to protect the plants against various stressful conditions.

Molecular data

(1) The plants contain a DNA sequence that confers resistance to antibiotics (apt III). Despite the fact that gene excision technology was used in this case (Cre/lox site-specific recombination system of bacteriophage origin), the DNA was not removed from the plants. However, EU Directive 2001/18 requires the phasing out of this outdated technology as it may have adverse effects. As comments from Member States show, there is controversial debate about the actual risks these DNA sequences. Moreover, any additional DNA inserted into the plant's genome may cause disturbance in gene regulation, causing unintended effects. That is why any DNA sequence inserted require additional risk assessment. Consequently, such additional DNA sequences should be avoided especially if this is technically possible. In applying for market authorisation for this product without removing the DNA sequence from the plant's genome, Monsanto apparently decided to ignore current EU regulations. Any authorisation of this product would therefore only encourage a continuation of the practice of ignoring EU regulations.

Apparently also EFSA sees considerable amount of scientific uncertainty in regard to DNA transferal which is covered by words such as "likely" or likelihood – which appear at least eleven times on six pages (p.28 to 34). More uncertainty into this assessment is caused by recent publication (overlooked by EFSA) of Chen et al. 2012 which showed relevant DNA can be distributed widely and integrated in microbes in aquatic systems. Therefore the assessment of EFSA will need further elaboration.

(2) How the DNA sequence conferring drought resistance actually works is not understood in detail. The plants produce an additional protein that is normally found in bacteria under stressful conditions such as cold shock. This new protein is continuously produced in all the plant's tissues throughout the period of vegetation. The presumption is that the bacterial protein can bind to RNA in the cell and stabilize the RNA which otherwise would be degraded under stressful conditions (Phadare & Severinov 2010). According to current theory the stabilisation of the plants

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File attachments: Anhang



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Größe
191.03 KB

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Quellen-URL: <https://www.testbiotech.org/content/testbiotech-comment-efsa-scientific-opinion-application-efsa-gmonl-2009-70-placing-market>

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