



GMOs IN FRANCE

Some GMOs are authorized for import, these authorizations are issued at European level. This mainly concerns maize, soybean, rape, cotton and sugar beet, which are used for human and animal feed. European authorizations have also been issued for the import of GMOs for non-food uses, for example carnations whose flower color has been modified.^{1,2}

However, the cultivation of GMOs is prohibited in France. Ministries of Agriculture and Consumer Affairs both carry out crop, seed and food checks to verify compliance with these regulations.^{1,2}

No genetically modified plant experiments in the field are currently allowed. The last trial dates back to 2013.³

FRENCH LEGISLATION REGARDING TRANSGENIC MICROORGANISMS

Genetically Modified Microorganisms (GMMs) are defined by law as all micro-organisms "that have been genetically manipulated outside the natural processes of genetic transformation". This includes recombinant DNA techniques, incorporation of genetic material, fusion or cellular hybridization. Techniques that do not alter genetic heritage, such as in vitro fertilization, are not concerned. If no recombinant DNA is used, four methods of genetic modification are not involved: Mutagenesis, cell fusion of eukaryotes and prokaryotes, and self-cloning.^{2,4}

French law provides for evaluation and authorization procedures for GMMs. There are four classes of GMMs, depending on their dangerousness for human health and for the environment:

Class 1 represents a negligible risk while classes **2**, **3**, and **4** represent GMM utilization whose risks are respectively low, moderate and high. Depending on the class, using GMMs requires an authorization or a simple notification of the activity.⁵

Then, various rules must be observed:

- The manipulation of GMMs must be performed in a confined environment. This is a precautionary principle.⁶
- If there is a risk of GMM release into the atmosphere or water, it is obligatory to warn authorities of any foreign country that may be affected by this potential release.⁷
- France, like all other EU countries, has to send a summary report every year to the European Commission so that the uses of the two most at-risk classes of GMMs are reported.¹

Finally, while no transgenic microorganism is allowed in food, some food substances or enzymes can be produced by GMMs. For example, enzymes derived from genetically modified bacteria are used for the hydrolysis of starch, the production of beer or alcohol, for baking or for the production of maltose syrup. The additives and enzymes produced from GMMs and authorized for human consumption are listed and accessible on the official website of the government.^{8,9}

SOURCES

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