

Amflora potato

The GM starch potato Amflora owned by BASF has been genetically modified to inhibit the production of one of the two starches naturally occurring in potatoes so that it contains more than 99% of amylopectin but very little amylose. It also contains an antibiotic resistance gene as marker.

The potato, derived from the variety "Prvalent" has been modified by 'antisense inhibition' of a gene that otherwise codes for the starch synthase. Due to the lack of this enzyme the starch amylose that normally makes up 20-30% of the potato starch is not produced. Amflora starch therefore contains more than 99% amylopectin. For industrial processing this has the advantage that the starch fractions don't need to be separated in the production process.

Amflora also contains an antibiotic resistance marker that was introduced to initially distinguish modified cells from non-modified, and that is of no use in the actual, commercial plant, but it is nevertheless present and actively producing the nptII protein that confers resistance to kanamycin, neomycin, gentamycin, gentemycin, paramomycin and framycetin. Neomycin is used in some countries in human and veterinary medicine, while kanamycin is listed by the WHO as a reserved antibiotic against multiple resistant strains of tuberculosis.

The GMO Panel had given a positive opinion on Amflora despite its antibiotic resistance because of the "low usage" level of the antibiotics in question. Since this was challenged, the EU Commission asked the European Medicines Agency (EMA) to provide an opinion as well. This appears to be the first time that another EU authority was asked to provide additional assessments. In 2007, EMA concluded that assumptions of the GMO panel on how the antibiotics in question were used were wrong.

Nevertheless, in a second assessment the GMO panel together with the Biohazard panel came to the conclusion that they still saw no reasons for concern. Even so - and for the first time - a minority of the scientist on the panel came to differing conclusion than the rest of the panels.

authorization status: food materials/additives

feed

cultivation

link to EU authorization: [EU authorization status](#) [1]

subject to withdrawal and/or bans: none

Genes:

- [nptII](#) [2]
- [GBSS](#) [3]

Trade name:

- [Amflora](#) [4]

Traits:

- [composition - starch](#) [5]
- [antibiotic resistance](#) [6]

Related application(s): [Amflora as feed and food](#) [7]

[Amflora cultivation](#) [8]

[Biosafety Clearing-House entry](#) [9]

[ifrik: topic page on Amflora](#) [10]

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Links

- [1] <http://eur-lex.europa.eu/jOHtml.do?uri=OJ%3AL%3A2010%3A053%3ASOM%3AEN%3AHTML>
- [2] <https://www.testbiotech.org/en/taxonomy/term/208>
- [3] <https://www.testbiotech.org/en/taxonomy/term/212>
- [4] <https://www.testbiotech.org/en/taxonomy/term/68>
- [5] <https://www.testbiotech.org/en/taxonomy/term/47>
- [6] <https://www.testbiotech.org/en/taxonomy/term/203>
- [7] <https://www.testbiotech.org/en/content/amflora-feed-and-food>
- [8] <https://www.testbiotech.org/en/content/amflora-cultivation-0>
- [9] <http://bch.cbd.int/database/record-v4.shtml?documentid=15100>
- [10] <http://ifrik.org/taxonomy/term/4>

