



Mandate for an ENGL Working Group on "Detection of genetically modified microorganisms in food and feed"

Background

Chemical products used as food or feed additives or food flavourings can be synthesised chemically or biosynthetically. For the latter, natural microorganisms (wild type) are used but may pose some bottlenecks like low productivity or metabolite inhibition. To overcome these problems, the development of new strains by modifying the genome through different techniques, such as mutagenesis and genetic engineering, have been applied. Genetically engineered strains obtained not only provide higher yield than wild types, but also overcome some of the barriers in production by the latter. The biosynthesised products are purified to remove the producing strain or components hereof from the final product while maintaining the structural and functional integrity of the product. The purification processes applied are crucial as the product obtained should not contain viable cells or spores, nor recombinant DNA to be in accordance with Regulation (EC) No 1331/2008 and Regulation EC (No) 1831/2003 establishing a common authorisation procedures for food and feed additives, food enzymes and food flavourings.

An EFSA Panel has been asked to provide a scientific opinion on the safety of biosynthesised product and on how to demonstrate the absence of recDNA or of intact antimicrobial genes in the final product. Those parameters have been elaborated with a safety perspective using analytical methods that cannot necessarily guarantee the absence of recDNA in a final product under the perspective of the compliance to legal requirements.

Tasks

The main task of this working group is to draft a report addressing the challenges to detect genetically modified microorganisms (GMM) including GMM obtained by new mutagenesis techniques in authorised or non-authorised food/feed ingredients. The regulatory framework to be taken into account includes Regulation (EC) 1829/2003, Directive 2001/18/EC and Regulation (EC) 429/2008 (under revision) excluding Directive 2009/41/EC (contained used). The analytical questions should concern the screening, detection and identification of GMMs. Scientific tools required for the correct implementation of the EU Regulations will be proposed.

Timeline

The draft mandate was presented at the ENGL SC on 18-19 Feb 2020 for approval. The working group is expected to meet in March 2020 for the first time. At the first meeting, it shall establish a detailed table of content and a work plan. A draft report will be discussed at the 31st ENGL Plenary and the final report should be presented at the first ENGL Steering Committee in 2021.

Deliverable 1a: Report on the current challenges to detect authorised or non-authorised genetically modified microorganisms (GMM) in food/feed products.

Deliverable 1b: Report on the current challenges to detect authorised or non-authorised GMM obtained by new mutagenesis techniques in food/feed products.

Deliverable 2: Strategies for the screening, detection, identification of GMM in food and feed products.

Deliverable 3: Scientific tools required for the correct implementation of the EU Regulations.