LAW REQUIREMENTS FOR GMO ANALYSIS AND THE ROLE OF GMO REFERENCE LABORATORIES IN POLAND

Summary

Genetically modified organisms are commonly used for scientific and practical purposes. Genetically modified crops have been cultivated worldwide including EU (102 mln ha total in 2006). The use of GMO is regulated by the Directive 90/219 on contained use, Directive 2001/2003 on deliberate release to the environment, Regulation 1829/2003 on genetically modified food and feed, Regulation 1830/2003 on traceability and labeling, and the Polish GMO Law act from 2001. The regulation on food and feed implements a threshold of 0.9% GMO for product labeling. This threshold, however, can be applied to unintended or technically unavoidable GMO presence and corresponds to single ingredient only. Genetically modified organisms can be detected using DNA (PCR) or protein (ELISA) based methods. PCR screening for commonly used DNA fragments (*35S* promoter or *Nos* terminator) can be broadly applied, however the proper interpretation of the results requires good knowledge of different GMO constitution. Event specific is the most accurate PCR method for GMO identification. Quantification of GMO in products is done using a RealTime PCR. All analytical methods developed for GMO identification and quantification have to be validated before GMO approval. Validation is performed by the Community Reference Laboratory (CRL) in collaboration with National Reference Laboratories. According to Polish GMO Law the Minister of Environment is responsible for GMO control in Poland that is performed by national competent authorities (eg. Sanitary Inspection, Veterinary Inspection, Seed Inspection).