

A STUDY OF GM SOYBEANS AND COEXISTENCE IN EASTERN EUROPE

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Genetically modified organisms (GMOs) have been developed in the past two decades due to the increased demand for equivalent food; in 2021 genetically modified (GM) plants were grown on over 190 million hectares in 29 countries worldwide. Transgenic soybean (*Glycine max* L.) is one of the most widely planted leguminous and oilseed crop that contributes to human alimentation and animal nutrition. Using the latest molecular biotechnology techniques, soybean plants were modified in the laboratory to improve their existing properties and intensify desired features such as increased resistance to glyphosate or glufosinate herbicides. Since its first commercialisation in 1996, there has been a rapid increase in GM soybean production that eventuated uncertainty about transgenes in food production. This review aimed to detect the current utilisation of GM soybean and present available data from the published articles analysing the status of GM soybean in Eastern European countries.

Meanwhile, continuous world population growth imposes the need to reveal a sustainable solution to resource-limited perspective, the safety of GM food remains a concern. Few countries that are part of the European Union allow the commercialisation of GM soybean and have implemented the GMOs mandatory labelling system. There are still many contrary opinions around the comprehensive cultivation of GM soybean. Due to the complete lack of confidence, the European Union (EU) has enacted very convoluted legislation, which raises several issues about the possible coexistence of organic, non-biotech and biotech plant production in the integrated ecosystem. To significantly reduce the potential environmental risks, sustainable agriculture production needs to rely on exceptional scientific results, opinions and recommendations.

Keywords: *Glycine max* L.; soybean; coexistence; climate change