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The Challenge of Gene Editing Technology for EU Genetically Modified Organisms Regulation

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Abstract

Gene editing is a major advancement of biotechnology in the 21st century. Compared with conventional breeding technologies, gene editing technology is more effective and precise. This new breeding technology not only improves the yield and nutritional value of crops, but also offer the resolutions for food security. However, many countries are struggling with the regulatory status of this new technology; one of major concerns is related with the strategies of genetically modified organisms. Some countries, represented by the United States, regulating GM crops on a product-basis, will think that there is no necessity to establish relevant regulation or policies for genome-edited crops; others, including EU member states, adopting process-based GM crop regulations, may regard the products obtained by using gene editing technology as GMOs, and these products should need a more rigorous risk assessment throughout the process of GM crop development. Recently, the Court of Justice of the European Union ruled that the organisms obtained by using gene editing technology to generate mutations are regarded as

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GMOs. The ruling marked the next round of the dispute around the genetic engineering in Europe. The European Council requested the European Committee to submit an evaluation report between the new breeding technologies and conventional breeding technologies in this year. In the future, we look forward to the development of reasonable regulation for gene editing technology and its products.

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