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Future Trends in OECD Biotechnology and Biosafety Policy

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The Organisation for Economic Co-operation and Development (OECD) is a 37 country international organisation. Recombinant DNA Safety Considerations: Safety Considerations for Industrial, Agricultural, and Environmental Applications of Organisms Derived by Recombinant DNA Techniques was endorsed by the OECD Council in 1986. This OECD legal instrument was created to enhance worldwide knowledge of the safety problems generated by recombinant DNA (r DNA) technology in order to move toward an international agreement on health and environmental protection as well as the removal of non-tariff trade barriers. It also marked the beginning of the OECD's involvement with contemporary biotechnology, which has since produced a number of key events. The Recommendation, according to this article, is still relevant and should be made more generally known.

First, it is still in effect today, and despite being a guideline, the OECD gives recommendations "Great moral force as expressing Adherents' political will." Adherents are expected to do everything possible to completely execute a Recommendation'. It's unknown whether OECD members or the larger biotechnology community are aware of the Recommendation or its contents. Second, applicant nations seeking to join the OECD must demonstrate compliance with OECD legal instruments. Since the Recommendation was accepted, thirteen additional members have joined the Organization. The OECD continues to strengthen its links with non-members, many of whom take part in its operations. The Recommendation is open to non-members, as is customary at the OECD. Brazil was the first non-OECD country to join.

Despite later improvements in genomic technology and risk/safety assessment activities, many components of the Recommendation remain applicable today. The Recommendation's supporting literature, Recombinant DNA Safety Considerations, sometimes known as the 'Blue Book,' is a significant reference to the rationale behind the Recommendation. Furthermore, publications that have aided in the international harmonisation of risk assessment principles. The Recommendation should consider the successes and how the Recommendation's aims have largely been realised, emphasising the relevance of familiarity and comparative approaches, as well as the case-by-case character of pre-market safety assessments of modern biotechnology products. The updated Recommendation (a summary of comprehensive revision ideas) might anticipate the most probable and preferable outcome.

This article has several suggestions for an update to the Recommendation, bearing in mind that a revision can only be undertaken by OECD through its committee structure. However, these suggestions are made in the belief that this Recommendation is an important instrument that should be more widely known and should be updated to accommodate developments [1]. The Recommendation refers to 'recombinant DNA techniques' and rDNA organisms. However, a range of genomic techniques have been developed for modifying genomes that do not necessarily depend on rDNA. 'Genome editing', for instance, leads to some products that could also be produced using traditional techniques. In, OECD held an international Conference on Genome Editing focusing on agricultural applications. It considered applications of genome editing in agriculture, including plant and animal breeding, and their implications for risk and safety considerations as well as regulatory aspects. From the panel discussions during this event, one of the findings that emerged was that there is a need for mutual understanding among nations about their respective regulatory approaches towards genome editing, possibly being even conducive to policy agreement [2,3].

The fact that genome editing is not simply the province of large, internationally operating biotechnology businesses, but also involves small entrepreneurs and academics, as evidenced by the Argentinean experience, may exacerbate the need for such interchange across countries. Should OECD Member States have a common need for standardisation and expansion of the existing focus on r DNA, the scope of the Recommendation might be extended to include these additional approaches. The Recommendation should be titled 'Safety Considerations for Modern Biotechnology Products: Applications in the Environment, Agriculture, and Food/Feed Production,' according to this article [4].

The recitals, which serve as the Recommendation's introduction, address the future usage of r DNA organisms. Many of the anticipated expectations have been realised. However, the 'r DNA' landscape has shifted, opening up a slew of new options. There is on-going debate over whether new goods have the same novelty that led to the need for regulatory supervision for r DNA organisms. The recitals would also be useful for providing background and a look ahead. Other genomic methods that do not need the use of r DNA might benefit from the methodologies mentioned in the Recommendation. A frequent review and update of the Recommendation would aid in the development of novel safety assessment procedures that may be required to address the issues that future synthetic materials would be the face.

Conflict of Interest

Authors declare no conflict of interest.

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