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Machine Learning *vs*. Food Nanotechnology EU Regulation perspective.

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This paper presents a discussion of implications of European Food law towards a possible use of Machine Learning algorithms for prediction of safety issues. Given the current gaps of scientific knowledge and the need of efficient application of food law, this paper makes an analysis of principles of European food law for the appropriateness of applying biological activity Machine Learning prediction models to guarantee public safety. A systematic study of the regulation and the incorporation of predictive models of biological activity of nanomaterials were carried out through the analysis of the express nanotechnology regulation on foods, applicable in European Union. It is concluded Machine Learning could improve the application of nanotechnology food regulation, given that it is aligned with principles promoted by the standards of Organization for Economic Co-operation and Development, European Union regulations and European Food Safety Authority. To our best knowledge this is the first study focused on nanotechnology food regulation and it can help to support technical European Food Safety Authority Opinions for complementary information.

Keywords

Nanotechnology; European Union; Machine Learning; Food Regulation; Chemoinformatics

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