

## **DEVELOPMENT OF A WEB-BASED TOOL FOR ASSESSING AND MANAGING MICROBIAL RISK IN FOODS**

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Predictive microbiology is an area of food microbiology aimed at studying the behavior of microorganisms in foods and providing mathematical models to predict microbial response under certain environmental conditions. There is a wide and diverse range of predictive microbiology software tools, most of them, free access, which comprise of different features and models. These software tools can be applied in foods to assess their microbial safety, shelf-life, spoilage level, or applied into risk assessment studies or used as decision-support tools in HACCP and risk management systems (ISO 22000, IFS, BRC, etc.). In this work, a new predictive microbiology software will be introduced, so-called, MicroHibro. This software claims a new dimension for predictive models concerning its application and usability. The application allows including any type of mathematical function enabling its easy update and making the tool dynamic and renewable. The on-line application can be freely accessed after user registration at. Since MicroHibro is an on-line tool, users can save its own predictive models and predictions in a virtual account, which can be accessed anytime, and anywhere to resume saved data. MicroHibro also incorporate a validation module to allow users to assess available models using their own data. Finally, the application applies a stochastic approach intended to risk assessors to carry out probabilistic risk models based on an object-oriented system and allowing defining environmental factors as probability distributions.

Keywords: MicroHibro, predictive microbiology software, microbial risk

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