
Support of the Brazilian Collection of Environmental and Industrial Microorganisms (CBMAI) for the Food Sector

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Resumo

Microbial culture collections are centers which aim to preserve genetic resources and available information related to microorganisms.

Microorganisms produce and take part of several industrial processes economically relevant, therefore, they represent an invaluable source of biological processes for biotechnology. An incorrect distribution of biological material (e.g. supply of contaminated and incorrectly identified cultures) may lead to disastrous consequences to industry and also to the society. The Brazilian Collection of Environmental and Industrial Microorganisms (CBMAI), at UNICAMP, has been qualified to act as Center of Biological Resources, based on the improvement of its infrastructure, training of the staff and implementation of a quality management system based on the 17025 and OECD best practices guidelines. Such investment aims to attend various sectors of the national industry, for example the food industry sector, in order to provide reliable biological material for scientific research or to the production chain. Thus, the microbial strains sent to CBMAI must pass through a purification process and also an authenticity checking before the deposit can be confirmed. The identification or authentication of the microbial strains is based on genomic DNA sequences, phylogenetic trees and also morphological and physiological analyses, when applicable. Currently, the

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whole collection is passing through a new authentication process according to quality requirements. The main filamentous fungal genera analyzed so far were: *Aspergillus*, *Aureobasidium*, *Cladosporium*, *Penicillium* and *Trichoderma*. The search for different primers is remarkably necessary, particularly for those groups which the ITS region is not sufficient to differentiate at the species level. Among the bacteria, we highlight the genera *Bacillus*, *Clostridium* and *Vibrio*. The whole process supported by the quality management system not only enables the correct distribution of the strains but also reverses in reliability for the food industry.

Palavras-Chave: culture collection, quality, food, contamination

Agência de Fomento: