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New IDF/ISO method speeds up quality control and facilitates trade of probiotics and starter cultures

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A new joint International Dairy Federation (IDF)/International Organization for Standardization (ISO) Standard (ISO 19344|IDF 232) has just been released to provide a method for the quantification of lactic acid bacteria by flow cytometry in fermented products, starter cultures, and probiotics used in dairy products.

Quantification of lactic acid bacteria (LAB) is important in assessing the quality of starter cultures, probiotics and fermented milk products. Examination of LAB in these products can be carried out following different methods, with plate count techniques being the most traditional and widely used. Newer techniques include flow cytometry, which is able to determine the proportion of active cells and/or total units.

Dr Sandra Casani, IDF/ISO Project Leader, says: "Advantages of the use of flow cytometry include low variation, reduction of testing time, differentiation between active and total cells and the possibility of high-throughput analysis. Furthermore, quantification of the fraction of active cells per total cells is a key feature of flow cytometry. This is of special relevance for certain applications, such as optimization of production processes and stability assessment during shelf-life".

This IDF/ISO project relied on the participation of producers and users of LAB as well as experts and users of flow cytometry from both industry and academia. This reflects the need and support for such a

standard, which is crucial for obtaining general acceptance by the industry and for getting the recognition of this methodology by regulatory bodies.

Dr Harrie van den Bijgaart, chair of the IDF Methods Standards Steering Group and Chair of the ISO Technical Committee on Milk and Milk Products says: "Joint standards such as this one are important to avoid duplication of work and ensure optimal and harmonized procedures in analysis and sampling of milk and milk products around the globe. They also provide safeguards to the equivalence of testing results, whereas the availability of these well-respected joint standards also limits the required in-house validation efforts of the instrument users. The collaboration between IDF and ISO is key in achieving this".

An international collaborative study of ISO 19344 | IDF 232 was conducted to determine precision figures for the quantification of lactic acid bacteria and probiotic strains by flow cytometry in starter cultures, probiotics and fermented milk products, which validated that the method is fit for purpose. The report is published in the Bulletin of the IDF No. 478/2015.

Provided by IDF (International Dairy Federation)