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Title:

Microbiological evaluation of berries and identification of target microorganisms

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Abstract: (Your abstract must use **Normal style** and must fit in this box. Your abstract should be no longer than 300 words. The box will 'expand' over 2 pages as you add text/diagrams into it.)

One of the main challenges in food production is to improve competitiveness by identifying innovations which comply with safety policies and regulations, and guarantee food safety, while at the same time meeting general consumer demands. Consumer expectations are sometimes contradictory. While consumers demand microbiologically safe products with longer shelf-life, they also demand products free from or low in chemical preservatives and of high nutritional and sensory characteristics.

The objective of this work, enclosed in the general objective within the framework of the national project SafetyFruit, was to evaluate the microbiological quality of raw materials used in fruit processing by a Portuguese company. The results obtained will allow this company to set target microorganisms that must be controlled during processing.

In this context, several samples of strawberry, blueberry, raspberry and blackberry were analysed. Microorganisms were detected and/or enumerated and subsequently identified by ISO standard methods and rRNA sequencing. The following parameters were investigated: aerobic mesophilic microorganisms, yeasts and moulds, mesophilic and thermophilic sporeforming bacteria, *Escherichia coli*, *Salmonella* spp., *Listeria monocytogenes*, *Bacillus cereus*, sulfite-reducing clostridia and *Staphylococcus aureus*.

Results showed that none of the samples were positive for *E. coli*, *L. monocytogenes* and *S. aureus*. However, some positive samples for *Salmonella* spp. and sulfite-reducing clostridia were observed. Hemolytic *B. cereus* was also observed, but only three samples (raspberry) presented counts higher than 2 log. Identification of the isolates by rRNA sequencing is ongoing.