

Setting the Acceleration Test Conditions for Establishing the Expiration Date of Probiotics

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Abstract : The number of probiotics is various from product to product. The product must contain as many bacteria as the number of bacteria that claim because it greatly affects consumers' choices. It is very difficult to determine the number of viable bacteria with tests that proceed during the product development stage because the shelf life of lactic acid bacteria is mostly 18 to 24 months, and product development proceeds much faster than this. To predict the shelf life, a method of checking the number of viable bacteria was studied by shortening the time. The experiment was conducted with a total of 7 products including our products. The ongoing test stored at room temperature, the acceleration test stored at 30°C and 40°C were performed, and the number of bacteria was measured every two weeks. The number of viable bacteria stored at 30°C for 12 weeks was similar to the ongoing test when the shelf life was imminent. If it took more than 12 weeks, the product development schedule was postponed, so acceleration had no meaning. It was found that products stored at 40°C were unsuitable as acceleration test temperatures because the bacteria were almost killed within 4 to 8 weeks.

Keywords : probiotics, shelf-life, acceleration test, lactobacillus

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