Advice 08-2020 of the Scientific Committee established at the FASFC on the growth potential of Listeria monocytogenes in Belgian homestead cheese

Background and terms of reference

In its advice 02-2016, the Scientific Committee (SciCom) made recommendations for carrying out challenge and durability tests for *Listeria monocytogenes* (*L. monocytogenes*) in cheese. On the basis of these recommendations, a scientific study was carried out in order to collect data from Belgian homestead cheeses. The Scientific Committee was asked to evaluate the growth potential of *L. monocytogenes* in Belgian homestead cheeses.

Method

Based on new scientific knowledge and data (including the results of the study project "Étude du potentiel de croissance de *Listeria monocytogenes* dans les fromages produits par les producteurs fermiers, 2019") and based on expert opinion, the Scientific Committee has assessed the growth potential of *L. monocytogenes* in Belgian homestead cheeses (fresh cheeses, soft cheeses and semi-hard cheeses).

Results

The production processes of Belgian homestead cheeses and their characteristics were examined by means of a survey of 142 producers and a market study of 65 different Belgian homestead cheeses. Subsequently, the growth of *L. monocytogenes* in 32 Belgian homestead cheeses was studied by means of challenge tests. No growth of *L. monocytogenes* was observed for fresh cheeses. For soft cheeses, there was growth *of L. monocytogenes* in 7 out of 8 cheeses. For the semi-hard cheeses, much variation was observed for the growth potential of *L. monocytogenes*. Durability tests were carried out on five Belgian farm cheeses which were naturally contaminated with *L. monocytogenes*, each on one batch. Only for feta, no growth was detected in this durability test.

Conclusions

Based on the available data, the Scientific Committee concludes that in fresh cheeses (Belgian homestead cheeses) the risk of *L. monocytogenes* growth is low if the pH value drops below 5,0 by the end of the production process.

Based on the challenge tests, the growth of *L. monocytogenes* in soft cheeses and semi-hard cheeses cannot be excluded. Soft cheeses are a known risk product. Semi-hard cheeses present a potential risk for growth of *L. monocytogenes* and the growth potential should be assessed on a case-by-case basis. The durability test with feta shows no growth of *L. monocytogenes*. However, a single durability test is not sufficient to conclude that all feta cheeses are a low risk product.

In addition, a correct implementation of Good Manufacturing Practices (GMP) and an adequate Hazard Analysis and Critical Control Points (HACCP) remain essential, with the aim of striving for the absence of *L. monocytogenes* (in 25g) in Belgian homestead cheese (preferably sampling several units n=5) for the delivery of a safe product to the consumer.

Recommendations

The Scientific Committee recommends that pH controls at the end of the production process of fresh cheeses (Belgian homestead cheeses) are included in the HACCP procedures as a control measure, so that the operator can ensure that a sufficient pH reduction has occurred at the end of the production process. It is recommended that in future durability studies with low initial concentrations of *L. monocytogenes* (< 10 cfu/g) also semi-quantitative data are collected by carrying out isolations on smaller quantities such as 10 g and 1 g or by determining the Most Probable Number of *L. monocytogenes*. Finally, for durability tests it is proposed to use, when possible, an initial contamination level below 1000 cfu/g *L. monocytogenes* in order to be able to effectively assess the growth potential.

The full text is available on this website in dutch and in french.