

## Advice 11-2019 of the Scientific Committee established at the FASFC on the growth potential of *Listeria monocytogenes* in raw milk homestead butter

### Background & Terms of reference

In its Advice 09-2016 the Scientific Committee was unable to make a statement on the growth potential of *Listeria monocytogenes* (*L. monocytogenes*) for all types of raw milk homestead butter in Belgium based on data which were then available. It was recommended to investigate the limits for growth of *L. monocytogenes* in raw milk homestead butter at different combinations of pH and  $a_w$  (or salt content) while taking into account the « *worst case* » scenarios. In the meantime, new data were collected on the basis of a scientific study carried out on raw milk homestead butter in Wallonia. The Scientific Committee was asked to re-evaluate the growth potential of *L. monocytogenes* in raw milk homestead butter.

### Method

Based on new scientific knowledge and data (including the results of the study entitled "Etude du potentiel de croissance de *Listeria monocytogenes* dans le beurre au lait cru en Wallonie") as well as based on expert opinion, the Scientific Committee has assessed the growth potential of *L. monocytogenes* in raw milk homestead butter.

### Results

There exists a large variation in the production processes of raw milk homestead butter and in the characteristics of raw milk homestead butter. The potential growth of *L. monocytogenes* is influenced by factors such as pH value and the rate of acidification. In general, the supplied durability studies show that the chance of growth of *L. monocytogenes* in raw milk homestead butter is small. However, the « *worst case* » conditions (pH), recommended in Advice 09-2016, were not covered in the performed durability studies.

### Conclusions

Based on the available data the Scientific Committee states that the risk of *L. monocytogenes* growth in raw milk homestead butter is low if the pH drops below 5,2 after the first 10 hours of the production process. If the pH value drops even considerably lower during the first 10 hours of the production process (for example to 4,7), the risk of growth of *L. monocytogenes* in raw milk homestead butter will be further reduced. It is important to implement a good HACCP plan in which the pH drop is monitored during the production process, so the operator can ensure that a sufficient pH drop occurs during the production process. However, based on the durability studies, the growth of *L. monocytogenes* in raw milk homestead butter with high pH values (> pH 5,2) cannot be excluded. It is therefore not possible to make a general statement about the growth potential of *L. monocytogenes* in all raw milk homestead butter in Belgium. With regard to "mild" butters, i.e. butter without or with limited acidification produced from mild cream that has not undergone a biological maturation, the Scientific Committee concludes that production processes present potential risks because they allow the growth of *L. monocytogenes* due to the slow and sometimes rather limited acidification that occurs in the beginning of the production process.

The Scientific Committee can therefore not make a general statement about the growth potential of *L. monocytogenes* in all raw milk homestead butter produced in Belgium. Moreover, attention to GMP procedures during the production process and the avoidance of post-contamination during ripening or storage of homestead butter remain two essential requirements for delivering a safe product to the consumer.

### Recommendations

The Scientific Committee recommends to include pH controls during the production process of raw milk homestead butter in the HACPP procedures. It is also recommended to make producers aware of the potential risks associated with certain processes. In addition, proper communication with the consumer, in particular with the risk groups, about the potential risks of raw milk products is a point of attention. A recommendation is made to perform counts or determine the estimated numbers of *L. monocytogenes* whenever possible in future durability studies. Finally, the addition of a definition for the term "mild butter" to the sector guide is proposed.

The full text is available on this website in Dutch and in French.