

## **Advice 12-2019 of the Scientific Committee established at the FASFC regarding: Evaluation of the risks of extending the conservation period of two months for pre-packaged foods frozen on the expiry date**

### **Background & Terms of reference**

In its Advice 05-2015 (SciCom, 2015), the Scientific Committee (SciCom) evaluated the risks of freezing prepacked food by food banks or charities on the expiry date of consumption (use-by-date). In the opinion, the Scientific Committee recommends, among other things, that products frozen on the use-by-date should be stored for a maximum of two months. The Scientific Committee has now been asked whether an extension of this conservation period of pre-packaged food frozen by food banks or charities on the use-by-date, is acceptable from a food safety perspective. Specifically, it has been asked:

1. which food safety risks exist when consuming minced pork that is packed in plastic trays with gas-permeable stretch film, frozen on the use-by-date and stored frozen for four months;
2. which food safety risks exist when consuming other food combinations (with a limited shelf life) and packaging, that are frozen on the use-by-date;
3. which maximum storage periods should be respected under such circumstances with regard to guaranteeing food safety; and
4. whether supplementary studies are needed and if so, whether additional recommendations for carrying out these studies should be made (in addition to the recommendations given in SciCom Advice 08-2016)?

### **Methodology**

The opinion takes into account the results the Belgian Federation of Food Banks (BFVB - FBBA) provided to the SciCom with regard to the content of a number of fat oxidation indicators after different storage periods for minced pork that was frozen on the use-by-date. The opinion is also based on results reported in scientific literature and on expert opinion.

### **Conclusions & Recommendations**

Provided that certain measures are respected, there is no microbial growth at temperatures below or equal to  $-18^{\circ}\text{C}$ . Chemical changes however, such as the oxidation of lipids and proteins, are still possible, even below  $-20^{\circ}\text{C}$ . These changes will mainly affect the quality of the product, although formation of substances harmful to health cannot be ruled out, especially in the case of longer storage and of unsuitable (oxygen-permeable or under atmosphere rich in oxygen) packaging.

Based on the results provided by the Belgian Federation of Food Banks for a number of indicators of lipid oxidation (incl. sensory analysis) in minced pork, the food safety risks related to an uninterrupted storage of meat – excluding fish - for four months at temperatures below or equal to  $-18^{\circ}\text{C}$  are estimated to be low. This low risk estimation applies only on the assumption that the product was previously stored under the right conditions and that the measures stated in SciCom Advice 05-2015 and Circular PCCB/S3/CDP/1092228 of the FASFC are respected.

These results for minced pork cannot simply be extrapolated to other foods than meat from ungulates and poultry (e.g. fish, ready-to-eat foods) given the possible differences that may occur in composition and in physicochemical parameters and the related uncertainties. Based on the available information, it is similarly not possible to propose maximum storage periods for food frozen on the expiry date of consumption at which food safety risks are low. This requires, among other things, information on the course of the oxidation reactions taking place during the storage of different types of food frozen on the use-by-date. Moreover, a risk assessment is hampered by the lack of health-based guidance values for the oxidation products. In addition, it should also be noted that the producer of the food intended to be frozen at the use-by date, has established a strategy aimed at refrigerated storage (e.g. type of packaging, shelf life) and not at a storage at freezing temperatures, which leads to additional uncertainty in the risk assessment.

Although the freezing of food at the use-by-date contributes to the reduction of food waste, food safety must remain guaranteed. An additional comment is that the relaxation granted to food banks and charities to freeze food on the use-by date already deviates from the legal provisions and the storage conditions determined by the producer.

In addition to the measures already mentioned in the FASFC circular, it is recommended to add the mention that the product cannot be re-frozen after thawing and must be consumed within 24 hours and after heat treatment as well as to indicate the date of minimum durability on food frozen as is required for frozen prepacked food (see Annex X, Regulation (EU) No 1169/2011). This information replaces the original durability date on the product and destined for refrigerated storage.

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