

## **Advice 12-2021 of the Scientific Committee established at the FASFC concerning action limits for nicotinic acid in fresh meat, minced meat, meat preparations and processed meat**

### **Background and question**

The Federal Agency for Food Chain Safety (FASFC) has been confronted with cases of high levels of nicotinic acid in meat preparations. However, there is currently no legal maximum level for nicotinic acid in meat (fresh meat, minced meat, meat preparations and processed meat).

The Scientific Committee (SciCom) has been asked to propose an action limit for nicotinic acid in fresh meat, minced meat, meat preparations and processed meat in order to give the FASFC a scientific basis to preserve the safety of the food chain. It is also requested to establish a quotation for the severity of adverse effects of nicotinic acid in foodstuffs.

### **Method**

This opinion is based on the calculation of an estimated acceptable concentration (EAC). An estimated acceptable concentration (EAC) is a risk-based concentration level of a substance in food which does not pose a significant risk or concern for public health. The calculated EACs can be used as a basis for the risk manager to set an action limit (SciCom opinion 15-2019).

The calculation of an EAC for nicotinic acid is a special case, as it is not a chemical contaminant, but a vitamin (vitamin B3) that has adverse health effects if taken in insufficient or excessive amounts. The EAC for nicotinic acid has been calculated by dividing the Tolerable Upper Intake Level (depending on the age of consumers) of nicotinic acid (EFSA, 2006) by the consumption data at the 95<sup>th</sup> percentile (P95) of fresh meat, minced meat, meat preparations and processed meat.

### **Results and discussion**

Depending on the age of the consumer, the calculated EAC is 15 mg/kg (children and adolescents) or 30 mg/kg (adults). For the point of view of better consumer protection, the SciCom proposes to consider the lower value of 15 mg/kg.

Furthermore, as the adverse effects associated with nicotinic acid are those resulting from the release of histamine, the same score for the severity rating of the adverse effects should be assigned to both substances. Therefore, a score of 2 ("probably serious") is proposed, on the scale of 1 to 4 used by the FASFC, for the severity rating of the adverse effect associated with nicotinic acid.

### **Conclusions**

The SciCom has calculated an EAC for nicotinic acid in fresh meat, minced meat, meat preparations and processed meat. This value reaches 15 mg/kg and takes into account the maximum tolerable intake of nicotinic acid. A score of 2 is proposed for severity rating of the adverse effect associated with nicotinic acid.

The SciCom recalls that the addition of nicotinic acid to meat is an illegal practice that can put the health of consumers at risk. Furthermore, if nicotinic acid is found to have a real effect on preserving the colour of meat, then the fraudulent addition may mislead the consumer and expose him to the consumption of meat that may be microbiologically unsafe.

## Recommendations

The proposed EAC for nicotinic acid seems strict compared to the few natural occurrence data available. Since cases of nicotinic acid poisoning have been reported following the consumption of meat supplemented with nicotinic acid (investigation from the Unité Nationale d'Enquête, UNE), it could be considered by risk managers to establish a natural occurrence action limit (P95) for nicotinic acid in meat (ALARA method). For this purpose, additional analytical data are needed, in particular on meat samples collected directly at the slaughterhouse (study of the nicotinic acid baseline) as well as on samples of minced meat, meat preparations and processed meat after production and/or transformation and/or preservation (study of the stability of nicotinic acid).

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