

Advice 11-2017 of the Scientific Committee of the FASFC on prioritizing the microbiological risks and guidelines for ensuring the microbiological food safety of raw and minimally transformed vegetable foods in Belgium**Background & Objective**

Based on international outbreaks and analyses at an European level, the Scientific Committee is of the opinion that there is a need for identification of risk factors relevant for Belgium that can lead to introduction of microbiological hazards on raw and minimally transformed vegetable foods. With the collected knowledge (contamination level and carrier routes) and taking into account the currently applied working practices, guidelines and control measures, this dossier has the aim to formulate recommendations to ensure the food safety in this sector at Belgian level.

Methodology

Raw and minimally transformed foods and microbiological hazards are prioritized and risk factors are identified based on diverse sources: recent international scientific literature, EFSA opinions and FAO/WHO reports concerning microbiological risks of foods of vegetable origin, results of national and European research projects that performed field research in the chain of raw/fresh and minimally transformed vegetable foods, results of the FASFC control program, outbreaks in Belgium and criteria and target values valid in Belgium.

Results

The prioritized foods are leafy greens, vegetables and fruits of the fourth gamme (especially leafy greens and sliced fruits), fruiting vegetables (especially tomatoes and melons), fresh garden herbs, sprouts and small red fruits (especially berries). Amongst the microbiological hazards, foodborne viruses like norovirus and hepatitis A virus, *Salmonella* spp., human pathogenic vero(cyto)toxin producing *Escherichia coli* (VTEC) and *Listeria monocytogenes* deserve the highest priority. Furthermore, *Campylobacter* spp., parasites, molds and fungi also deserve attention. In the primary production the main risk factors are: the soil, not respecting the required preharvest intervals during the application of organic fertilizers and an insufficient quality of the water. An insufficient water quality that comes into direct contact with the product such as rinse, wash or transport water is a crucial risk factor for possible cross contamination during minimal transformation. During that process, *E. coli* is an appropriate indicator organism for the presence of pathogens. During harvest (i.a. pickers) and during further transformation of fruits and vegetables whereby lots of manual actions are performed, not respecting the general principles of the hygiene is an important risk factor for contamination with norovirus and hepatitis A virus. In the distribution sector, the guarding of the cold chain deserves special attention.

Conclusions

On one hand, the microbiological risk of the consumption of raw or minimally transformed vegetable foods that fall under the scope of this advice is low to very low. On the other hand, it appears from recent international literature that some rare outbreaks can be prevented. Therefore it is recommended to stay vigilant and to act in a preventive way. Considering limited sample sizes in the monitoring plan of the FASFC and the low expected prevalence of microbiological hazards, the probability of detection is limited. Absence of hazards in sampling is no guarantee for food safety. The control program of the FASFC is sufficient but can be optimized by shifting the focus to the products and parameters with the highest risk. *E. coli*

was identified as an appropriate indicator organism for fecal contamination and the presence of human pathogenic VTEC or *Salmonella* spp. in case the set target value is exceeded. The involved self-checking guides, namely G-014 "Potatoes- vegetables- fruit processing industry and trade" and G-04 "Primary production" have to be updated in response to the newly available information as collected in the present advice. Finally, the Scientific Committee emphasizes the importance of respecting GAP, GMP and GHP in the entire chain, as well as respecting the cold chain in the distribution.

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