

CON-THE-070

CONFIRMATORY METHODS

Hot Topic on Nitrofurans

• Context

Nitrofurans are synthetic chemicals used as antibiotics for treating and/or preventing various animal diseases (salmonellosis, E.coli septicaemia...), but which have also growth promoting effect. The main concerned animal species are pigs, poultry and fish, but also calves. They are very effective drugs and do not contribute significantly to the development of resistance. However, several have been shown to be mutagenic and cause tumors in laboratory animals, and as a result, these have been prohibited for use in food-producing animals in a number of countries. The use of nitrofurans was banned within the EU, but their presence in food products from other countries impose appropriate analytical tools to control their potential misuse. The existence of nitrofurans metabolites in food products of animal origin also require a good knowledge of this class of compounds from their possible origins to their transfer and biotransformation toward the food chain.

• General objective(s)

The main objective of this specific focus on nitrofurans is to give a detailed overview of regulation, physico-chemical properties and metabolism, methods of analysis, and real case studies, regarding this class of compounds.

• Main items

✓ Nitrofurans / Metabolites / Food producing animals.

• Pedagogical objectives

- ✓ Understand the global context of nitrofuran control in food
- ✓ Know the main representatives of this class of compounds
- ✓ Know the main metabolism transformation reaction affecting nitrofurans
- ✓ Be aware about potential analytical problems linked to the analysis of nitrofurans

• Pedagogical tools

✓ Slide show

• Duration

✓ 45 min

• Pre-requisite

- ✓ General biology and biochemistry
- ✓ Chemical structure (understanding)
- ✓ Mass spectrometry (CON-THE-010, CON-THE-020 and CON-THE-030)