

## **Nitroimidazoles in milk, egg and plasma: Matrix effects and Recovery**

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Nitroimidazoles have earlier been extensively used as growth promoters and therapeutic antibacterial and antiprotozoal agents in food producing animals. They are suspected to be both carcinogenic and mutagenic for humans. As a consequence, three nitroimidazoles are included in Annex IV of EU Regulation 2377/90, comprising the list of pharmacologically active substances for which no maximum residue limits can be determined. Hence, in practice the nitroimidazoles are banned substances.

The surveillance of banned substances requires very sensitive analytical methods. LC-MS/MS provides this sensitivity, but unfortunately this instrumentation is prone to matrix effects. Recovery is one of the validation parameters that can reveal matrix effects of an LC-MS/MS-method. Unfortunately publications tend to give only the apparent recovery, which is the total recovery of the method including the use of internal standard.

A simple and rapid method for the determination of nitroimidazoles in milk, egg and plasma has been developed. Here we will use this method to present the different types of recovery in an LC-MS/MS method and how they can show the matrix effects of the method.