

## DRUG RESIDUES (VETERINARY) IN FOOD

***Veterinary drugs are used in specific cases in stock farming and also as ingredients of animal feed. The main purpose of these substances is to promote growth and performance during fattening or to prevent disease.***

These substances are used prophylactically (e.g. by immunization, addition to animal feed) or therapeutically. The lawgiver lays restrictions on the use of veterinary drugs ranging from total bans (zero-tolerance for residues) to animal species- and application restrictions to tolerable maximum values.

An estimated 80 percent of U.S. livestock and poultry receive some animal drugs during their lifetime. Improper use of animal drugs may cause residues in the edible tissues of slaughtered animals that could be hazardous to consumers. To protect the public, the Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA), through its Food Safety and Inspection Service (FSIS), cooperate in a program to monitor the use of these animal drugs, identify improper use and take action to prevent future illegal use by a producer.

FDA and Eurofins establish tolerances to include a safety factor to assure that the drug will have no harmful effects on consumers of the food product.

FDA and Eurofins require animal drug manufacturers to show that each new animal drug is safe and effective for its intended use before it is approved for marketing. To ensure food safety the Agency sets a tolerance and withdrawal time for the product. For drugs approved for use in food-producing animals, additional toxicology residue and metabolism studies are required. Manufacturers also must submit a reliable assay method for detecting drug residues in edible tissues of slaughtered animals and in milk.

Also the use of veterinary drugs for not permitted purposes is known (e.g. for the promotion of growth and performance during fattening). Eurofins has specialised on the detection of drug residues with a committed team. The method development applies the whole range of modern analytical technologies (LC-MS/MS, Surface plasmon reference (SPR), Immunoassays (ELISA), Gradient HPLC systems with diode array detectors, fluorescence detectors ,post-column derivatization units and etc.).

### Minimum required performance limits\*

Substances and or metabolites	Matrixes	MRPL
Chloramphenicol	Meat Eggs Milk Urine Honey	0.3 µg/kg
Nitrofurans metabolites furazolidone furaltidone nitrofurantoin nitrofurazone	Poultry meat Aquaculture products	1 µg/kg for all

\*Reference: Official Journal of the European Union, Commission decision of 13 March 2003

***All sampling, testing and laboratory analysis at Consolidated laboratory is performed in accordance with national and international standards.***

#### **Detection of drug residues in**

- Meat and meat products
- Crustaceans and shellfishes
- Fish and fish products
- Egg and egg products
- Honey
- Milk and milk products
- Finished products

#### **Analytical parameters for drug residue analysis**

- Tetracyclines
- Oxytetracycline
- Chloramphenicols
- Nitrofurans
- Beta Agonists
- Other antibiotics



#### ***Purpose of Analysis:***

To comply with regulatory requirements.

#### ***Methodology:***

Analytical methods employed at Consolidated Laboratory have been adopted from recognized official sources and validated internally.

#### ***Instrumentations:***

Real Time PCR, LC-MS-MS, GC-MS, Humidity Chamber, HPLC , UV-VIS Spectrophotometer, GC, AAS, ICP-OES, and etc.

***With the above state-of-the-art modern technologies and more importantly the highly qualified and experience laboratory analysts and supporting staff, we in Consolab could offer you the above testing solution. For enquiries kindly contact us.***

***Your One Stop Testing Solution***