

List of Chemical Residues by Class/Method

The Chemistry Laboratory Guidebook (CLG) contains test methods used by FSIS laboratories to support the Agency's inspection program, ensuring the safety of meat, poultry, and processed egg products. The CLG contains methods for the analysis of food composition, food additives, nutrients, veterinary drug and pesticide residues. Methods are designed to provide analysts with written documentation to facilitate training, performance, quality assessment, and interpretation of data. The CLG can be found at <https://www.fsis.usda.gov/wps/portal/fsis/topics/science/laboratories-and-procedures/guidebooks-and-methods/chemistry-laboratory-guidebook/chemistry-laboratory-guidebook>.

A. Veterinary Drugs

For 2019 sampling, FSIS has scheduled the following classes of veterinary drug analytes (not all analytes are tested in all commodities):

a. Multi-residue method (Drugs)

2-amino-Flubendazole	Difloxacin	Meloxicam	Sulfadimethoxine
2-Aminosulfone Albendazole	Dimetridazole	Metronidazole	Sulfadoxine
2-Quinoxaline Carboxylic Acid (QCA)	Dimetridazole - OH	Metronidazole - OH	Sulfaethoxypyridazine
Abamectin	Dipyron	Monensin	Sulfamerazine
Acepromazine	Doramectin	Morantel tartrate	Sulfamethazine
Albendazole	Doxycycline	Moxidectin	Sulfamethizole
Amoxicillin	Emamectin Benzoate	Nafcillin	Sulfamethoxazole
Ampicillin	Enrofloxacin	Narasin	Sulfamethoxyypyridazine
Azaperone	Eprinomectin	Norfloxacin	Sulfanilamide
Butorphanol	Erythromycin A	Orbifloxacin	Sulfanitran
Carazolol	Fenbendazole	Oxacillin	Sulfapyridine
Carbadox	Fenbendazole sulphone	Oxyphenylbutazone	Sulfaquinoxaline
Cefazolin	Florfenicol	Oxytetracycline	Sulfathiazole
Chloramphenicol	Florfenicol Amine	Penicillin G	Sulfisoxazole
Chlorpromazine	Flubendazole	Phenylbutazone	Taleranol (B-Zearalanol)
Chlortetracycline	Flunixin	Pirlimycin	Tetracycline
Cimaterol	Gamithromycin	Prednisone	Thiabendazole
Ciprofloxacin	Haloperidol	Promethazine	Tildipirosin
Clenbuterol	Ipronidazole	Propionylpromazine	Tilmicosin
Clindamycin	Ipronidazole - OH	Ractopamine	Tolfenamic Acid
Cloxacillin	Ivermectin	Ronidazole	Triflupromazine
Danofloxacin	Ketamine	Salbutamol	Tulathromycin A
DCCD	Ketoprofen	Salinomycin	Tylosin
Desacetyl Cephapirin	Lasalocid A	Sarafloxacin	Tylvalosin
Desethylene Ciprofloxacin	Levamisole	Selamectin	Virginiamycin
Diclofenac	Lincomycin	Sulfachloropyridazine	Xylazine

b. Aminoglycoside Method

Amikacin	Gentamycin	Kanamycin	Spectinomycin
Apramycin	Hygromycin B	Neomycin	Streptomycin
Dihydrostreptomycin			

c. Beta-Agonist Method

Cimaterol	Ractopamine	Zilpaterol
Clenbuterol	Salbutamol	

d. Avermectin Method

Doramectin	Ivermectin	Moxidectin
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e. Nitrofuran Method

3-Amino-2-oxazolidinone (AOZ)	1-Aminohydantoin (AHD)	Semicarbazide (SEM)	3-Amino-5-morpholinomethyl-2-oxazolidinone (AMOZ)
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f. Antifungal dyes

Malachite green	Leucomalachite green	Crystal violet	Leucocrystal violet
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g. Carbadox Method

Quinoxaline-2-carboxylic acid

B. Pesticides and environmental contaminants

a. Pesticide Method

1-Naphthol	Coumaphos O	Fluroxypyr-1-Methylhepyl-Ester	Pentachlorobenzene (PCB)
3-Hydroxycarbofuran	Coumaphos S	Fluvalinate	Permethrin (cis&trans)
Acephate	DDD o, p'	Heptachlor	Piperonyl butoxide
Acetamiprid	DDD p, p' + DDT, o, p'	Heptachlor epoxide (cis+ trans) or (B+A)	Pirimiphos methyl
Alachlor	DDE o, p'	Hexachlorobenzene (HCB)	Prallethrin
Aldicarb	DDE p, p'	Hexazinone	Profenofos
Aldicarb sulfone	DDT p, p'	Hexythiazox	Pronamide
Aldicarb sulfoxide	Deethylatrazine	Imazalil	Propachlor
Aldrin	Diazinon	Imidacloprid	Propanil
Atrazine	Dichlorvos (DDVP)	Indoxacarb	Propetamphos
Azinphos methyl	Dieldrin	Lindane (BHC gamma)	Propiconazole
Azoxystrobin	Difenoconazole	Linuron	Pyraclostrobin
Benoxacor	Diflubenzuron	Malathion	Pyrethrin I
Bifenthrin	Dimethoate	Metalaxyl	Pyrethrin II
Boscalid	Diuron	Methamidophos	Pyridaben
Buprofezin	Endosulfan I	Methomyl	Pyriproxyfen
Carbaryl	Endosulfan II	Methoxyfenozide	Resmethrin (cis&trans)
Carbofuran	Endosulfan sulfate	Metolachlor	Simazine
Carfentrazone ethyl	Ethion	Metribuzin	Sulprofos
Chlordane cis	Ethion monoxon	MGK-264 (isomers 1 & 2)	Tebufenozide
Chlordane trans	Ethofumesate	Myclobutanil	Tefluthrin
Chloroneb	Fenoxaprop ethyl	Nonachlor cis	Tetrachlorvinphos
Chlorothalonil	Fenpropathrin	Nonachlor trans	Tetraconazole
Chlorpropham	Fipronil	Norflurazon	Thiabendazole
Chlorpyrifos	Fipronil desulfinyl	Omethoate	Thiamethoxam
Chlorpyrifos methyl	Fipronil sulfide	Oxychlordane	Thiobencarb
Clothianidin	Fluridone	Pentachloroaniline (PCA)	Trifloxystrobin

b. Metals Method

Arsenic (As)	Chromium (Cr)	Manganese (Mn)	Thallium (Tl)
Aluminum (Al)	Cobalt (Co)	Molybdenum (Mo)	Vanadium (V)
Barium (Ba)	Copper (Cu)	Nickel (Ni)	Zinc (Zn)
Boron (B)	Iron (Fe)	Selenium (Se)	
Cadmium (Cd)	Lead (Pb)	Strontium (Sr)	