

هيئة التقييس لدول مجلس التعاون لدول الخليج العربية  
GCC STANDARDIZATION ORGANIZATION (GSO)



**GSO 2481/2015**

الحدود القصوى المسموح بها من بقايا الادوية البيطرية في الاغذية  
**Maximum Residues Limits (Mrls) of Veterinary Drugs In Food**

**ICS : 67.040.00**

# **Maximum Residues Limits (Mrls) of Veterinary Drugs In Food**

**Date of GSO Board of Directors' Approval** : 23/01/1437h(05/11/2015)  
**Issuing Status** : Technical regulation

**Foreword**

GCC Standardization Organization (GSO) is a regional Organization which consists of the National Standards Bodies of GCC member States. One of GSO main functions is to issue Gulf Standards /Technical regulations through specialized technical committees (TCs).

GSO through the technical program of committee TC No (5) " Technical committee for standards of food and agriculture products " has prepared this Technical regulation. The Draft Technical regulation has been prepared by Kingdom of Saudi Arabia . The draft Technical regulation has been prepared based on relevant ADMO, International and National foreign Standards and references.

This Technical regulation has been approved by GSO Board of Directors in its meeting No.(22), held on 23/01/1437h(05/11/2015). The approved standard will replace and supersede the standard No. GSO CAC/MR 02:2009.

## MAXIMUM RESIDUES LIMITS (MRLs) OF VETERINARY DRUGS IN FOOD

### 1. SCOPE AND FIELD OF APPLICATION

This standard is concerned with maximum residues limits for the following veterinary drugs in food and food products of animal origin. Furthermore, the present GSO standard has an appendix referring to the withdrawal periods from animal's body as well as residue markers and methods of detection.

### 2. COMPLEMENTARY REFERENCES

- 2.1 GS 592 “Methods of Sampling Meat and Meat Products”.
- 2.2 GSO 2475 Sampling of food for estimation of veterinary drugs residues – Part 1: Meat and poultry products”.
- 2.3 Gulf Standard to be approved by G.C.C. on “Methods for Determination of Veterinary Drugs Residues in Meat and Meat Products”.

### 3. DEFINITIONS

- 3.1 **Veterinary drug:** means any substance applied or administered to any food producing animal, such as meat or milk producing animals, poultry, fish or bees, whether used for therapeutic, prophylactic or diagnostic purposes or as growth promoters.
- 3.2 **Residues of veterinary drugs:** residues of substances which may occur in food commodities of animal origin as a result of veterinary drugs uses. Those include the parent compounds and/or their metabolites as well as residues of associated impurities of the veterinary drug concerned.
- 3.3 **Maximum residue limit (MRL):** is the maximum level of a residue resulting from the use of a veterinary drug according to good veterinary and animal husbandry practice that is recommended by International Authorities as the Codex Alimentarius Commission and other International authorities and committees to be legally permitted or recognized as acceptable in or on a food. The concentration is expressed in micrograms of residue per kilogram ( $\mu\text{g}/\text{kg}$ ) of the commodity.
- 3.4 **Acceptable Daily Intake (ADI):** is the amount of a veterinary drug, expressed on a body weight basis, that can be ingested daily over an entire human lifetime without any appreciable health risk (standard man, 60 kg).

### 4. REQUIREMENTS

Veterinary drugs residues limits in food of animal origin shall not exceed the limits given against each in the following tables.

## 5. LIST OF VETERINARY DRUGS:

No.	Drug	Page	No.	Drug	Page
1	Abamectin	49	78	Mebendazol	55
2	Albendazole	50	79	Melengestrol acetate	72
3	Amitraz	62	80	Meloxicam	70
4	Amoxicillin	14	81	Methyl benzoquate	46
5	Ampicillin	15	82	Monensin	46
6	Amprolium	42	83	Monepantel	55
7	Apramycin	9	84	Moxidectin	56
8	Arsanilic acid	73	85	Narasin	47
9	Atropine sulfate	77	86	Natamycin	42
10	Avermectin	51	87	Neomycin	11
11	Avilamycin	27	88	Nicarbazin	47
12	Bacitracin	28	89	Nitobimin	57
13	Benzyl penicillin	15	90	Nitroxynil	57
14	Bromhexine	76	91	Novobiocin	7
15	Carprofen	69	92	Nystatin	42
16	Cefalonium	13	93	Oleandomycin	24
17	Cefapirin	13	94	Ormetoprim	48
18	Ceftiofur	13	95	Oxfendazole	58
19	Cefuroxime	14	96	Oxyclozanide	59
20	Chlortetracycline	39	97	Oxytetracycline	40
21	Clazuril	43	98	Oxytocin	72
22	Clenbuterol	73	99	Permethrin	68
23	Clopidol	43	100	Phoxim	68
24	Cloprostenol	72	101	Piperazine	59
25	Closantel	52	102	Pirlymicin	23
26	Cloxacillin	16	103	Poloxalene	77
27	Colistin	28	104	Polymixin B	29
28	Cyhalothrin	63	105	Praziquantel	59
29	Cyfluthrin	64	106	Prednisolone	71
30	Cypermethrin	65	107	Procaine benzyl penicillin	17
31	Cyromazine	66	108	Procaine HCl	75

32	Danofloxacin	19	109	Progesterone	73
33	Decoquinat	43	110	Ractopamine	74
34	Deltamethrin	66	111	Rafoxanide	59
35	Derquantel	52	112	Robenidine hydrochloride	48
36	Dexamethasone	71	113	Roxarsone	74
37	Diazinon	67	114	Salinomycin Sodium	48
38	Diclazuril	44	115	Sarafloxacin	22
39	Diclofenac	70	116	Semduramycin	48
40	Dicyclanil	67	117	Spectinomycin	8
41	Difloxacin	20	118	Spiramycin	25
42	Dihydrostreptomycin	9	119	Streptomycin	12
43	Diminazene	61	120	Sulfabenzamide	30
44	Dinitolmide (Zoalene)	44	121	Sulfacetamide	30
45	Doramectin	52	122	Sulfachlorpyridazine	31
46	Doxapram HCl	75	123	Sulfadiazine	31
47	Doxycycline	39	124	Sulfadimethoxine	32
48	Emamectin	68	125	Sulfadimidine (Sulfamethazine)	32
49	Enrofloxacin	20	126	Sulfadoxine	33
50	Epinephrine	76	127	Sulfaethoxy pyridazine	34
51	Eprinomectin	53	128	Sulfaguanidine	34
52	Erythromycin	23	129	Sulfamerazine	35
53	Estradiol-beta	72	130	Sulfanilamide	36
54	Etamiphylline camsilate	76	131	Sulfanitran	36
55	Ethopabate	44	132	Sulfapyridine	37
56	Febantel	53	133	Sulfaquinoxaline	37
57	Fenbendazole	53	134	Sulfathiazole	38
58	Florfenicol	18	135	Teflubenzuron	69
59	Fluazuron	68	136	Testosterone	73
60	Flubendazole	54	137	Tetracycline	41
61	Flumequine	21	138	Thiabendazole	60
62	Flunixin meglumine	70	139	Thiamphenicol	18
63	Gentamicin	10	140	Tiamulin	27
64	Gonadotrophin	72	141	Tilmicosin	25

65	Halofuginone hydrobromide	45	142	Tolfenamic acid	71
66	Hydrochlorothiazide	77	143	Toltrazuril	48
67	Hydrocortisone	71	144	Trenbolone acetate	74
68	Imidocarb	61	145	Tricaine methanesulfonate	75
69	Isometamidium	62	146	Trichlorfon (metrifonate)	69
70	Ivermectin	54	147	Triclabendazole	60
71	Ketamine	75	148	Trimethoprim	18
72	Ketoprofen	70	149	Tulathromycin	26
73	Lasalocid Sodium	45	150	Tylosin	26
74	Levamisole	54	151	Virginiamycin	29
75	Lincomycin	22	152	Zeranol	74
76	Maduramicin Ammonium	46	153	Zilpaterol	74
77	Marbofloxacin	22			

## 6. MAXIMUM RESIDUE LIMITS (MRLs) OF VETERINARY DRUGS IN FOOD

### 6.1. MAXIMUM RESIDUE LIMITS (MRLs) OF ANTIBACTERIAL DRUGS

Drug groups	Food commodity		MRL µg/kg	References (MRL)
	Species	Tissue or product		
<b>6.1.1. AMINOCOUMARIN ANTIBIOTIS</b>  <b>6.1.1.1. Novobiocin</b>  Acceptable Daily Intake (ADI) 1.25 µg/kg body weight	Cattle	Muscle	100	Australian standard MRL, 2012
		Liver	100	
		Kidney	100	
		Milk	100	
<b>6.1.2. AMINOCYCLITOL ANTIBIOTICS</b>  <b>6.1.2.1. Spectinomycin</b>  Acceptable Daily Intake (ADI) 0 - 40 µg/kg body weight	Cattle	Muscle	500	CAC/MRL 2-2011
		Liver	1000	Australian standard MRL, 2012
		Kidney	1000	
		Fat	1000	

	Sheep	Muscle	500	CAC/MRL 2-2011	
		Liver	2000		
		Kidney	5000		
		Fat	2000		
	Goat	Muscle	1000	Australian standard MRL, 2012	
		Liver	1000		
		Kidney	1000		
		Fat	1000		
	Camel	Muscle	1000	Australian standard MRL, 2012	
		Liver	1000		
		Kidney	1000		
		Fat	1000		
	Chicken	Muscle	100	Canadian MRL 2011	
		Liver	100		
		Kidney	100		
		Fat /skin	100		
Eggs		100			
<b>6.1.3. AMINOGLYCOSIDES ANTIBIOTICS</b>  <b>6.1.3.1. Apramycin</b>  Acceptable Daily Intake (ADI) 0–30 µg/kg body weight	Cattle	Muscle	50	Australian standard MRL, 2012	
		Liver	2000		
		Kidney	20000		
		Fat	2000		
	Sheep	Muscle	50	Australian standard MRL, 2012	
		Liver	2000		
		Kidney	2000		
		Fat	2000		
			Muscle	50	



	Goat	Liver	2000	Australian standard MRL, 2012	
		Kidney	2000		
		Fat	2000		
	Camel	Muscle	50	Australian standard MRL, 2012	
		Liver	2000		
		Kidney	2000		
		Fat	2000		
	Chicken	Muscle	50	Australian standard MRL, 2012	
		Liver	1000		
		Kidney	1000		
		Fat	1000		
	Turkey	Muscle	50		
		Liver	1000		
		Kidney	1000		
		Fat	1000		
	<b>6.1.3.2. Dihydrostreptomycin</b>  Acceptable Daily Intake (ADI) 0-50 µg/kg body weight	Cattle	Muscle		300
Liver			300		
Kidney			300		
Fat			500		Canadian MRL, 2011
Milk (µg/l)		125			
Sheep		Muscle	300	Australian standard MRL, 2012  CAC/MRL 2-2011	
		Liver	300		
		Kidney	300		
		Fat	600		
		Milk (µg/l)	200		

	Goat	Muscle	300	Australian standard MRL, 2012
		Liver	300	
		Kidney	300	
		Milk (µg/l)	200	
	Camel	Muscle	300	Australian standard MRL, 2012
		Liver	300	
		Kidney	300	
		Milk (µg/l)	200	
	Chicken	Muscle	600	CAC/MRL 2-2011
		Liver	600	
		Kidney	1000	
		Fat /skin	600	
<b>6.1.3.3. Gentamicin</b>  Acceptable Daily Intake (ADI) 0.05 mg/kg body weight	Cattle	Muscle	100	Canadian MRL (2011)
		Liver	500	
		Kidney	1000	
		Fat	100	
		Milk (µg/l)	100	
	Chicken	Muscle	100	
		Liver	100	
		Kidney	100	
		Fat /skin	100	
	Turkey	Muscle	100	
		Liver	100	
		Kidney	100	
		Fat	100	

<b>6.1.3.4. Neomycin</b>  Acceptable Daily Intake (ADI) 0.06 mg/kg body weight	Cattle	Muscle	500	CAC/MRL 2-2012
		Liver	500	
		Kidney	10000	
		Fat	500	
		Milk (µg/l)	1500	
	Sheep	Muscle	500	CAC/MRL 2-2011
		Liver	500	
		Kidney	10000	
		Fat	500	
		Milk (µg/l)	1500	
	Goat	Muscle	500	CAC/MRL 2-2011
		Liver	500	
		Kidney	10000	
		Fat	500	
		Milk (µg/l)	1500	
	Camel	Muscle	500	Australian standard MRL, 2012
		Fat	500	
		Milk (µg/l)	1500	
	Chicken	Muscle	500	CAC/MRL 2-2011
		Liver	500	
		Kidney	10000	
Fat /skin		500		
Eggs		500		
Turkey	Muscle	500	CAC/MRL 2-2011	
	Liver	500		
	Kidney	1000		

		Fat /skin	500	
	Duck	Muscle	500	CAC/MRL 2-2011
		Liver	500	
		Kidney	10000	
		Fat /skin	500	
<b>6.1.3.5. Streptomycin</b>  Acceptable Daily Intake (ADI) 0-50 µg/kg body weight	Cattle	Muscle	300	Australian standard MRL, 2012
		Liver	300	
		Kidney	300	
		Fat	500	Canadian MRL, 2011
		Milk (µg/l)	125	
	Sheep	Muscle	300	Australian standard MRL, 2012
		Liver	300	
		Kidney	300	CAC/MRL 2-2011
		Fat	600	
		Milk (µg/l)	200	
	Goat	Muscle	300	Australian standard MRL, 2012
		Liver	300	
		Kidney	300	
		Milk (µg/l)	200	
	Camel	Muscle	300	Australian standard MRL, 2012
		Liver	300	
		Kidney	300	
		Milk (µg/l)	200	
	Chicken	Muscle	600	CAC/MRL 2-2011
		Liver	600	

		Kidney	1000	
		Fat /skin	600	
<b>6.1.4. BETA LACTAM</b> <b>6.1.4.1. Cephalosporins</b> <b>6.1.4.1.1. Cefalonium</b>  Acceptable Daily Intake (ADI) 0 - 20 µg /kg body weight	Cattle	Muscle	100	Australian standard MRL, 2012
		Liver	100	
		Kidney	100	
		Fat	100	
		Milk (µg/l)	20	
<b>6.1.4.1.2. Cefapirin</b>  Acceptable Daily Intake (ADI) 0 - 0.02 mg /kg body weight	Cattle	Muscle	20	Australian standard MRL, 2012
		Liver	20	
		Kidney	20	
		Fat	20	
		Milk (µg/l)	10	
<b>6.1.4.1.3. Ceftiofur</b>  Acceptable Daily Intake (ADI) 0-50 µg /kg body weight	Cattle	Muscle	100	Australian standard MRL, 2012
		Liver	2000	CAC/MRL 2-2011
		Kidney	2000	Australian standard MRL, 2012
		Fat	500	
		Milk (µg/l)	100	CAC/MRL 2-2011 Australian standard MRL, 2012
	Sheep	Muscle	1000	Canadian MRL, 2011
		Liver	2000	
		Kidney	6000	
		Fat	2000	
<b>6.1.4.1.4. Cefuroxime</b>  Acceptable Daily Intake (ADI) 0 - 30 µg /kg body weight	Cattle	Muscle	100	Australian standard
		Liver	100	
		Kidney	100	

		Fat	100	MRL, 2012
		Milk (µg/l)	100	
<p><b>6.1.4.2. Penicillins</b></p> <p><b>6.1.4.2.1. Amoxicillin</b></p> <p>Acceptable Daily Intake (ADI) 0 – 0.7 µg/kg body weight</p>	Cattle	Muscle	10	Australian standard MRL, 2012
		Liver	10	
		Kidney	10	
		Fat	10	
		Milk(µg/l)	4	JECFA/75/SC – 2012
	Sheep	Muscle	10	Australian standard MRL, 2012
		Liver	10	
		Kidney	10	
		Fat	10	
		Milk	4	JECFA/75/SC – 2012
	Goat	Meat	10	Australian standard MRL, 2012
		Liver	10	
		Kidney	10	
		Fat	10	
	Camel	Muscle	10	Australian standard MRL, 2012
		Liver	10	
		Kidney	10	
		Fat	10	
	Chicken	Muscle	10	Australian standard MRL, 2012 Canadian MRL, 2011
		Liver	10	
Kidney		10		
Fat		10		
<p><b>6.1.4.2.2. Ampicillin</b></p> <p>Acceptable Daily Intake (ADI)</p>		Muscle	10	Canadian MRL, 2011
		Liver	10	

200 µg/kg body weight	Cattle	Kidney	10	Australian standard MRL, 2012 Canadian MRL, 2011
		Fat	10	
	Milk (µg/l)	10		
<b>6.1.4.2.3. Benzyl penicillin</b>  Acceptable Daily Intake (ADI) 30 µg penicillin/person/day	Cattle	Muscle	50	CAC/MRL 2-2011  Canadian MRL, 2011
		Liver	50	
		Kidney	50	
		Fat	50	
		Milk (µg/l)	1.5	
	Sheep	Muscle	50	Canadian MRL, 2011
		Liver	50	
		Kidney	50	
		Fat	50	
		Milk (µg/l)	1.5	
	Goat	Muscle	50	CAC/MRL 2-2011  Australian standard MRL, 2012
		Liver	50	
		Kidney	50	
		Milk (µg/l)	1.5	
	Camel	Muscle	50	CAC/MRL 2-2011  Australian standard MRL, 2012
		Liver	50	
		Kidney	50	
		Milk (µg/l)	1.5	
	Chicken	Muscle	50	CAC/MRL 2-2011  Canadian MRL, 2011
		Liver	50	
Kidney		50		
Fat /skin		50		





		Milk	1.5	MRL, 2012	
	Goat	Muscle	50	CAC/MRL 2-2011 Australian standard MRL, 2012	
		Liver	50		
		Kidney	50		
		Milk	1.5		
	Camel	Muscle	50	CAC/MRL 2-2011 Australian standard MRL, 2012	
		Liver	50		
		Kidney	50		
		Milk	1.5		
	Chicken	Muscle	50	CAC/MRL 2-2011	
		Liver	50		
		Kidney	50		
	<b>6.1.5. CHLORAMPHENICOLS</b> <b>6.1.5.1. Thiamphenicol*</b>  Acceptable Daily Intake (ADI) 0-1 ug/kg body weight  * banned by the Food and Drug Administration (FDA) in 1997	Cattle	Muscle	50	COMMISSION REGULATION (EU) No 37/2010
			Liver	50	
			Kidney	50	
Fat			50		
Milk (µg/l)			50		
Sheep		Muscle	50		
		Liver	50		
		Kidney	50		
		Fat	50		
		Milk (µg/l)	50		
Goat		Muscle	50	COMMISSION REGULATION (EU) No 37/2010	
		Liver	50		
		Kidney	50		
		Fat	50		

		Milk ( $\mu\text{g/l}$ )	50	
<b>6.1.5.2. Florfenicol*</b>  Acceptable Daily Intake (ADI) 0-1 $\mu\text{g/kg}$ body weight  * banned by the Food and Drug Administration (FDA) in 1997	Cattle	Muscle	200	Canadian MRL (2011)
		Liver	2000	
		Kidney	500	Australian standard MRL, 2012
	Fish	Muscle	500	Australian standard MRL, 2012
<b>6.1.6. DIAMINOPYRIMIDINES</b>  <b>6.1.6.1. Trimethoprim</b>  Acceptable Daily Intake (ADI) 20 $\mu\text{g/kg}$ body weight	Cattle	Muscle	50	Australian standard MRL, 2012
		Liver	50	
		Kidney	50	
		Fat	50	
		Milk ( $\mu\text{g/l}$ )	50	
	Sheep	Muscle	50	Australian standard MRL, 2012
		Liver	50	
		Kidney	50	
		Fat	50	
		Milk ( $\mu\text{g/l}$ )	50	
	Goat	Muscle	50	Australian standard MRL, 2012
		Liver	50	
		Kidney	50	
		Fat	50	
		Milk ( $\mu\text{g/l}$ )	50	
	Camel	Muscle	50	Australian standard MRL, 2012
		Liver	50	
		Kidney	50	
		Fat	50	Australian standard MRL, 2012
		Milk ( $\mu\text{g/l}$ )	50	

	Chicken	Muscle	50		
		Liver	50		
		Kidney	50		
		Fat /skin	50		
	Fish	Muscle	10	Canadian MRL(2011)	
<b>6.1.7. FLUOROQUINOLONES</b>  <b>6.1.7.1. Danofloxacin</b>  Acceptable Daily Intake (ADI) 0-20 µg/kg body weight	Cattle	Muscle	70	Canadian MRL, 2011	
		Liver	70		
		Kidney	400	CAC/MRL 2-2011	
		Fat	100		
	Chicken	Muscle	200	CAC/MRL 2-2011	
		Liver	400		
		Kidney	400		
		Fat/Skin	100		
	<b>6.1.7.2. Difloxacin</b>  Acceptable Daily Intake (ADI) 10 ug/kg body weight	Cattle	Muscle	400	COMMISSION REGULATION (EU) No 37/2010
			Liver	1400	
			Kidney	800	
			Fat	100	
Sheep		Muscle	400		
		Liver	1400		
		Kidney	800		
		Fat	100		
Goat		Muscle	400		
		Liver	1400		
		Kidney	800		
		Fat	100		

	Poultry	Muscle	300	
		Liver	1900	
		Kidney	600	
		Fat/skin	400	
<b>6.1.7.3. Enrofloxacin</b>  Acceptable Daily Intake (ADI) 2 ug/kg body weight	Cattle	Muscle	100	COMMISSION REGULATION (EU) No 37/2010
		Liver	300	
		Kidney	200	
		Fat	100	
		Milk ( $\mu\text{g/l}$ )	100	
	Sheep	Muscle	100	
		Liver	300	
		Kidney	200	
		Fat	100	
		Milk ( $\mu\text{g/l}$ )	100	
	Goat	Muscle	100	COMMISSION REGULATION (EU) No 37/2010
		Liver	300	
		Kidney	200	
		Fat	100	
		Milk ( $\mu\text{g/l}$ )	100	
	Poultry	Muscle	100	
		Liver	200	
		Kidney	300	
		Fat/skin	100	
	Rabbit	Muscle	100	
Liver		200		
Kidney		300		

		Fat	100		
<b>6.1.7.4. Flumequine</b>  Acceptable Daily Intake (ADI) 0-30 µg/kg body weight	Cattle	Muscle	500	CAC/MRL 2-2011	
		Liver	500		
		Kidney	3000		
		Fat	1000		
	Sheep	Muscle	500	CAC/MRL 2-2011	
		Liver	500		
		Kidney	3000		
		Fat	1000		
	Chicken	Muscle	500	CAC/MRL 2-2011	
		Liver	500		
		Kidney	3000		
		Fat /skin	1000		
	Trout (Fish)	Muscle	500	CAC/MRL 2-2011	
	<b>6.1.7.6. Marbofloxacin</b>  Acceptable Daily Intake (ADI) 4.5 µg/kg body weight	Cattle	Muscle	150	EMEA/MRL/079/1996
			Liver	150	
			Kidney	150	
Fat			50		
Milk			75		
<b>6.1.7.7. Sarafloxacin</b>  Acceptable Daily Intake (ADI) 0-0.3 µg/kg body weight	Chicken	Muscle	10	CAC/MRL 2-2011	
		Liver	80		
		Kidney	80		
		Fat /skin	20		
	Turkey	Muscle	10	CAC/MRL 2-2011	
		Liver	80		

		Kidney	80	
		Fat /skin	20	
<b>6.1.8. LINCOSAMIDES</b>  <b>6.1.8.1. Lincomycin</b>  Acceptable Daily Intake (ADI) 0 -30 µg/kg body weight	Cattle	Muscle	200	Australian standard MRL, 2012
		Liver	200	
		Kidney	200	
		Milk (µg/l)	20	
	Goat	Muscle	200	Australian standard MRL, 2012
		Liver	200	
		Kidney	200	
		Milk	100	
	Camel	Muscle	200	Australian standard MRL, 2012
		Liver	200	
		Kidney	200	
	Chicken	Muscle	100	Canadian MRL 2011
		Liver	100	Australian standard MRL, 2012
		Kidney	100	
		Fat /skin	100	CAC/MRL 2-2011
		Eggs	200	Australian standard MRL, 2012
	<b>6.1.8.2. Pirlymicin</b>  Acceptable Daily Intake (ADI) 0 - 8 µg/kg body weight	Cattle	Muscle	100
Liver			500	Canadian MRL 2011
Kidney			400	CAC/MRL 2-2011
Fat			100	
Milk (µg/l)			100	
<b>6.1.9. MACROLIDES</b>		Muscle	100	

<b>6.1.9.1. Erythromycin</b>  Acceptable Daily Intake (ADI) 0 - 0.7 µg/kg body weight	Cattle	Liver	100	Canadian MRL (2011)
		Kidney	100	
		Fat	100	
		Milk (µg/l)	40	Australian standard MRL, 2012
	Sheep	Muscle	200	Canadian MRL (2011)
		Liver	200	
		Kidney	200	
		Fat	200	
		Milk (µg/l)	40	Australian standard MRL, 2012
	Camel	Muscle	300	Australian standard MRL, 2012
		Liver	300	
		Kidney	300	
		Fat	300	
		Milk (µg/l)	40	
	Chicken	Muscle	100	CAC/MRL 2-2011
		Liver	100	
		Kidney	100	
		Fat /skin	100	
		Eggs	50	
	Turkey	Muscle	100	CAC/MRL 2-2011
Liver		100		
Kidney		100		
Fat		100		
<b>6.1.9.2. Oleandomycin</b>  Acceptable Daily Intake (ADI)	Cattle	Muscle	100	
		Liver	100	

0.00075 µg/kg body weight	Sheep	Kidney	100	Australian standard MRL, 2012	
		Muscle	100		
		Liver	100		
		Kidney	100		
	Goat	Muscle	100		
		Liver	100		
		Kidney	100		
	Camel	Muscle	100		
		Liver	100		
		Kidney	100		
	Chicken	Muscle	1000	Canadian MRL (2011)	
		Liver	1000		
		Kidney	1000		
		Fat /skin	1000		
	Turkey	Muscle	1000		
		Liver	1000		
Kidney		1000			
Fat		1000			
<b>6.1.9.3. Spiramycin</b>  Acceptable Daily Intake (ADI) 0 - 50 µg/kg body weight	Cattle	Muscle	200		CAC/MRL 2-2011
		Liver	600		
		Kidney	300		
		Fat	300		
		Milk (µg/l)	200		
	Chicken	Muscle	200		
		Liver	600		



		Kidney	800	
		Fat /skin	300	
<b>6.1.9.4. Tilmicosin</b>  Acceptable Daily Intake (ADI) 0 - 40 µg/kg body weight	Cattle	Muscle	50	Australian standard MRL, 2012
		Liver	1000	CAC/MRL 2-2011
		Kidney	300	
		Fat	100	
		Milk (µg/l)	25	Australian standard MRL, 2012
	Sheep	Muscle	100	CAC/MRL 2-2011
		Liver	1000	
		Kidney	300	
		Fat	100	
	Chicken	Muscle	150	CAC/MRL 2-2011
		Liver	2400	
		Kidney	600	
		Fat /skin	250	
	Turkey	Muscle	100	CAC/MRL 2-2011
		Kidney	1200	
		Liver	1400	
Fat /skin		250		
<b>6.1.9.5. Tulathromycin</b>  Acceptable Daily Intake (ADI) 0.005 mg/kg body weight	Cattle	Muscle	100	Australian standard MRL, 2012
		Liver	2000	Canadian MRL 2011
		Kidney	1000	Australian standard MRL, 2012
		Fat	100	
<b>6.1.9.6. Tylosin</b>	Cattle	Muscle	100	

Acceptable Daily Intake (ADI) 0 - 30 µg/kg body weight		Liver	100	CAC MRL, 32nd (2009)		
		Kidney	100			
		Fat	100			
		Milk (µg/l)	50		Australian standard MRL, 2012	
	Chicken	Muscle	200	Australian standard MRL, 2012		
			Liver		200	
			Kidney		200	
			Fat /skin		100	
		Turkey	Muscle		200	
					Liver	200
					Kidney	200
					Fat /skin	100
<b>6.1.10. ORTHOSOMYCIN</b>  <b>6.1.10.1. Avilamycin</b>  Acceptable Daily Intake (ADI) 0.002 ug/kg body weight	Chicken	Muscle	50	Australian standard MRL, 2012		
		Liver	50			
		Kidney	50			
		Fat/skin	50			
	Turkey	Muscle	50	Australian standard MRL, 2012		
			Liver		50	
			Kidney		50	
			Fat		50	
	Rabbit	Muscle	50	Australian standard MRL, 2012		
			Liver		50	
			Kidney		50	
			Fat		50	
	<b>6.1.11. Pleuromutilin</b>  <b>6.1.11.1. Tiamulin</b>	Chicken	Muscle	100		
			Liver	1000		

Acceptable Daily Intake (ADI) 30 µg/kg body weight		Fat/skin	100	COMMISSION REGULATION (EU) No 37/2010
		Eggs	1000	
	Turkey	Muscle	100	
		Liver	300	
		Fat/skin	100	
	Rabbit	Muscle	100	
Liver		500		
<b>6.1.12. POLYPEPTIDES</b>  <b>6.1.12.1. Bacitracin</b>  Acceptable Daily Intake (ADI) 0-1 mg/kg body weight	Camel	Milk(µg/l)	500	Australian standard MRL, 2012  Canadian MRL, 2011
	Chicken	Muscle	500	
		Liver	500	
		Kidney	500	
		Fat	500	
		Eggs	500	
	Turkey	Muscle	500	Canadian MRL, 2011
		Liver	500	
		Kidney	500	
		Fat	500	
<b>6.1.12.2. Colistin</b>  Acceptable Daily Intake (ADI) 0-7 µg/kg body weight	Cattle	Muscle	150	CAC/MRL 2-2011
		Liver	150	
		Kidney	200	
		Fat	150	
		Milk (µg/l)	50	
	Sheep	Muscle	150	CAC/MRL 2-2011
		Liver	150	
		Kidney	200	

		Fat	150	
		Milk ( $\mu\text{g/l}$ )	50	
	Goat	Muscle	150	CAC/MRL 2-2011
		Liver	150	
		Kidney	200	
		Fat	150	
	Chicken	Muscle	150	CAC/MRL 2-2011
		Liver	150	
		Kidney	200	
		Fat/skin	150	
		eggs	300	
	Turkey	Muscle	150	CAC/MRL 2-2011
		Liver	150	
		Kidney	200	
		Fat/skin	150	
Rabbit	Muscle	150	CAC/MRL 2-2011	
	Liver	150		
	Kidney	200		
	Fat/skin	150		
<b>6.1.12.3. Polymixin B</b> Acceptable Daily Intake (ADI) 4.0 u/ml	Cattle	Milk ( $\mu\text{g/l}$ )	4000 U/ml	Canadian MRL(2011)
<b>6.1.13. STREPTOGRAMINS</b> <b>6.1.13.1. Virginiamycin</b> Acceptable Daily Intake (ADI)	Cattle	Muscle	100	Australian standard
		Liver	200	
		Kidney	200	

250 µg/kg body weight		Fat	200	MRL, 2012	
		Milk (µg/l)	100		
	Chicken	Muscle	200	Australian standard MRL, 2012	
		Liver	200		
		Kidney	200		
		Fat /skin	200		
Eggs		100			
<b>6.1.14. SULFONAMIDES*</b>  * Extra-Label Use of Sulfonamides in Lactating Dairy Cattle Prohibited by US FDA (2005).  <b>6.1.14.1. Sulfabenzamide*</b>  Acceptable Daily Intake (ADI) 0-50 µg/kg body weight  *banned by US FDA, Canada and EC.	Cattle	Muscle	100	Canadian MRL 2011	
		Liver	100		
		Kidney	100		
		Fat	100		
		Milk (µg/l)	10		
	Sheep	Muscle	100		
		Liver	100		
		Kidney	100		
		Fat	100		
		milk	10		
	Goat	Muscle	100		COUNCIL REGULATION (EEC) No 2377/90
		Liver	100		
		Kidney	100		
		Fat	100		
		milk	100		
Camel	Muscle	100			
	Liver	100			
	Kidney	100			

		Fat	100	
		milk	100	
<b>6.1.14.2. Sulfacetamide*</b>  Acceptable Daily Intake (ADI) 2.5 mg/kg body weight  *banned by US FDA, Canada and EC.	Cattle	Muscle	100	Canadian MRL 2011
		Liver	100	
		Kidney	100	
		Fat	100	
		Milk ( $\mu\text{g/l}$ )	10	
	Sheep	Muscle	100	Canadian MRL 2011
		Liver	100	
		Kidney	100	
		Fat	100	
		Milk ( $\mu\text{g/l}$ )	10	
<b>6.1.14.3. Sulfachlorpyridazine*</b>  Acceptable Daily Intake (ADI) 0.05 mg/kg body weight  *banned by US FDA, Canada and EC.	Cattle	Muscle	100	Canadian MRL 2011
		Liver	100	
		Kidney	100	
		Fat	100	
	<b>6.1.14.4. Sulfadiazine*</b>  Acceptable Daily Intake (ADI) 0.02 mg/kg body weight  *banned by US FDA, Canada and EC.	Cattle	Liver	100
Kidney			100	
Fat			100	
Milk ( $\mu\text{g/l}$ )			100	Australian standard MRL, 2012
Sheep		Muscle	100	Canadian MRL 2011
		Liver	100	
		Kidney	100	
		Fat	100	

	Goat	Muscle	100	Australian standard MRL, 2012
		Liver	100	
		Kidney	100	
		Fat	100	
	Camel	Muscle	100	Australian standard MRL, 2012
		Liver	100	
		Kidney	100	
		Fat	100	
	Chicken	Muscle	100	Australian standard MRL, 2012
		Liver	100	
		Kidney	100	
		Fat /skin	100	
Eggs		20		
<b>6.1.14.5. Sulfadimethoxine*</b>  Acceptable Daily Intake (ADI) 0.2 mg/kg body weight  *banned by US FDA, Canada and EC.	Cattle	Muscle	100	Canadian MRL 2011
		Liver	100	
		Kidney	100	
		Fat	100	
		Milk ( $\mu\text{g/l}$ )	10	
	Chicken	Muscle	100	Canadian MRL 2011
		Liver	100	
		Kidney	100	
		Fat /skin	100	
	Turkey	Muscle	100	Canadian MRL 2011
		Liver	100	
		Kidney	100	
Fat /skin		100		

<p><b>6.1.14.6. Sulfadimidine* (Sulfamethazine)</b></p> <p>Acceptable Daily Intake (ADI) 0.02 mg/kg body weight</p> <p>*banned by US FDA, Canada and EC.</p>	Cattle	Muscle	100	CAC/MRL 2-2011	
		Liver	100		
		Kidney	100		
		Fat	100		
		Milk (µg/l)	25		
	Sheep	Muscle	100	COUNCIL REGULATION (EEC) No. 2377/90	
		Liver	100		
		Kidney	100		
		Fat	100		
		milk	100		
	Goat	Muscle	100		
		Liver	100		
		Kidney	100		
		Fat	100		
		milk	100		
	Camel	Muscle	100		Australian standard MRL, 2012
		Liver	100		
		Kidney	100		
		Fat	100		
		milk	100		
	Chicken	Muscle	100		
		Liver	100		
		Kidney	100		
Fat /skin		100			
	Liver	200			
	Kidney	200			



	Turkey	Fat /skin	200		
<b>6.1.14.7. Sulfadoxine*</b>  Acceptable Daily Intake (ADI) 0.05 mg/kg body weight  *banned by US FDA, Canada and EC.	Cattle	Muscle	100	Canadian MRL 2011	
		Liver	100		
		Kidney	100		
		Fat	100		
		Milk ( $\mu\text{g/l}$ )	10		
	Sheep	Muscle	100	Australian standard MRL, 2012	
		Liver	100		
		Kidney	100		
		Fat	100		
	Goat	Muscle	100		
		Liver	100		
		Kidney	100		
		Fat	100		
	Camel	Muscle	100		Australian standard MRL, 2012
		Liver	100		
		Kidney	100		
Fat		100			
<b>6.1.14.8. Sulfaethoxypyridazine*</b>  Acceptable Daily Intake (ADI) 0.01 mg/kg body weight  *banned by US FDA, Canada and EC.	Cattle	Muscle	100	Canadian MRL 2011	
		Liver	100		
		Kidney	100		
		Fat	100		
		Milk ( $\mu\text{g/l}$ )	10		
<b>6.1.14.9. Sulfaguandine*</b>  Acceptable Daily Intake (ADI)	Cattle	Muscle	100		
		Liver	100		

0.01 mg/kg body weight  *banned by US FDA, Canada and EC.		Kidney	100	Canadian MRL 2011	
		Fat	100		
		Milk µg/l)	10		
	Sheep		Muscle	100	Canadian MRL 2011
			Liver	100	
			Kidney	100	
			Fat	100	
	Rabbit		Edible offal	100	Canadian MRL 2011
			Muscle	100	
			Liver	100	
			Kidney	100	
	<b>6.1.14.10. Sulfamerazine*</b>  Acceptable Daily Intake (ADI) 0–50 µg/kg body weight  *banned by US FDA, Canada and EC.	Cattle	Muscle	100	Canadian MRL 2011
Liver			100		
Kidney			100		
Fat			100		
Milk µg/l)			10		
Sheep			Muscle	100	Canadian MRL 2011
			Liver	100	
			Kidney	100	
			Fat	100	
Goat			Muscle	100	Canadian MRL 2011
			Liver	100	
			Kidney	100	
			Fat	100	
Chicken			Muscle	100	
			Liver	100	

		Kidney	100	Canadian MRL 2011	
		Fat /skin	100		
		Eggs	100		
	Turkey	Muscle	100		
		Liver	100		
		Kidney	100		
		Fat /skin	100		
<b>6.1.14.11. Sulfanilamide*</b>  Acceptable Daily Intake (ADI) 75 ug/kg body weight  *banned by US FDA, Canada and EC.	Cattle	Muscle	100	Canadian MRL 2011	
		Liver	100		
		Kidney	100		
		Fat	100		
		Milk (µg/l)	10		
	Sheep	Muscle	100	Canadian MRL 2011	
		Liver	100		
		Kidney	100		
		Fat	100		
		Milk (µg/l)	10		
<b>6.1.14.12. Sulfanitran*</b>  Acceptable Daily Intake (ADI) 0.85 mg/kg body weight  *banned by US FDA, Canada and EC.	Chicken	Muscle	100	Canadian MRL 2011	
		Liver	100		
		Kidney	100		
		Fat /skin	100		
		Eggs	100		
	Turkey	Muscle	100		
		Liver	100		
		Kidney	100		

		Fat /skin	100		
<b>6.1.14.13. Sulfapyridine*</b>  Acceptable Daily Intake (ADI) 0.003 mg kg body weight  *banned by US FDA, Canada and EC.	Cattle	Muscle	100	Canadian MRL 2011	
		Liver	100		
		Kidney	100		
		Fat	100		
		Milk (µg/l)	10		
<b>6.1.14.14. Sulfaquinoxaline*</b>  Acceptable Daily Intake (ADI) 0.01 mg/kg body weight  *banned by US FDA, Canada and EC.	Cattle	Muscle	100	Canadian MRL 2011	
		Liver	100		
		Kidney	100		
		Fat	100		
		Milk (µg/l)	10		
	Sheep	Muscle	100		
		Liver	100		
		Kidney	100		
		Fat	100		
	Chicken	Muscle	100		Australian standard MRL, 2012
		Liver	100		
		Kidney	100		
		Fat /skin	100		
		Eggs	10		
	Turkey	Muscle	100		Canadian MRL 2011
		Liver	100		
		Kidney	100		
Fat /skin		100			
Rabbit	Muscle	100			

		Liver	100	Canadian MRL 2011
		Kidney	100	
		Fat	100	
<p><b>6.1.14.15. Sulfathiazole*</b></p> <p>Acceptable Daily Intake (ADI) 0.2 mg/kg body weight</p> <p>*banned by US FDA, Canada and EC.</p>	Cattle	Muscle	100	Canadian MRL 2011
		Liver	100	
		Kidney	100	
		Fat	100	
		Milk (µg/l)	10	
	Sheep	Muscle	100	Canadian MRL 2011
		Liver	100	
		Kidney	100	
		Fat	100	
	Goat	Muscle	100	Canadian MRL 2011
		Liver	100	
		Kidney	100	
		Fat	100	
	Chicken	Muscle	100	Canadian MRL 2011
		Liver	100	
		Kidney	100	
Fat /skin		100		
Eggs		100		
Turkey	Muscle	100	Canadian MRL 2011	
	Liver	100		
	Kidney	100		
	Fat /skin	100		

<b>6.1.15. TETRACYCLINES</b>  <b>6.1.15.1. Chlortetracycline</b>  Acceptable Daily Intake (ADI) 0-3 µg/kg body weight	Cattle	Muscle	100	Australian standard MRL, 2012
		Liver	300	
		Kidney	600	
		Milk (µg/l)	100	CAC/MRL 2-2011
	Sheep	Muscle	200	CAC/MRL 2-2011
		Liver	600	
		Kidney	1200	
		Milk (µg/l)	100	
	Chicken	Muscle	100	Australian standard MRL, 2012
		Liver	600	CAC/MRL 2-2011, Australian standard MRL, 2012
		Kidney	600	Australian standard MRL, 2012
		Eggs	200	
	Turkey	Muscle	100	Australian standard MRL, 2012
		Liver	600	Canadian MRL, 2011, Australian standard MRL, 2012
		Kidney	600	Australian standard MRL, 2012
	Fish	Muscle	200	CAC/MRL 2-2011
<b>6.1.15.2. Doxycycline</b>  Acceptable Daily Intake (ADI) 0-3 µg/kg body weight	Cattle	Muscle	100	COMMISSION REGULATION (EU) No 37/2010
		Liver	300	
		Kidney	600	
	Poultry	Muscle	100	

		Liver	300	
		Kidney	600	
		Fat/skin	300	
<b>6.1.15.3. Oxytetracycline</b>  Acceptable Daily Intake (ADI) 0-3 µg/kg body weight	Cattle	Muscle	100	Australian standard MRL, 2012
		Liver	300	
		Kidney	600	
		Milk (µg/l)	100	Canadian MRL 2011
	Sheep	Muscle	100	Australian standard MRL, 2012
		Liver	300	
		Kidney	600	
		Milk (µg/l)	100	
	Goat	Muscle	100	Australian standard MRL, 2012
		Liver	300	
		Kidney	600	
		Milk (µg/l)	100	
	Camel	Muscle	100	Australian standard MRL, 2012
		milk	100	
	Chicken	Muscle	100	Australian standard MRL, 2012
		Liver	600	Canadian MRL 2011
		Kidney	1200	
		Eggs	400	
	Turkey	Muscle	200	Canadian MRL 2011
		Liver	600	
Kidney		1200		

	Salmonids	Muscle	200	Canadian MRL 2011		
	Lobsters	Skin	200			
<b>6.1.15.4. Tetracycline</b>  Acceptable Daily Intake (ADI) 0-3 µg/kg body weight	Cattle	Muscle	100	COMMISSION REGULATION (EU) No 37/2010		
		Liver	300			
		Kidney	600			
		Milk (µg/l)	100			
	Sheep	Muscle	100		COMMISSION REGULATION (EU) No 37/2010	
		Liver	300			
		Kidney	600			
		Milk (µg/l)	100			
	Goat	Muscle	100			COMMISSION REGULATION (EU) No 37/2010
		Liver	300			
		Kidney	600			
		Milk (µg/l)	100			
	Chicken	Muscle	100	COMMISSION REGULATION (EU) No 37/2010		
		Liver	300			
		Kidney	600			
		Milk (µg/l)	100			
		Eggs	200			



## 6.2. MAXIMUM RESIDUE LIMITS OF ANTIFUNGAL DRUGS

Drug groups	Food commodity		MRL µg/kg	References (MRL)
	Species	Tissue or product		
<b>6.2.1. Natamycin</b> Acceptable Daily Intake (ADI) 0.3 mg/kg body weight	Cattle	Edible tissues	Withdrawn (for topical use only)	EMA/MRL/342/98
<b>6.2.2. Nystatin</b> Acceptable Daily Intake (ADI) Not established	Cattle	Edible tissues	Withdrawn (for topical use only)	EMA/MRL/CVMP/ 151/99
	Poultry	Edible tissues	Withdrawn (for topical use only)	

## 6.3. MAXIMUM RESIDUE LIMITS OF ANTIPARASITIC DRUGS

## 6.3.1. Maximum Residue Limits (MRLs) of Anticoccidial drugs

Drug groups	Food commodity		MRL µg/kg	References (MRL)
	Species	Tissue or product		
<b>6.3.1.1. Amprolium</b> Acceptable Daily Intake (ADI) 100 µg/kg body weight	Cattle	Muscle	500	Canadian MRL, 2011
		Liver	500	
		Kidney	500	
		Fat	2000	
	Chicken	Muscle	200	EMA/MRL/767/00-FINAL (2001)
		Liver	200	
		Kidney	400	
		Skin/fat	200	
		Eggs	1000	
	Turkey	Muscle	200	
Liver		200		

		Kidney	400	EMEA/MRL/767/00-FINAL (2001)
		Skin/fat	200	
<b>6.3.1.2. Clazuril</b>				
Acceptable Daily Intake (ADI) 0.05 mg/kg body weight	Pigeon	No MRL required	Not applicable	COMMISSION REGULATION (EU) No 37/2010
<b>6.3.1.3. Clopidol</b>				
Acceptable Daily Intake (ADI) 0.0025 mg/kg body weight	Cattle	Muscle	200	The Japan Food Chemical Research Foundation, <a href="http://www.m5.ws001.squarespace.com/jp/foundation/agrdtl.php?a_inq=20100">http://www.m5.ws001.squarespace.com/jp/foundation/agrdtl.php?a_inq=20100</a>
		Liver	2000	
		Kidney	3000	
		Fat	200	
		Milk (µg/l)	20	
	Chicken	Muscle	5000	Canadian MRL, 2011
		Liver	15000	
		Kidney	15000	
	Turkey	Muscle	5000	Canadian MRL, 2011
		Liver	15000	
		Kidney	15000	
	<b>6.3.1.4. Decoquinatate</b>			
Acceptable Daily Intake (ADI) 0-7 µg/kg body weight	Cattle	Muscle	1000	Canadian MRL, 2011
		Liver	2000	
		Kidney	2000	
		Fat	2000	
	Goat	Muscle	1000	Canadian MRL, 2011
		Liver	2000	
		Kidney	2000	
		Fat	2000	

	Chicken	Muscle	1000	Canadian MRL, 2011
		Liver	2000	
		Kidney	2000	
		Fat	2000	
<b>6.3.1.5. Diclazuril</b>  Acceptable Daily Intake (ADI) 0-30 µg/kg body weight	Sheep	Muscle	500	CAC/MRL 2-2012
		Liver	3000	
		Kidney	2000	
		Fat	1000	
	Poultry	Muscle	500	CAC/MRL 2-2012
		Liver	3000	
		Kidney	2000	
		Fat/skin	1000	
	Rabbit	Muscle	500	CAC/MRL 2-2012
		Liver	3000	
		Kidney	2000	
		Fat	1000	
<b>6.3.1.6. Dinitolmide (Zoalene)</b>  Acceptable Daily Intake (ADI) µg/kg body weight	Chicken	Muscle	3000	Australian standard MRL, 2012  Canadian MRL, 2011
		Liver	6000	
		Kidney	6000	
		Fat /skin	2000	
	Turkey	Muscle	3000	Canadian MRL, 2011
		Liver	3000	
		Kidney	6000	
		Fat	3000	
<b>6.3.1.7. Ethopapate</b>	Chicken	Muscle	40	

Acceptable Daily Intake (ADI) 100 ug/kg body weight	Other poultry	Muscle	5000	The Japan Food Chemical Research Foundation <a href="http://www.m5.ws001.squarestart.ne.jp/foundation/agrdtl.php?a_inq=10900">http://www.m5.ws001.squarestart.ne.jp/foundation/agrdtl.php?a_inq=10900</a>
	Other poultry	Fat	5000	
	Chicken,	Liver	40	
	Other poultry	liver	20000	
	Chicken	kidney	40	
	Other poultry	kidney	20000	
	Chicken	edible offal	40	
	Other poultry	edible offal	20000	
<b>6.3.1.8. Halofuginone hydrobromide</b>  Acceptable Daily Intake (ADI) 0.0003 mg/kg body weight	Cattle	Muscle	10	Australian standard MRL, 2012  Canadian MRL(2011)
		Liver	30	
		Kidney	30	
		Fat	25	
	Chicken	liver	100	
<b>6.3.1.9. Lasalocid Sodium</b>  Acceptable Daily Intake (ADI) 0.001 mg/kg body weight	Cattle	Muscle	50	Australian standard MRL, 2012
		Liver	700	
		Kidney	700	
		Fat	700	
		Milk (µg/l)	10	
	Sheep	Muscle	50	Australian standard MRL, 2012
		Liver	700	
		Kidney	700	

		Fat	700	
	Goat	Muscle	50	Australian standard MRL, 2012
		Liver	700	
		Kidney	700	
		Fat	700	
	Camel	Muscle	50	Australian standard MRL, 2012
		Liver	700	
		Kidney	700	
		Fat	700	
	Chicken	Muscle	100	Australian standard MRL, 2012
		Liver	400	
		Kidney	400	
		Fat /skin	350	Canadian MRL(2011)
		Eggs	50	Australian standard MRL, 2012
	<b>6.3.1.10. Maduramicin ammonium</b>  Acceptable Daily Intake (ADI) 0.001 mg/kg body weight	Chicken	Muscle	100
Liver			1000	
Kidney			1000	
Fat /skin			400	Canadian MRL(2011)
<b>6.3.1.11. Methyl benzoate</b>  Acceptable Daily Intake (ADI) 0.005 mg/kg body weight	Chicken	Muscle	100	Australian standard MRL, 2012
		Liver	100	
		Kidney	100	
		Fat /skin	200	Canadian MRL (2011)
<b>6.3.1.12. Monensin</b>  Acceptable Daily Intake (ADI)	Cattle	Muscle	10	CAC/MRL 2-2011
		Liver	20	
		Kidney	10	

0–10 µg/kg body weight		Fat	50	Canadian MRL (2011)
		Milk (µg/l)	2	CAC/MRL 2-2011
	Sheep	Muscle	5	Australian standard MRL, 2012
		Liver	20	CAC/MRL 2-2011
		Kidney	10	
		Fat	70	Australian standard MRL, 2012
	Goat	Muscle	10	CAC/MRL 2-2011
		Liver	20	
		Kidney	10	
		Fat	100	
	Chicken	Muscle	10	CAC/MRL 2-2011
		Liver	10	
		Kidney	10	
Fat /skin		50	Canadian MRL (2011)	
<b>6.3.1.13. Narasin</b>  Acceptable Daily Intake (ADI) 0–5 µg/kg body weight	Cattle	Muscle	15	JECFA/75/SC – 2012
		Liver	50	
		Kidney	15	
		Fat	50	
	Chicken	Muscle	15	CAC MRL, 31 <sup>th</sup> (2008)
		Liver	50	
		Kidney	15	
		Fat /skin	50	
<b>6.3.1.14. Nicarbazin</b>  Acceptable Daily Intake	Chicken	Muscle	200	
		Liver	200	

(ADI) 0-400 µg/kg body weight		Kidney	200	CAC/MRL 2-2012
		Fat /skin	200	
<b>6.3.1.15. Ormetoprim</b>  Acceptable Daily Intake (ADI) 4 ug/kg body weight	Salmonids	muscles	100	Canadian MRL(2011)
		skin	100	
<b>6.3.1.16. Robenidine hydrochloride</b>  Acceptable Daily Intake (ADI) 0.005 mg/kg body weight	Chicken	Muscle	100	Canadian MRL(2011)  Australian standard MRL, 2012
		Liver	100	
		Kidney	100	Canadian MRL(2011)
		Fat /skin	200	
<b>6.3.1.17. Salinomycin Sodium</b>  Acceptable Daily Intake (ADI) 0.01 mg/kg body weight	Cattle	Muscle	50	Australian standard MRL, 2012
		Liver	350	Canadian MRL(2011)
		Kidney	500	Australian standard MRL, 2012
	Chicken	Muscle	100	Australian standard MRL, 2012
		Liver	500	
		Kidney	500	
		Fat /skin	350	Canadian MRL(2011)
	Eggs	20	Australian standard MRL, 2012	
	<b>6.3.1.18. Sempduramicin</b>  Acceptable Daily Intake (ADI) 3 ug/kg body weight	Chicken	Muscle	50
Liver			500	
Kidney			200	
Fat /skin			500	
<b>6.3.1.19. Toltrazuril</b>	Cattle	Muscle	250	Australian standard

Acceptable Daily Intake (ADI) 2 ug/kg body weight		Liver	2000	MRL, 2012
		Kidney	1000	
		Fat	1000	
	Chicken	Muscle	2000	Australian standard MRL, 2012
		Liver	5000	
		Kidney	5000	
		Eggs	30	

### 6.3.2. Maximum Residue Limits (MRLs) of Anthelmintic agents

Drug groups	Food commodity		MRL µg/kg	References (MRL)
	Species	Tissue or product		
6.3.2.1. Abamectin  Acceptable Daily Intake (ADI) 0-2 µg/kg body weight	Cattle	Muscle	5	Australian standard MRL, 2011
		Liver	100	CAC/MRL 2-2011
		Kidney	50	
		Fat	100	
		Milk	20	Australian standard MRL, 2012
	Sheep	Muscle	20	EMEA/MRL/865/03- FINAL June 2004
		Liver	50	Australian standard MRL, 2012
		Kidney	50	
		Fat	50	
	Goat	Meat	10	Australian standard MRL, 2012
		Liver	50	
		Kidney	10	
		Fat	100	



		Milk	5	The Japan Food Chemical Research Foundation, 2012
	Chicken	Meat	10	
		Liver	20	
		Kidney	20	
		Fat/skin	10	
		Eggs	10	
<b>6.3.2.2. Albendazole</b>  Acceptable Daily Intake (ADI) 0 - 50 µg/kg body weight	Cattle	Muscle	50	Canadian MRL 2011
		Liver	100	Australian standard MRL, 2012
		Kidney	50	letter cl 2005-10 rvdF
		Fat	100	Canadian MRL 2011
		Milk (µg/l)	100	CAC/MRL 2-2011
	Sheep	Muscle	100	EMEA/MRL/865/03- June 2004
		Liver	1000	
		Kidney	500	
		Fat	100	
		Milk	100	
	Goat	Muscle	100	Australian standard MRL, 2012
		Liver	100	
		Kidney	100	
		Fat	100	
		Milk	100	
	Camel	Muscle	100	EMEA/MRL/865/03-
		Liver	1000	
		Kidney	500	

		Fat	100	June 2004
		Milk (µg/l)	100	
<b>6.3.2.3. Avermectin</b>  Acceptable Daily Intake (ADI) 0 -2 µg/kg body weight	Cattle	Muscle	5	Australian standard MRL, 2012
		Liver	100	CAC/MRL 2-2011
		Kidney	50	
		Fat	100	
	Milk (µg/l)	20	Australian standard MRL, 2012	
	Sheep	Muscle	20	EMEA/MRL/865/03- FINAL June 2004
		Liver	50	Australian standard MRL, 2012
		Kidney	50	
		Fat	50	
	Goat	Muscle	10	Australian standard MRL, 2012
		Liver	50	
		Kidney	10	
		Fat	100	
		Milk	5	
	Chicken	Meat	10	The Japan Food Chemical Research Foundation  <a href="http://www.m5.ws001.squarestart.ne.jp/foundation/agrdtl.php?a_inq=3900">http://www.m5.ws001.squarestart.ne.jp/foundation/agrdtl.php?a_inq=3900</a>
		Liver	20	
Kidney		20		
Fat/skin		10		
Eggs		10		
<b>6.3.2.4. Closantel</b>  Acceptable Daily Intake (ADI) 0 - 30 µg/kg	Cattle	Muscle	1000	
		Liver	1000	

body weight		Kidney	3000	CAC/MRL 2-2011
		Fat	3000	
		Milk (µg/l)	45	European commission, <a href="http://www.vmd.defra.gov.uk/pdf/MRLMilk_article.pdf">http://www.vmd.defra.gov.uk/pdf/MRLMilk_article.pdf</a>
	Sheep	Muscle	1500	CAC/MRL 2-2011
		Liver	1500	
		Kidney	3000	CIRCULAR LETTER CL 2005-10 RVDF
Fat		2000	CAC/MRL 2-2011	
milk		45	European commission, <a href="http://www.vmd.defra.gov.uk/pdf/MRLMilk_article.pdf">http://www.vmd.defra.gov.uk/pdf/MRLMilk_article.pdf</a>	
<b>6.3.2.5. Derquantel</b>  Acceptable Daily Intake (ADI) 0 – 0.3 µg/kg body weight	Sheep	Muscle	0.2	JECFA/75/SC - 2012
		Liver	2.0	
		Kidney	0.2	
		Fat	0.7	
<b>6.3.2.6. Doramectin</b>  Acceptable Daily Intake (ADI) 0 -1 µg/kg body weight	Cattle	Muscle	10	CAC/MRL 2-2011
		Liver	70	Canadian MRL, 2011
		Kidney	30	CAC/MRL 2-2011
		Fat	100	Australian standard MRL, 2012
		Milk (µg/l)	15	CAC/MRL 2-2011
	Sheep	Muscle	20	Australian standard MRL, 2012
		Liver	50	
		Kidney	50	

		Fat	100	
<b>6.3.2.7. Eprinomectin</b>  Acceptable Daily Intake (ADI) 0 - 10 µg/kg body weight	Cattle	Muscle	50	CODEX CIRCULAR LETTER CL 2005-10 RVDF
		Liver	1000	Canadian MRL(2011)
		Kidney	300	CAC/MRL 2-2011
		Fat	250	
		Milk (µg/l)	20	
<b>6.3.2.8. Febantel/Fenbendazole</b>  Acceptable Daily Intake (ADI) 0-4 µg/kg body weight	Cattle	Muscle	50	CIRCULAR LETTER CL 2005-10 RVDF
		Liver	100	Australian standard MRL, 2012
		Kidney	50	CIRCULAR LETTER CL 2005-10 RVDF
		Fat	50	
		Milk (µg/l)	10	
	Sheep	Muscle	100	CAC/MRL 2-2011
		Liver	500	
		Kidney	100	
		Fat	100	
		milk	100	
	Goat	Muscle	50	CIRCULAR LETTER CL 2005-10 RVDF
		Liver	500	CAC/MRL 2-2011
		Kidney	50	CODEX CIRCULAR LETTER CL 2005-10 RVDF
		Fat	50	
		milk	100	CAC/MRL 2-2011

<b>6.3.2.9. Flubendazole</b> Acceptable Daily Intake (ADI) 0-12 µg/kg body weight	Chicken	Muscle	50	CODEX CIRCULAR LETTER CL 2005-10 RVDF
		Liver	400	CAC/MRL 2-2011
		eggs	400	
<b>6.3.2.10. Ivermectin</b> Acceptable Daily Intake (ADI) 0 - 1 µg/kg body weight	Cattle	Muscle	10	Canadian MRL(2011)
		Liver	70	
		Kidney	10	Australian standard MRL, 2012
		Fat	100	Canadian MRL(2011)
		Milk (µg/l)	10	CAC/MRL 2-2011 CODEX CIRCULAR LETTER CL 2005-10 RVDF
	Sheep	Muscle	10	Canadian MRL(2011)
		Liver	15	CAC/MRL 2-2011
		Kidney	10	Australian standard MRL, 2012
		Fat	20	CAC/MRL 2-2011
	<b>6.3.2.11. Levamisole</b> Acceptable Daily Intake (ADI) 3 ug/kg body weight	Cattle	Muscle	10
Liver			100	CAC/MRL 2-2011 Canadian MRL(2011)
Kidney			10	CAC/MRL 2-2011
Fat			10	CAC/MRL 2-2011
Sheep		Muscle	10	CAC/MRL 2-2011
		Liver	100	
		Kidney	10	
		Fat	10	

		Milk	300	Australian standard MRL, 2012
	Goat	Muscle	100	Australian standard MRL, 2012
		Liver	1000	
		Kidney	1000	
		Milk	100	
	Camel	Muscle	100	Australian standard MRL, 2012
		Liver	1000	
		Kidney	1000	
		Milk	300	
	Chicken	Muscle	10	CAC/MRL 2-2011
		Liver	100	CAC/MRL 2-2011
		Kidney	10	
		Fat /skin	10	
		Eggs	1000	Australian standard MRL, 2012
<b>6.3.2.12. Mebendazol</b>  Acceptable Daily Intake (ADI) 1.25 µg/kg body weight	Sheep	Muscle	60	EMEA/MRL/781/01- FINAL (2001)
		Liver	400	
		Kidney	60	
		Fat	60	
	Goat	Muscle	60	EMEA/MRL/781/01- FINAL (2001)
		Liver	400	
		Kidney	60	
		Fat	60	
<b>6.3.2.13. Monepantel</b>	Cattle	Liver	1500	

Acceptable Daily Intake (ADI) 0–20 µg/kg body weight		Milk (µg/l)	100	Canadian MRL(2011)
	Goat	Milk	100	Australian standard MRL, 2012
	Sheep	Muscle	300	(JECFA/75/SC – 2012)
		Liver	2000	Australian standard MRL, 2012
		Kidney	700	JECFA/75/SC – 2012
		Fat	5500	
		Milk	100	Australian standard MRL, 2012
Camel	Milk	100	Australian standard MRL, 2012	
<b>6.3.2.14. Moxidectin</b> Acceptable Daily Intake (ADI) 0-2 µg/kg body weight	Cattle	Muscle	50	Canadian MRL(2011) CODEX CIRCULAR LETTER CL 2005-10 RVDF
		Liver	100	CAC/MRL 2-2011
		Kidney	50	
		Fat	500	
		Milk (µg/l)	40	Canadian MRL(2011) CODEX CIRCULAR LETTER CL 2005-10 RVDF
	Sheep	Muscle	50	CAC/MRL 2-2011
		Liver	50	Australian standard MRL, 2012
		Kidney	50	CAC/MRL 2-2011
		Fat	500	

<b>6.3.2.15. Nitobimin</b>  Acceptable Daily Intake (ADI) 5 ug/kg body weight	Cattle	Muscle	100	EMEA/MRL/565/99-FINAL (1999)
		Liver	1000	
		Kidney	500	
		Fat	100	
		Milk (µg/l)	100	
	Sheep	Muscle	100	EMEA/MRL/565/99-FINAL (1999)
		Liver	1000	
		Kidney	500	
		Fat	100	
		Milk (µg/l)	100	
	Goat	Muscle	100	EMEA/MRL/565/99-FINAL (1999)
		Liver	1000	
		Kidney	500	
		Fat	100	
		Milk (µg/l)	100	
<b>6.3.2.16. Nitroxylinil</b>  Acceptable Daily Intake (ADI) 0-20 (µg/Kg) body weight	Cattle	Muscle	1000	Australian standard MRL, 2012
		Liver	1000	
		Kidney	1000	
		Fat	1000	
	Goat	Muscle	1000	Australian standard MRL, 2012
		Liver	1000	
		Kidney	1000	
		Fat	1000	
	Sheep	Muscle	1000	



		Liver	1000	Australian standard MRL, 2012
		Kidney	1000	
		Fat	1000	
<b>6.3.2.17. Oxfendazole</b>  Acceptable Daily Intake (ADI) 0-20 µg/Kg body weight	Cattle	Muscle	50	CR-2377_99
		Liver	500	
		Kidney	50	
		Fat	50	
		Milk (µg/l)	10	
	Goat	Muscle	50	
		Liver	500	
		Kidney	50	
		Fat	50	
		Milk (µg/l)	10	
	Sheep	Muscle	50	
		Liver	500	
		Kidney	50	
		Fat	50	
		Milk (µg/l)	10	
	Camel	Muscle	50	
		Liver	500	
		Kidney	50	
		Fat	50	
		Milk (µg/l)	10	

	salmonids	muscles	100	Canadian MRL(2011)
		skin	100	
<b>6.3.2.18. Oxyclozanide</b> Acceptable Daily Intake (ADI) 0.03 mg/Kg body weight	Cattle	Muscle	20	EMEA/MRL/889/03-FINAL (2004)
		Liver	500	
		Kidney	100	
		Fat	20	
		Milk (µg/l)	10	
	Sheep	Muscle	20	EMEA/MRL/889/03-FINAL (2004)
		Liver	500	
		Kidney	100	
		Fat	20	
	<b>6.3.2.19. Piperazine</b> Acceptable Daily Intake (ADI) 0.25 mg/Kg body weight	Chicken	eggs	2 000
<b>6.3.2.20. Prazequantel</b> Acceptable Daily Intake (ADI) 0-20 µg/Kg body weight	Sheep	Muscle	50	Australian standard MRL, 2012
		Liver	50	
		Kidney	50	
		Fat	50	
<b>6.3.2.21. Rifaxanide</b> Acceptable Daily Intake (ADI) 2 µg/Kg body weight	Cattle	Muscle	30	EMEA/MRL/636/99 FINAL (1999)
		Liver	10	
		Kidney	40	
		Fat	30	
	Sheep	Muscle	100	EMEA/MRL/636/99 FINAL (1999)
		Liver	150	

		Kidney	150	
		Fat	250	
<b>6.3.2.22. Thiabendazole</b>  Acceptable Daily Intake (ADI) 0.3 mg/kg body weight	Cattle	Muscle	100	CAC/MRL 2-2011
		Liver	100	
		Kidney	100	
		Fat	100	
		Milk (µg/l)	50	
	Goat	Muscle	100	CAC/MRL 2-2011
		Liver	100	
		Kidney	100	
		Fat	100	
		milk (µg/l)	50	
	Sheep	Muscle	100	CAC/MRL 2-2011
		Liver	100	
		Kidney	100	
		Fat	100	
milk		50	Australian standard MRL, 2012	
Camel	milk	100		
<b>6.3.2.23. Triclabendazole</b>  Acceptable Daily Intake (ADI) 0-3 µg/kg body weight	Cattle	Muscle	250	CAC/MRL 2-2011
		Liver	850	
		Kidney	400	
		Fat	100	
		Milk (µg/l)	50	
	Goat	Muscle	500	

		Liver	2000	Australian standard MRL, 2012
		Kidney	1000	
		Fat	1000	
	Sheep	Muscle	200	CAC/MRL 2-2011
		Liver	300	
		Kidney	200	
		Fat	100	
	Camel	Muscle	500	Australian standard MRL, 2012
		Liver	2000	
		Kidney	1000	
		Fat	1000	

### 6.3.3. Maximum Residue Limits (MRLs) of Antiprotozoal drugs

Drug groups	Food commodity		MRL µg/kg	References (MRL)
	Species	Tissue or product		
<b>6. 3.3.1. Diminazene</b>  Acceptable Daily Intake (ADI)  0-100 µg/kg body weight	Cattle	Muscle	500	CAC/MRL 2-2011
		Liver	12000	
		Kidney	6000	
		Milk (µg/l)	150	
<b>6. 3.3.2. Imidocarb</b>  Acceptable Daily Intake (ADI)  0-10 µg/kg body weight	Cattle	Muscle	300	CAC/MRL 2-2011
		Liver	1500	
		Kidney	2000	
		Fat	50	
		Milk (µg/l)	50	
<b>6. 3.3.3. Isometamidium</b>	Cattle	Muscle	100	

Acceptable Daily Intake (ADI)  0-100 µg/kg body weight	Liver	500	CAC/MRL 2-2011
	Kidney	1000	
	Fat	100	
	Milk (µg/l)	100	

#### 6.3.4. Maximum Residue Limits (MRLs) of Ectoparasiticides

Drug groups	Food commodity		MRL µg/kg	References (MRL)
	Species	Tissue or product		
6. 3.4.1. Amitraz  Acceptable Daily Intake (ADI) 0 -0.5µg/kg body weight	Cattle	Muscle	100	Australian standard MRL, 2012
		Liver	200	COMMISSION REGULATION (EU) No 37/2010
		Kidney	200	
		Fat	200	
		Milk (µg/l)	10	
	Sheep	Meat	100	Australian standard MRL, 2012
		Liver	100	COMMISSION REGULATION (EU) No 37/2010
		Kidney	200	
		Fat	400	
		Milk (µg/l)	10	
	Goat	Meat	100	Australian standard MRL, 2012
		Liver	100	COMMISSION REGULATION (EU) No 37/2010
		Kidney	200	
		Fat	200	
		Milk (µg/l)	10	

	Camel	Muscle	100	Australian standard MRL, 2012
		Liver	500	
		Kidney	500	
		Fat	500	
		Milk (µg/l)	100	
<b>6. 3.4.2. Cyfluthrin</b>  Acceptable Daily Intake (ADI) 0-20 µg/kg body weight	Cattle	Muscle	20	CAC/MRL 2-2011, Australian standard MRL, 2012
		Liver	10	
		Kidney	10	
		Fat	200	CAC/MRL 2-2011
		Milk (µg/l)	40	
	Sheep	Muscle	20	Australian standard MRL, 2012
		Liver	10	
		Kidney	10	
		Fat	500	
		Milk (µg/l)	100	
	Goat	Muscle	20	Australian standard MRL, 2012
		Liver	10	
		Kidney	10	
		Fat	500	
		Milk (µg/l)	100	
	Camel	Muscle	20	Australian standard MRL, 2012
		Liver	10	
		Kidney	10	
		Fat	500	
		Milk (µg/l)	100	

	Chicken	Muscle	10	Australian standard MRL, 2012
		Liver	10	
		Kidney	10	
		Fat/skin	10	
		eggs	10	
	Turkey	Muscle	10	
		Liver	10	
		Kidney	10	
		Fat/skin	10	
<b>6.3.4.3. Cyhalothrin</b> Acceptable Daily Intake (ADI) 0-5 µg/kg body weight	Cattle	Muscle	20	CAC/MRL 2-2011 Australian standard MRL, 2012
		Liver	20	
		Kidney	20	
		Fat	3000	US Maximum Residue Levels in Food Commodities
		Milk (µg/l)	200	
	Sheep	Muscle	20	CAC/MRL 2-2011 Australian standard MRL, 2012
		Liver	20	Australian standard MRL, 2012
		Kidney	20	CAC/MRL 2-2011 Australian standard MRL, 2012
		Fat	400	CAC/MRL 2-2011
	Goat	Muscle	200	US Maximum Residue Levels in Food Commodities
		Liver	20	Australian standard MRL, 2012
		Kidney	20	
		Fat	3000	US Maximum Residue Levels in Food Commodities
milk		200		

	Camel	Muscle	500	Australian standard MRL, 2012
		Liver	20	
		Kidney	20	
	Chicken	Muscle	20	Australian standard MRL, 2012
		Liver	20	
		Kidney	20	
		Fat/skin	20	
		eggs	20	
<b>6.3.4.4. Cypermethrin</b>  Acceptable Daily Intake (ADI) 0-20 µg/kg body weight	Cattle	Muscle	50	CAC/MRL 2-2011
		Liver	50	CAC/MRL 2-2011, Australian standard MRL, 2012
		Kidney	50	
		Fat	1000	CAC/MRL 2-2011
		Milk (µg/l)	100	
	Sheep	Muscle	50	CAC/MRL 2-2011
		Liver	50	CAC/MRL 2-2011, Australian standard MRL, 2012
		Kidney	50	
		Fat	1000	CAC/MRL 2-2011
	Goat	Muscle	500	Australian standard MRL, 2012
		Liver	50	
		Kidney	50	
		Fat	50	
	Chicken	eggs	50	Australian standard MRL, 2012
<b>6.3.4.5. Cyromazine</b>  Acceptable Daily Intake (ADI)	Sheep	Muscle	300	COMMISSION REGULATION (EU) No 37/2010
		Liver	300	



0.06 mg/kg body weight		Kidney	300	
		Fat	300	
<b>6.3.4.6. Deltamethrin</b>  Acceptable Daily Intake (ADI) 0-10 µg/kg body weight	Cattle	Muscle	30	CAC/MRL 2-2011
		Liver	50	
		Kidney	50	CAC/MRL 2-2011 Australian standard MRL, 2012
		Fat	500	
		Milk (µg/l)	30	CAC/MRL 2-2011
	Sheep	Muscle	30	CAC/MRL 2-2011
		Liver	50	
		Kidney	50	
		Fat	200	Australian standard MRL, 2012
		Milk (µg/l)	50	
	Goat	Muscle	200	Australian standard MRL, 2012
		Liver	100	
		Kidney	100	
		Fat	200	
		Milk (µg/l)	50	
	Camel	Milk	50	Australian standard MRL, 2012
	Chicken	Muscle	10	Australian standard MRL, 2012
		Liver	10	
		Kidney	10	
		Fat /skin	500	CAC/MRL 2-2011
Eggs		10	Australian standard MRL, 2012	

	Fish (salmon)	Muscles	30	CAC/MRL 2-2011
<b>6.3.4.7. Diazinon*</b>  Acceptable Daily Intake (ADI)  0–0.002 mg/kg body weight  *banned by U.S. Environmental Protection Agency (EPA), 2000	Cattle	Muscle	20	COMMISSION REGULATION (EU) No 37/2010
		Liver	20	
		Kidney	20	
		Fat	700	
		Milk (µg/l)	20	
	Sheep	Muscle	20	
		Liver	20	
		Kidney	20	
		Fat	700	
		Milk (µg/l)	20	
	Goat	Muscle	20	
		Liver	20	
		Kidney	20	
		Fat	700	
		Milk (µg/l)	20	
<b>6.3.4.8. Dicyclanil</b>  Acceptable Daily Intake (ADI)  0-7 µg/kg body weight	Sheep	Muscle	150	CAC/MRL 2-2011
		Liver	125	
		Kidney	125	
		Fat	200	
<b>6.3.4.9. Emamectin</b>  Acceptable Daily Intake (ADI) 0.002 mg/kg body weight	Cattle	Muscle	2	Australian standard MRL, 2012
		Milk (µg/l)	0.5	
	Sheep	Muscle	2	

		Milk (µg/l)	0.5	Australian standard MRL, 2012
	Goat	Muscle	2	Australian standard MRL, 2012
		Milk (µg/l)	0.5	
	Camel	Muscle	2	Australian standard MRL, 2012
		Milk (µg/l)	0.5	
	Salmonids	Muscle	100	Canadian MRL(2011)
		Skin	1000	
	<b>6.3.4.10. Fluazuron</b> Acceptable Daily Intake (ADI) 0-40 µg/kg body weight	Cattle	Muscle	200
Liver			500	
Kidney			500	
Fat			7000	
<b>6.3.4.11. Permethrin</b> Acceptable Daily Intake (ADI) 0.05 mg/kg body weight	Cattle	Muscle	50	COMMISSION REGULATION (EU) No 37/2010
		Liver	50	
		Kidney	50	
		Fat	500	
		Milk (µg/l)	50	
<b>6. 3.4.12. Phoxim</b> Acceptable Daily Intake (ADI) 0.00025 mg/kg body weight	Sheep	Muscle	50	CAC/MRL 2-2011
		Liver	50	
		Kidney	50	
		Fat	400	
	Goat	Muscle	50	
		Liver	50	

		Kidney	50	CAC/MRL 2-2011
		Fat	400	
<b>6. 3.4.13. Teflubenzuron</b> Acceptable Daily Intake (ADI) 0.01 mg/kg body weight	Salmonids	Muscle	300	Canadian MRL(2011)
		skin	320	
<b>6. 3.4.14. Trichlorfon (metrifonate)</b> Acceptable Daily Intake (ADI) 0-2 µg/kg body weight	Cattle	Muscle	100	Australian standard MRL, 2012
		Liver	100	
		Kidney	100	
		Fat	100	
	Milk (µg/l)	50	Canadian MRL(2011)	

#### 6.4. MAXIMUM RESIDUE LIMITS OF ANTI-INFLAMMATORIES (AI)

##### 6.4.1. Maximum Residue Limits (MRLs) of Non Steroidal AI

Drug groups	Food commodity		MRL µg/kg	References (MRL)
	Species	Tissue or product		
<b>6.4.1.1. Carprofen</b> Acceptable Daily Intake (ADI) 8.6 µg/kg body weight	Cattle	Muscle	500	COMMISSION REGULATION (EU) No 37/2010  EMEA/MRL/042/95
		Liver	1000	
		Kidney	1000	
		Fat	1000	
<b>6.4.1.2. Diclofenac</b> Acceptable Daily Intake (ADI) 0.5 µg/kg body weight	Cattle	Muscle	5	COMMISSION REGULATION (EU) No 37/2010
		Liver	5	
		Kidney	10	
		Fat	1	
		Milk (µg/l)	0.1	

<b>6.4.1.3. Flunixin meglumine</b>  Acceptable Daily Intake (ADI) 0-6 µg/kg body weight	Cattle	Muscle	20	Australian standard MRL, 2012, Canadian MRL(2011)
		Liver	20	Australian standard MRL, 2012
		Kidney	20	
		Fat	30	COMMISSION REGULATION (EU) No 37/2010
		Milk (µg/l)	6	Canadian MRL(2011)
<b>6.4.1.4. Ketoprofen</b>  Acceptable Daily Intake (ADI) 0.001 mg/kg body weight	Cattle	Muscle	50	Australian standard MRL, 2012, Canadian MRL(2011)
		Liver	50	
		Kidney	50	
		Fat	50	
		Milk (µg/l)	50	
		Muscle	50	
<b>6.4.1.5. Meloxicam</b>  Acceptable Daily Intake (ADI) 0.0001 mg/kg body weight	Cattle	Muscle	10	Australian standard MRL, 2012
		Liver	60	Canadian MRL(2011)
		Kidney	20	
		Fat	0.02	USDA Foreign Agricultural Service Gain Report Number: JA7053,2007
		Milk (µg/l)	5	Australian standard MRL, 2012
<b>6.4.1.6. Tolfenamic acid</b>  Acceptable Daily Intake (ADI) 0.01 mg/kg body weight	Cattle	Muscle	50	EMEA/MRL/183/97 FINAL (1997)
		Liver	400	
		Kidney	100	
		Milk (µg/l)	50	

## 6.4.2. Maximum Residue Limits (MRLs) of Steroidal AI

Drug groups	Food commodity		MRL µg/kg	References (MRL)
	Species	Tissue or product		
<b>6.4.2.1. Dexamethasone</b>  Acceptable Daily Intake (ADI) 0-0.015 µg/kg body weight	Cattle	Muscle	1.0	CAC/MRL 2-2011
		Liver	2.0	
		Kidney	1.0	
		Fat	0.3	Australian standard MRL, 2012
<b>6.4.2.2. Hydrocortisone</b>  Acceptable Daily Intake (ADI) 0.001 µg/kg body weight	Cattle	Milk (µg/l)	10	Canadian MRL(2011)
<b>6.4.2.3. Prednisolone</b>  Acceptable Daily Intake (ADI) 0.0002 mg/kg body weight	Cattle	Muscle	4	COMMISSION REGULATION (EU) No 37/2010
		Liver	10	
		Kidney	10	
		Fat	4	
		Milk (µg/l)	6	

## 6.5. MAXIMUM RESIDUE LIMITS (MRLs) OF HORMONES

Drug groups	Food commodity		MRL µg/kg	References (MRL)
	Species	Tissue or product		
<b>6.5.1. Cloprostenol</b> Acceptable Daily Intake (ADI) 0.075 µg/kg body weight	Cattle	Edible tissues	No need to establish	Annex 11 of Council regulation (EEC) No 2377/90
<b>6.5.2. Estradiol-beta</b> Acceptable Daily Intake (ADI) 0-0.05 µg/kg body weight	Cattle	Muscle	unnecessary	CAC/MRL 2-2011
		Liver	unnecessary	
		Kidney	unnecessary	
		Fat	unnecessary	
<b>6.5.3. Gonadotrophin</b> Acceptable Daily Intake (ADI) 42.25 I.U. /kg body weight	All food producing species	Not applicable	No MRL required	COMMISSION REGULATION (EU) No 37/2010
<b>6.5.4. Melengestrol acetate</b> Acceptable Daily Intake (ADI) 0-0.03 µg/kg body weight	Cattle	Muscle	1	CAC/MRL 2-2012
		Liver	10	
		Kidney	2	
		Fat	18	
<b>6.5.5. Oxytocin</b> Acceptable Daily Intake (ADI) µg/kg body weight	All food producing species	Not applicable	No MRL required	EMEA/MRL/054/95

<b>6.5.6. Progesterone</b>  Acceptable Daily Intake (ADI) 0-30 µg/kg body weight	Cattle	Muscle	unnecessary	CAC/MRL 2-2012
		Liver	unnecessary	
		Kidney	unnecessary	
		Fat	unnecessary	
		Milk (µg/l)	unnecessary	
<b>6.5.7. Testosterone</b>  Acceptable Daily Intake (ADI) 0-2 µg/kg body weight	Cattle	Muscle	unnecessary	CAC/MRL 2-2011
		Liver	unnecessary	
		Kidney	unnecessary	
		Fat	unnecessary	
		Milk (µg/l)	unnecessary	

## 6.6. MAXIMUM RESIDUE LIMITS OF GROWTH PROMOTING AGENTS

Drug groups	Food commodity		MRL µg/kg	References (MRL)
	Species	Tissue or product		
<b>6.6.1. Arsanilic acid</b>  Acceptable Daily Intake (ADI) not established	Chicken	Muscle	500	Canadian MRL(2011)
		Liver	2000	
		Eggs	500	
	Turkey	Muscle	500	
		Liver	2000	
<b>6.6.2. Clenbuterol hydrochloride*</b>  Acceptable Daily Intake (ADI) 0-0.004 µg/kg body weight  * banned in Food Animal Residue Avoidance Databank and US FDA	Cattle	Muscle	0.1	COMMISSION REGULATION (EU) No 37/2010
		Liver	0.5	
		Kidney	0.5	
	Fat	0.2	CAC/MRL 2-2011	
	Milk (µg/l)	0.05		



<b>6.6.3. Ractopamine</b>  Acceptable Daily Intake (ADI) 0.001 mg/kg body weight	Cattle	Muscle	10	Compendium MRL Codex
		Liver	40	
		Kidney	10	
		Fat	10	
<b>6.6.4. Roxarsone</b>  Acceptable Daily Intake (ADI) 25 µg/kg body weight	Chicken	Muscle	500	Canadian MRL(2011)
		Liver	200	
		Eggs	500	
	Turkey	Muscle	500	
		Liver	200	
<b>6.6.5. Trenbolone acetate</b>  Acceptable Daily Intake (ADI) 0-0.02 µg/kg body weight	Cattle	Muscle	2	CAC/MRL 2-2011
		Liver	10	
		Kidney	10	Australian standard MRL, 2012
	Chicken	Muscle	2000	Australian standard MRL, 2012
		Liver	5000	
		Kidney	5000	
		Eggs	30	
	<b>6.6.6. Zeranol</b>  Acceptable Daily Intake (ADI) 0-0.5 µg/kg body weight	Cattle	Muscle	2
Liver			10	
Kidney			20	Australian standard MRL, 2012
Fat			20	
<b>6.6.7. Zilpaterol</b>  Acceptable Daily Intake (ADI) 0.083 µg/Kg body weight		Cattle	Muscle	2
	Liver		5	
	Kidney		5	

## 6.7. MAXIMUM RESIDUE LIMITS OF NERVOUS SYSTEM DRUGS

Drug groups	Food commodity		MRL µg/kg	References (MRL)
	Species	Tissue or product		
<b>6.7.1. Doxapram HCl</b> Acceptable Daily Intake (ADI) not established	All mammalian food producing species	Not applicable	No MRL required	COMMISSION REGULATION (EU) No 37/2010
<b>6.7.2. Ketamine</b> Acceptable Daily Intake (ADI) not established	All food producing species	Not applicable	No MRL required	COMMISSION REGULATION (EU) No 37/2010
<b>6.7.3. Procaine HCl</b> Acceptable Daily Intake (ADI) not established	All food producing species	Not applicable	No MRL required	COMMISSION REGULATION (EU) No 37/2010
<b>6.7.4. Tricaine Methanesulfonate</b> Acceptable Daily Intake (ADI) not established	Salmonids	Muscle	10	Canadian MRL(2011(
		skin	10	

**6.8. MAXIMUM RESIDUE LIMITS OF CARDIOVASCULAR SYSTEM DRUGS**

Drug groups	Food commodity		MRL µg/kg	References (MRL)
	Species	Tissue or product		
<b>6.8.1. Epinephrine</b> Acceptable Daily Intake (ADI) not established	All food producing species	Not applicable	No MRL required	COMMISSION REGULATION (EU) No 37/2010

**6.9. MAXIMUM RESIDUE LIMITS OF RESPIRATORY SYSTEM DRUGS**

Drug groups	Food commodity		MRL µg/kg	References (MRL)
	Species	Tissue or product		
<b>6.9.1. Bromhexine</b> Acceptable Daily Intake (ADI) 0.3 mg per person	Cattle	Not applicable	No MRL required	COMMISSION REGULATION (EU) No 37/2010
	Poultry	Not applicable	No MRL required	
<b>6.9.2. Etamiphylline camsilat</b> Acceptable Daily Intake (ADI) not established	All food producing species	Not applicable	No MRL required	COMMISSION REGULATION (EU) No 37/2010

## 6.10. MAXIMUM RESIDUE LIMITS OF DIGESTIVE SYSTEM DRUGS

Drug groups	Food commodity		MRL µg/kg	References (MRL)
	Species	Tissue or product		
<b>6.10.1. Atropine sulfate</b> Acceptable Daily Intake (ADI) 0-0.0002 mg/kg body weight	All food producing species	Not applicable	No MRL required	COMMISSION REGULATION (EU) No 37/2010
<b>6.10.2. Poloxalene</b> Acceptable Daily Intake (ADI) 0.02 mg/kg body weight	All food producing species	Not applicable	No MRL required	COMMISSION REGULATION (EU) No 37/2010

## 6.11. MAXIMUM RESIDUE LIMITS OF URINARY SYSTEM DRUGS

Drug groups	Food commodity		MRL µg/kg	References (MRL)
	Species	Tissue or product		
<b>6.11.1. Hydrochlorothiazide</b> Acceptable Daily Intake (ADI) 12.5 mg/kg body weight	Cattle	Not applicable	No MRL required	COMMISSION REGULATION (EU) No 37/2010

**REFERENCES**

ACCEPTABLE DAILY INTAKES (ADI) FOR AGRICULTURAL AND VETERINARY CHEMICALS. Australian Government, Department of Health and Aging Office of Chemical Safety. 31 December 2012.

Australian Standard (2012), Australian Pesticides and Veterinary Medicines Authority, The MRL Standard, Maximum residue limits in food and animal feedstuff July 2012.

Canadian Standards, Maximum residue limits (MRLs) of veterinary drugs in food, 2011.

Codex Alimentarius Commission (CAC), Maximum residue limits (MRLs) of veterinary drugs in food . 35th Session of the Codex Alimentarius Commission (July 2012)

Codex Alimentarius Commission (CAC), Maximum residue limits (MRLs) of veterinary drugs in food 2011.

COMMISSION REGULATION (EU) No 37/2010

COUNCIL REGULATION (EEC) No 2377/90

[http://www.fve.org/veterinary/pdf/medicines/regulation\\_2377\\_90\\_en.pdf](http://www.fve.org/veterinary/pdf/medicines/regulation_2377_90_en.pdf)

EMEA/MRL/865/03-FINAL, June 2004 : The European Agency for the Evaluation of Medicinal products. Veterinary Medicines and Information Technology Unit.

EMEA/MRL/CVMP/151/99-FINAL, March 1999. The European Agency for the Evaluation of Medicinal products. Veterinary Medicines and Information Technology Unit. Committee for Veterinary Medical Products.

EMEA/MRL/889/03-FINAL. June 2004. The European Agency for the Evaluation of Medicinal products. Veterinary Medicines and Information Technology Unit. Committee for Veterinary Medical Products.

EMEA/MRL/342/00-FINAL. January 2001. The European Agency for the Evaluation of Medicinal products. Veterinary Medicines and Information Technology Unit. Committee for Veterinary Medical Products.

EMEA/MRL/565/99-FINAL April (1999). The European Agency for the Evaluation of Medicinal products. Veterinary Medicines and Information Technology Unit. Committee for Veterinary Medical Products.

EMEA/MRL/342/98-FINAL. February 1998. The European Agency for the Evaluation of Medicinal products. Veterinary Medicines and Information Technology Unit. Committee for Veterinary Medical Products.

EUROPEAN COMMUNITY COMMENTS ON CODEX CIRCULAR LETTER CL 2005-10 RVDF.

EMA/MRL/079/96-FINAL, March 1996. The European Agency for the Evaluation of Medicinal products. Veterinary Medicines and Information Technology Unit.

JECFA (2011) JOINT FAO/WHO EXPERT COMMITTEE ON FOOD ADDITIVES Seventy-fifth meeting (Residues of veterinary drugs) Rome, 8–17 November 2011

JECFA (2012) JOINT FAO/WHO EXPERT COMMITTEE ON FOOD ADDITIVES. Summary report of the seventy-fifth meeting of JECFA (January, 2012)

The Japan Food Chemical Research Foundation, 2012

US Maximum Residue Levels in Food Commodities.

USDA Foreign Agricultural Service. Gain Report Number: JA7053,2007.

**AN APPENDIX OF  
MAXIMUM RESIDUES LIMITS (MRLs) OF VETERINARY  
DRUGS IN FOODS**

## 1. LIST OF VETERINARY DRUGS

No.	Drug	Page	No.	Drug	Page
1	Abamectin	49	78	Mebendazol	58
2	Albendazole	49	79	Melengestrol acetate	80
3	Amitraz	69	80	Meloxicam	76
4	Amoxicillin	13	81	Methyl benzoate	44
5	Ampicillin	13	82	Monensin	45
6	Amprolium	40	83	Monepantel	59
7	Apramycin	8	84	Moxidectin	60
8	Arsanilic acid	82	85	Narasin	46
9	Atropine sulfate	90	86	Natamycin	39
10	Avermectin	51	87	Neomycin	10
11	Avilamycin	27	88	Nicarbazin	46
12	Bacitracin	28	89	Nitobimin	60
13	Benzyl penicillin	14	90	Nitroxynil	61
14	Bromhexine	89	91	Novobiocin	7
15	Carprofen	75	92	Nystatin	39
16	Cefalonium	11	93	Oleandomycin	23
17	Cefapirin	11	94	Ormetoprim	46
18	Ceftiofur	12	95	Oxfendazole	61
19	Cefuroxime	12	96	Oxyclozanide	62
20	Chlortetracycline	35	97	Oxytetracycline	36
21	Clazuril	41	98	Oxytocin	80
22	Clenbuterol	82	99	Permethrin	74
23	Clopidol	41	100	Phoxim	74
24	Cloprostenol	79	101	Piperazine	62
25	Closantel	52	102	Pirlymicin	22
26	Cloxacillin	14	103	Poloxalene	90
27	Colistin	28	104	Polymixin B	29
28	Cyhalothrin	70	105	Praziquantel	63
29	Cyfluthrin	69	106	Prednisolone	78
30	Cypermethrin	70	107	Procaine benzyl penicillin	15
31	Cyromazine	71	108	Procaine HCl	86



32	Danofloxacin	18	109	Progesterone	80
33	Decoquate	41	110	Ractopamine	83
34	Deltamethrin	71	111	Rafoxanide	64
35	Derquantel	52	112	Robenidine hydrochloride	46
36	Dexamethasone	78	113	Roxarsone	83
37	Diazinon	72	114	Salinomycin Sodium	47
38	Diclazuril	42	115	Sarafloxacin	21
39	Diclofenac	75	116	Semduramycin	47
40	Dicyclanil	72	117	Spectinomycin	7
41	Difloxacin	19	118	Spiramycin	23
42	Dihydrostreptomycin	8	119	Streptomycin	11
43	Diminazene	67	120	Sulfabenzamide	30
44	Dinitolmide (Zoalene)	42	121	Sulfacetamide	30
45	Doramectin	53	122	Sulfachlorpyridazine	30
46	Doxapram HCl	85	123	Sulfadiazine	30
47	Doxycycline	36	124	Sulfadimethoxine	31
48	Emamectin	73	125	Sulfadimidine (Sulfamethazine)	31
49	Enrofloxacin	19	126	Sulfadoxine	32
50	Epinephrine	88	127	Sulfaethoxypyridazine	32
51	Eprinomectin	53	128	Sulfaguanidine	33
52	Erythromycin	22	129	Sulfamerazine	33
53	Estradiol-beta	79	130	Sulfanilamide	33
54	Etamiphylline camsilate	89	131	Sulfanitran	33
55	Ethopabate	42	132	Sulfapyridine	34
56	Febantel	54	133	Sulfaquinoxaline	34
57	Fenbendazole		134	Sulfathiazole	35
58	Florfenicol	16	135	Teflubenzuron	74
59	Fluazuron	73	136	Testosterone	81
60	Flubendazole	55	137	Tetracycline	37
61	Flumequine	20	138	Thiabendazole	64
62	Flunixin meglumine	75	139	Thiamphenicol	16
63	Gentamicin	9	140	Tiamulin	27
64	Gonadotrophin	80	141	Tilmicosin	24
65	Halofuginone hydrobromide	43	142	Tolfenamic acid	77

66	Hydrochlorothiazide	91	143	Toltrazuril	
67	Hydrocortisone	78	144	Trenbolone acetate	83
68	Imidocarb	68	145	Tricaine methane sulfonate	87
69	Isometamidium	68	146	Trichlorfon (metrifonate)	74
70	Ivermectin	56	147	Triclabendazole	65
71	Ketamine	85	148	Trimethoprim	18
72	Ketoprofen	76	149	Tulathromycin	24
73	Lasalocid Sodium	43	150	Tylosin	25
74	Levamisole	57	151	Virginiamycin	29
75	Lincomycin	22	152	Xylazine	87
76	Maduramicin Ammonium	44	153	Zeranol	84
77	Marbofloxacin	21	154	Zilpaterol	84

**2. RESIDUE DEFINITION, METHODS OF DETECTION AND WITHDRAWAL PERIODS OF VETERINARY DRUGS**  
**2.1. RESIDUE DEFINITION, METHODS OF DETECTION AND WITHDRAWAL PERIODS OF ANTIBACTERIAL DRUGS**

Drug groups	Food commodity		Residue Definition (Marker residue) and Method of detection (Technique)	References	Withdrawal period	References
	Species	Tissue or product				
<b>2.1.1. AMINOCOUMARIN ANTIBIOTIS</b>	Cattle	Muscle	Novobiocin  Gas Chromatography  (GC)	<a href="#">J. Assoc. Off. Anal. Chem.</a> 1988 Jul-Aug;71(4):776-	4 days veal calves	Food Animal Residue Avoidance & Depletion Program (FARAD) <a href="http://www.farad.org/eldu/prohibit.html">http://www.farad.org/eldu/prohibit.html</a> Pfizer, Inc.
		Milk			30 days Intramammary  3 days Intramammary	
<b>2.1.2. AMINOCYCLITOL ANTIBIOTICS</b>	Cattle	Muscle	Spectinomycin  Liquid Chromatography (LC)	FAO Food & Nutrition Paper 41/11; see also Report of 12th Meeting, CCRVDF: method issued by German Federal Institute for Consumer Health	32 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.167
					10 days lambs,	

	Goat	Muscle	Protection and Veterinary Medicine, applicable to spectinomycin residues in muscle, kidney, liver and fat of calves, pigs and chickens, and in egg.	oral	Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.167
	Chicken	Muscle		5 days  21 days inject.	AAMER et al. / Int. J. Agri. Biol., Vol. 2, No. 3, 2000  Adwia Pharmact.Co. Egypt
<b>2.1.3.AMINOGLYCOSIDES ANTIBIOTICS</b>  <b>2.1.3.1. Apramycin</b>	Cattle	Muscle	COMPENDIUM OF METHODS OF ANALYSIS	28 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.154
	Goat	Muscle		35 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.153
	Chicken	Muscle		7 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.153
<b>2.1.3.2.Dihydrostreptomycin</b>	Cattle	Muscle	FAO Food & Nutrition Paper 41/1  4; see also Gerhardt, G.C., Salisbury, C.D.C., & MacNeil, J.D. (1994)	30 days  Intramammary	Drugs and Their Usage William D.Grimly 1998 pp. 135  Food Animal Residue Avoidance & Depletion
			Dihydrostreptomycin Gas Chromatography – Mass Spectrophotometry		

<b>2.1.3.3.Gentamicin</b>	Cattle	Milk	(GC-MS)	J. AOAC Int. 77: 334-337; data provided to CCRVDF by Canada, 2nd laboratory verification of performance reported by UK	60 days	Program (FARAD) <a href="http://www.farad.org/eldu/prohibit.html">http://www.farad.org/eldu/prohibit.html</a>	
					4 days	Drugs and Their Usage William D.Grimly 1998 pp. 135	
	Chicken	Muscle	Muscle	Sum of gentamicin C1, gentamicin C1a, gentamicin C2 and gentamicin C2a	FAO Food & Nutrition Paper 41/11	360 days	Drugs and Their Usage William D.Grimly 1998 pp. 135 Food Animal Residue Avoidance & Depletion Program (FARAD) <a href="http://www.farad.org/eldu/prohibit.html">http://www.farad.org/eldu/prohibit.html</a>
						18 months	
	Goats	Muscle	Muscle	Liquid Chromatography (LC)		5 days	Drugs and Their Usage William D.Grimly 1998 pp. 135
						63 days	Drugs and Their Usage William D.Grimly 1998 pp. 135
						18 months	Food Animal Residue Avoidance & Depletion Program (FARAD) <a href="http://www.farad.org/eldu/prohibit.html">http://www.farad.org/eldu/prohibit.html</a>

<b>2.1.3.4.Neomycin</b>	Cattle	Milk	Neomycin B  Liquid Chromatography (LC)	52nd JECFA; data provided to CCRVDF	10 days	Food Animal Residue Avoidance & Depletion Program (FARAD) <a href="http://www.farad.org/eldu/prohibit.html">http://www.farad.org/eldu/prohibit.html</a>		
		Muscle			30 days	Drugs and Their Usage William D.Grimly 1998 pp. 137		
	Milk	2 days			Drugs and Their Usage William D.Grimly 1998 pp. 137			
	Sheep	Muscle			20 days	Drugs and Their Usage William D.Grimly 1998 pp. 137		
	Goat	Muscle			28 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.154		
	Chicken	Muscle			Zero	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop , 2005 pp.154		
	Cattle	Muscle			Streptomycin  Liquid Chromatography (LC)	FAO Food & Nutrition Paper 41/14; see also Gerhardt, G.C., Salisbury, C.D.C., & MacNeil, J.D. (1994) <i>J. AOAC Int.</i> 77: 334-337;	14 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop , 2005
		Milk					2 days ( oral) 2 days	
		Sheep					Muscle	
	<b>2.1.3.5.Streptomycin</b>							

	Goat	Muscle		data provided to CCRVDF by Canada, 2nd laboratory verification of performance reported by UK	14 days	pp.155
<b>2.1.4.BETA LACTAM</b> <b>2.1.4.1.Cephalosporins</b> <b>2.1.4.1.1. Cefalonium</b>	Cattle	Muscle	Cefalonium	Annex 1 EEC NO 2377/90	21 days	Shering-Plough
		Milk	High Performance Liquid Chromatography (HPLC)		54 days	
<b>2.1.4.1.2. Cefapirin</b>	Cattle	Muscle	Sum of cefapirin and desacetylcefapirin High Performance Liquid Chromatography (HPLC)		Sodium 4 days Benthazine 42 days	Drugs and Their Usage William D.Grimly 1998 pp. 130
		Milk			Intramammary 4 days	Drugs and Their Usage William D.Grimly 1998 pp. 137
<b>2.1.4.1.3.Ceftiofur</b>	Cattle	Muscle			Canada Zero	Drugs and Their Usage William D.Grimly 1998 pp. 128 The Veterinary

2.1.4.1.4.Cefuroxime	Cattle	Milk	Sum of all residues retaining the beta lactam structure expressed as desfuroylceftriaxone  Liquid Chromatography (LC)	Report of 12th Meeting, CCRVDF; FAO Food & Nutrition Paper 41/8	8 days	Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.150
					Canada Zero  Drugs and Their Usage William D.Grimly 1998 pp. 128  The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.150	
2.1.4.2.1.Amoxicillin	Cattle	Muscle	Not established		7 days	Schering-Plough
		Milk			3 days	
	Cattle	Muscle	Amoxicillin  High Performance Liquid Chromatography (HPLC)	Ethical Committee for Animal Testing (No. of the proposal 66/2003).  Acta Polonica Pharmaceutica n Drug Research, Vol. 67 No. 6 pp. 729-732, 2010	Inject. 25 days Oral calves 20 days	Drugs and Their Usage William D.Grimly 1998 pp. 125
		Milk			18 days Intravenous 12 days	The Veterinary Formulary Sixth edition Edited by Yolande Bishop 6 <sup>th</sup> ed 2005 pp.145
Chicken	Muscle				4 days inject. 2.5 days intravenous	Drugs and Their Usage William D.Grimly 1998 pp. 125
					Oral 2 days	The Veterinary Formulary



<b>2.1.4.2.2. Ampicillin</b>	Cattle	Muscle	Ampicillin High Performance Liquid Chromatography (HPLC)	Am J Vet Res. 2005 Jan;66(1):108-12.  Multivariate meta- analysis of pharmacokinetic studies of ampicillin trihydrate in cattle	6 days	Sixth edition Edited by Yolande Bishop 6 <sup>th</sup> ed 2005 pp.146
		Milk			18 days	Drugs and Their Usage William D.Grimly 1998 pp. 126  Boehringer Ingelheim Vetmedica, Inc.  The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.148
<b>2.1.4.2.3. Benzyl penicillin</b>	Cattle	Muscle		Fresenius J Anal Chem. 2001 Sep;371(1):64-7. Determination of benzylpenicillin, oxacillin, cloxacillin,	21 days i.m. 42 days s.c. 18 days	Drugs and Their Usage William D.Grimly 1998 pp. 131  The Veterinary
					2 days	Drugs and Their Usage William D.Grimly 1998 pp. 126  Boehringer Ingelheim Vetmedica, Inc.

			benzylpenicillin High Performance Liquid Chromatography (HPLC)	and dicloxacillin in cows' milk by ion-pair high-performance liquid chromatography after precolumn derivatization. Marchetti M, Schwaiger I, Schmid ER.			Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.145
	Milk				3 days	Drugs and Their Usage William D.Grimly 1998 pp. 131	
<b>2.1.4.2.4. Cloxacillin</b>	Cattle	Muscle	Cloxacillin High Performance Liquid Chromatography (HPLC)	Fresenius J Anal Chem. 2001 Sep;371(1):64-7. Determination of benzylpenicillin, oxacillin, cloxacillin, and dicloxacillin in cows' milk by ion-pair high-performance liquid chromatography after precolumn derivatization. Marchetti M, Schwaiger I, Schmid ER.	Benzathine 30 days  10 days	Drugs and Their Usage William D.Grimly 1998 pp. 130  Schering-Plough Animal Health	
		Milk			30 days benzathine  2 days	Drugs and Their Usage William D.Grimly 1998 pp. 130  Schering-Plough Animal Health	
<b>2.1.4.2.5. Procaine benzyl penicillin</b>	Cattle	Muscle	benzyl penicillin	Boison,J.O (1992) Chromatographic	21 days i.m. 42 days s.c.	Drugs and Their Usage William D.Grimly 1998 pp. 132	

<b>2.1.5. CHLORAMPHENICOLS</b>	Sheep	Milk	High Performance Liquid Chromatography (HPLC)	method of analysis of penicillin in food- animal tissues.J.Chromatogr.62 4:171-192	60 days benzathine	The Veterinary Formulary Sixth edition Edited by Yolande Bishop 6 <sup>th</sup> ed 2005 pp.145 G.C. Hanford Mfg. Co.
		Muscle				
<b>2.1.5.1.Thiamphenicol</b>	Cattle	Muscle	Thiamphenicol High Performance Liquid Chromatography (HPLC)	T. Nagataa & M. Saekia(1992) Journal of Liquid Chromatography <u>Volume 15, Issue 12,</u> 1992	28 days	Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht - Holland P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com
		Milk				

<b>2.1.5.2.Florfenicol</b>	Cattle	Muscle	Sum of florfenicol and its metabolites measured as florfenicol-amine  Liquid Chromatography (LC)	Chloramphenicol Residues in Muscles of Animals and Cultured Fish by Liquid Chromatography	28 days	Loosdrecht - Holland T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com
						Food Animal Residue Avoidance & Depletion Program (FARAD) <a href="http://www.farad.org/eldu/prohibit.html">http://www.farad.org/eldu/prohibit.html</a>
	Fish	Milk	CLG-FLOR1.04 Determination and Confirmation of Florfenicol United States Department of Agriculture Food Safety and Inspection Service, Office of Public Health Science	44 days	The Veterinary Formulary 6th ed. Yolande Bishop 6th ed 2005 pp.158	
		Muscle			Food Animal Residue Avoidance & Depletion Program (FARAD) <a href="http://www.farad.org/eldu/prohibit.html">http://www.farad.org/eldu/prohibit.html</a>	
					120 hours	Intervet/Schering-Plough Animal Health Corp.

2.1.6. <b>DIAMINOPYRIMIDINES</b> 2.1.6.1. Trimethoprim	Cattle	Muscle	Trimethoprim  Spectrophotometric	Hacettepe University Journal of the Faculty of Pharmacy Volume 29 / Number 2 / July 2009 / pp. 95-104 Spectrophotometric Determination and Stability Studies of Sulfamethoxazole and Trimethoprim in Oral Suspension by Classical Least Square Calibration Method	10 days	Medical Professions for Vet.Products&Fodders Additions Co.Egypt
	Chicken	Muscle			10 days	AAMER et al. / Int. J. Agri. Biol., Vol. 2, No. 3, 2000
2.1.7. <b>FLUOROQUINOLONES</b> 2.1.7.1. Danofloxacin	Cattle	Muscle	Danofloxacin	FAO Food & Nutrition Paper 41/10; see also Report of 12th & 13th Meetings, CCRVDF. Contact for method provided to CCRVDF: AFSSA-LERMVD, Javene, BP090203-	8 days	Saunders Handbook of Veterinary Drugs, Mark G. Papich, 2004  The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.163
		Milk			4 days	Saunders Handbook of Veterinary Drugs, Mark

<b>2.1.7.2. Difloxacin</b>	Cattle	Muscle	Chromatography (LC)	35302, Fougeres, France	Not established	G. Papich, 2004  The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.163
	Poultry	Muscle				
<b>2.1.7.3. Enrofloxacin</b>	Cattle	Muscle	Difloxacin	Pharm Res. 1990 Nov; 7(11):1177-80.	1 day	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.163  Pfizer Limited Ramsgate Road Sandwich Kent CT13 9NJ United Kingdom
			Sum of enrofloxacin and difloxacin	Determination of temafloxacin, sarafloxacin, and difloxacin in bulk drug and dosage forms by high-performance liquid chromatography.  Bauer JF, Elrod L Jr, Fornnarino JR, Heathcote DE, Krogh SK, Linton CL, Norris BJ, Quick JE	28 days	Saunders Handbook of Veterinary Drugs, Mark G. Papich, 2004

			ciprofloxacin High Performance Liquid Chromatography (HPLC)	Journal of Pharmaceutical and Biomedical Analysis <a href="#">Volume 28, 6, (15)</a> , 1195–1199 LC determination of enrofloxacin	14 days	Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.164
					84 h	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.164
	Poultry	Milk	Muscle		8 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.164
					4 days	Dutch Farm International B. V. Industrieweg 14c – 1231 KH Loosdrecht - Holland P.O. Box 63 – 1230 AB Loosdrecht - Holland E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com
<b>2.1.7.4. Flumequine</b>	Cattle Chicken	Muscle	Flumequine Liquid Chromatography (LC)	FAO Food & Nutrition Paper 41/10	2 days	Dutch Farm International B. V. Industrieweg 14c – 1231 KH Loosdrecht - Holland P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F:
		Muscle			2 days	
		Eggs				

<b>2.1.7.6. Marbofloxacin</b>	Cattle	Muscle	Marbofloxacin High Performance Liquid Chromatography (HPLC)	Mahmood AH, Medley GA, Grice JE, Liu X, Roberts MS.(2012) J Pharm Biomed Anal. 2012 25:62:220-3.  Determination of trovafloxacin and marbofloxacin in sheep plasma samples by HPLC using UV detection.	6 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.165	+31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com
		Milk			1.5 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.165	
<b>2.1.7.7. Sarafloxacin</b>	Chicken	Muscle	Sarafloxacin High Performance Liquid Chromatography (HPLC)	FAO Food & Nutrition Paper 41/11	3 days	Residues of Some Veterinary Drugs in Animals and Foods vol.11, Joint FAO/WHO Expert Committee on Food Additives,pp.115	
<b>2.1.8. LINCOSAMIDES</b> <b>2.1.8.1. Lincomycin</b>	Cattle	Muscle	Lincomycin Gas Chromatography – Mass	FAO Food & Nutrition paper 41/13	6 days	Modern Livestock & Poultry Production 7 <sup>th</sup> ed. James R.Gillespie 2004, pp.152	



	Chicken	Muscle	Spectrophotometry (GC-MS)		7 days	Medical Professions for Vet.Products&Fodders Additions Co.Egypt
<b>2.1.8.2. Pirlymicin</b>	Cattle	Muscle	Pirlymicin High Performance Liquid Chromatography (HPLC)	Antibiotics in milk Nestlé Research Center Quality & Safety Department 1000 Lausanne 26 (Switzerland)	23 days	Pfizer Ltd Ramsgate Road Sandwich Kent CT13 9NJ UK
		Milk			5 days	Pfizer Ltd Ramsgate Road Sandwich Kent CT13 9NJ UK
<b>2.1.9. MACROLIDES</b> <b>2.1.9.1. Erythromycin</b>	Cattle	Muscle	Erythromycin A High Performance Liquid Chromatography (HPLC)	<a href="#">Griessmann K,</a> <a href="#">Kaunzinger A,</a> <a href="#">Schubert- Zsilavec M,</a> <a href="#">Abdel- Tawab M</a> (2007)  <a href="#">Pharmazie.</a> 62(9):668- 71.  <a href="#">A rapid HPLC-UV method for the quantification of erythromycin in dermatological preparations</a>	3 days	Medical Professions for Vet.Products&Fodders Additions Co.Egypt
		Sheep			3 days	Medical Professions for Vet.Products&Fodders Additions Co.Egypt
	Chicken	Muscle			3 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.156
		Eggs			6 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.156

<b>2.1.9.2. Oleandomycin</b>	Cattle	Muscle	Oleandomycin High Performance Liquid Chromatography (HPLC)	<i>Journal of Chromatography</i> , 353 (1986) 33-38  HIGH- PERFORMANCE LIQUID CHROMATOGRAPHY C ANALYSIS OF OLEANDOMYCIN IN SERUM AND URINE C. STUBBS, J. M. HAIGH and I. KANFER	5 days	Modern Livestock & Poultry Production 7 <sup>th</sup> ed. James R. Gillespie 2004
	Chicken	Muscle				
<b>2.1.9.3. Spiramycin</b>	Cattle	Muscle	Sum of spiramycin and neospiramycin  Liquid Chromatography (LC)	data provided to CCR/DF; 43rd & 47th JECFA	52 days	Ceva Animal Health Limited Unit 3 Anglo Office Park White Lion Road Amersham Buckinghamshire HP7 9FB
		Milk				

<b>2.1.9.4. Tilmicosin</b>	Cattle	Muscle	Tilmicosin High Performance Liquid Chromatography (HPLC)	FAO Food & Nutrition Paper 41/9	60 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.157
		Sheep			42 days	
	Milk	15 days				
<b>2.1.9.5. Tulathromycin</b>	Cattle	Muscle	(2R,3S,4R,5R,8R,10R, ,11R,12S,13S,14R)-2- ethyl-3,4,10,13-tetra- hydroxy- 3,5,8,10,12,14- hexamethyl-11- [[3,4,6-trideoxy-3- (dimethyl-lamino)-β- D-xylo- hexopyranosyl]oxy]- 1-oxa-6- azacycllopent-decan- 15-one expressed astulathromycinequiv alents	<a href="#">JAOAC Int</a> 2011,;94(2):436-45.	49 days	The Veterinary Formulary 6 <sup>th</sup> ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.157
<b>2.1.9.6. Tylosin</b>	Cattle	Muscle	HPLC/MS/MS		21 days	Drugs and Their Usage William D.Grimly 1998 pp. 152

			<p>Tylosin A High Performance Liquid Chromatography  (HPLC)</p>	<p>Journal of the Hellenic Veterinary Medical Society ISSN 1792-2720 Volume 49, Number 4, October-December 1998 Determination of tylosin residues in animal tissues by HPLC-PDA</p>	<p>28 days  Oral calves 5 days</p>	<p>The Veterinary Formulary 6<sup>th</sup> ed. Yolande Bishop 6<sup>th</sup> ed 2005 pp.157  Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht - Holland P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com</p>
		Milk			Milk not used	<p>Drugs and Their Usage William D.Grimly 1998 pp. 152</p>
	Chicken	Muscle			4.5 days	<p>The Veterinary Formulary 6<sup>th</sup> ed. Yolande Bishop 6<sup>th</sup> ed 2005 pp.157</p>
					Oral zero	<p>The Veterinary Formulary 6<sup>th</sup> ed. Yolande Bishop 6<sup>th</sup> ed 2005 pp.158  Dutch Farm International</p>

						2 days	B.V. Industrieweg 14c – 1231 KH Loosdrecht - Holland P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com
	Turkey	Muscle				Oral zero	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.158
<b>2.1.10. ORTHOSOMYCIN</b> <b>2.1.10.1. Avilamycin</b>	Chicken	Muscle					
		Liver					J . Assoc Off Anal Chem. 1986 69(5):763-

2.1.11. Pleuromutilin 2.1.11.1. Tiamulin	Turkey	Muscle	Dichloroisovevermic acid GC	6. Gas chromatographic determination of avilamycin total residues in pig tissues, fat, blood, feces, and urine. Formica G, Giannone C.	Zero	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.446
	Chicken	Muscle Eggs	Sum of metabolites that may be hydrolysed to 8- $\alpha$ -hydroxymutilin Thin layer chromat. TL	J AOAC Int. 2000;83(6):1502-6 Identification and determination of oxytetracycline, tiamulin, lincomycin, and spectinomycin in veterinary preparations by thin-layer chromatography/densitometry.	2 days oral Zero	Novartis Animal Health UK Limited Frimley Business Park Frimley, Camberley Surrey, GU16 7SR United Kingdom
2.1.12. POLYPEPTIDES	Turkey	Muscle	Sum of bacitracin A, bacitracin B,	Trends in Analytical	5 days	Novartis Animal Health UK Limited Frimley Business Park Frimley, Camberley Surrey, GU16 7SR United Kingdom
	Camel	Milk			Zero	Alpharma Inc.

2.1.12.1. Bacitracin	Chicken	Muscle	andbactracin C LC-MS	Chemistry, Vol. 22, No. 11, 2003 Analytical methodologies for identifying a polypeptide antibiotic				
<b>2.1.12.2. Colistin</b>	Cattle	Muscle	Colistin	Ther Drug Monit. 2000;22(5):589-93. High-performance liquid chromatographic method for the determination of colistin in serum.	14 days	Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht - Holland P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com		
	Sheep	Muscle	High Performance Liquid Chromatography (HPLC)		Oral 1 day			
	Goat	Muscle			1 day			
	Chicken	Muscle	Polymyxin B electrophoresis with indirect UV detection	J Pharm Biomed Anal. 2007 19;43(3):1013-8. Simultaneous determination of neomycin sulfate and polymyxin B sulfate by	1 day		JAVMA, vol.226(12) June 15, 2005	
	Turkey	Muscle			1 day			
	<b>2.1.12.3. Polymyxin B</b>	Cattle	Milk				5 days	

<b>2.1.13. STREPTOGRAMINS</b> <b>2.1.13.1. Virginiamycin</b>	Cattle	Muscle	Virginiamycin M1 LC-MS	Analytica Chimica Acta 483 (2003) 99–109	7 days	JAVMA, vol.226(12) June 15, 2005
	Chicken	Muscle			Zero	Canadian Food Inspection Agency.59 Camelot Drive,Ottawa,Ontario,CA NADA, KIA 0Y9
<b>2.1.14. SULFONAMIDES</b> <b>2.1.14.1. Sulfabenzamide</b>	Cattle	Muscle	Sulfabenzamide CE-MS/MS	<a href="#">Electrophoresis</a> , 2009 May;30(10):1698-707	Not established	-
	Cattle	Muscle	Sulfacetamide/ sulfanilamide Spectrophotometry	Journal of Pharmaceutical sciences 58(10)1171- 1300	Not established	-
<b>2.1.14.2.Sulfacetamide</b>	Cattle	Muscle				
<b>2.1.14.3. Sulfachlorpyridazine</b>		Muscle	Sulfachlorpyridazine	Biomed. Eng. Appl.	5 days	Drugs and Their Usage



<b>2.1.14.4. Sulfadiazine</b>	Cattle		High Performance Liquid Chromatography (HPLC)	Basis Commun. 21, 457 (2009). DOI: 10.4015/S1016237209001647	William D.Grimly 1998 pp. 141
	Cattle	Muscle	Sulfadiazine spectrophotometric method	Acta Pharm. 57 (2007) 333-342 10.2478/v10007-007-0026-4	12 days
		Milk			2 days
	Sheep	Muscle			14 days
Chicken	Muscle	7 days			
<b>2.1.14.5. Sulfadimethoxine</b>	Cattle	Muscle	Sulfadimethoxine Liquid Chromatography	<a href="#">JAOAC Int.</a> 1995 May-Jun;78(3):651-8	7 days
	Chicken	Milk			3 days
		Muscle			5 days
<b>2.1.14.6. Sulfamidine (Sulfamethazine)</b>	Cattle	Muscle			15 days
					18 days

	Sheep	Milk	Sulfamethazine Liquid Chromatography	<a href="#">JAOAC Int.</a> 1995 May- Jun;78(3):651-8	3 days	Drugs and Their Usage William D.Grimly 1998 pp. 143
		Muscle			6.5 days	The Veterinary Formulary 6 <sup>th</sup> ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.159
	Goat	Muscle			15 days	Drugs and Their Usage William D.Grimly 1998 pp. 143
		milk			18 days	The Veterinary Formulary 6 <sup>th</sup> ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.159
<b>2.1.14.7. Sulfadoxine</b>	Cattle	Muscle	Sulfadoxine  Liquid Chromatography	J. Anal. Chem., 365(5): 444-447.	15 days	Drugs and Their Usage William D.Grimly 1998 pp. 143
		Milk			3 days	Drugs and Their Usage William D.Grimly 1998 pp. 143
					10 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.161
					14 days	Dutch Farm International B. V.
					2 days	Industrieweg 14c – 1231 KH Loosdrecht - Holland

2.1.14.8. Sulfaethoxyypyridazine	Cattle	Muscle	Sulfaethoxyypyridazine Liquid Chromatography	Berzas Nevado et al Analytica Chimica Acta 442 (2001) 241–248	16 days	P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com
		Milk			3 days	
2.1.14.9. Sulfaguandine	Cattle	Muscle	Sulfaguandine GC-MS	Bulletin of the Veterinary Institute in Pulawy 55 :717-720 ISSN: 0042-4870	10 days	Veterinary Pharmacology and Toxicology, Roy,B.K. 1 <sup>st</sup> ed. 2001. Pp.376
2.1.14.10. Sulfamerazine	Cattle	Muscle	Sulfamerazine UV spectrophotometry	<a href="#">Ann Pharm Fr.</a> 1978 Feb;36(9-10):489- 94	10 days	Adwia Pharmaceut.Co. Egypt
	Chicken	Muscle			14 days	
	Turkey	Muscle			14 days	2007 The United States Pharmacoepial Convention

<b>2.1.14.11. Sulfanilamide</b>	Cattle	Muscle	Sulfanilamide TLC	Journal of Liquid Chromatography <u>Volume 9, Issue 9,</u> 1986 Joseph Sherma & Melinda Duncan	10 days	2007 The United States Pharmacopeial Convention
		Milk			4 days	2007 The United States Pharmacopeial Convention
<b>2.1.14.12. Sulfanitran</b>	Chicken	Muscle	Not established	-	5 days	AAMER et al. / Int. J. Agri. Biol., Vol. 2, No. 3, 2000  <i>www.ucsus.org/assets/documents/.../hog_apps.pdf</i>
<b>2.1.14.13. Sulfapyridine</b>	Cattle	Muscle	Not established	-	10 days	2007 The United States Pharmacopeial Convention
		Milk			4 days	2007 The United States Pharmacopeial Convention
<b>2.1.14.14. Sulfaquinoxaline</b>	Cattle	Muscle	Not established	-	10 days	AAMER et al. / Int. J. Agri. Biol., Vol. 2, No. 3, 2000
	Chicken	Muscle			7 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.162

	Turkey	Eggs			4 days	Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht - Holland P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com
		Muscle			9 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.162
<b>2.1.14.15. Sulfathiazole</b>	Cattle	Muscle	Not established	-	10 days	2007 The United States Pharmacopeial Convention
		Milk			4 days	
	Chicken	Muscle	14 days			
	Turkey	Muscle	14 days			

<b>2.1.15. TETRACYCLINES</b>	<b>2.1.15.1. Chlortetracycline</b>	Cattle	Muscle	Sum of parent drug and its 4- epimer High Performance Liquid Chromatography (HPLC)	AOAC 995.09 extension (Canada)	25 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.151
		Chicken	Muscle			6 days	
			Eggs			6 days	
		Turkey	Muscle			3 days	
<b>2.1.15.2. Doxycycline</b>	Cattle	Muscle	Doxycycline High Performance Liquid Chromatography (HPLC)	<a href="#">Chromatographia</a> 1998, Volume 47, <a href="#">Issue 9-10</a> , pp 547-549	3 days (10 mg/kg) 12 days (20 mg/kg)	DIVASA- FARMAVIC S.A. Ctra. Sant Hipòlit, km 71 08503 Gurb-Vic Barcelona (Spain)	
	Poultry	Muscle			7 days		Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht - Holland P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com www.dutchfarmint.com

2.1.15.3. Oxytetracycline	Cattle	Muscle	Sum of parent drug and its 4-epimer	AOAC 995.09 extension (Canada)	Oral 7 days L.A. 50 days S.A. 35 days	Food Animal Residue Avoidance & Depletion Program (FARAD) <a href="http://www.farad.org/eldu/prohibit.html">http://www.farad.org/eldu/prohibit.html</a>
		Milk				Food Animal Residue Avoidance & Depletion Program (FARAD) <a href="http://www.farad.org/eldu/prohibit.html">http://www.farad.org/eldu/prohibit.html</a>
	Chicken	Muscle	Liquid Chromatography		3 days	AAMER et al. / Int. J. Agri. Biol., Vol. 2, No. 3, 2000
					7 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.153
Turkey	Eggs	1 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.153			
	Muscle	7 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.153			

2.1.15.4. Tetracycline	Salmonids Lobsters	Muscle			30 days	Phibro Animal Health
	Cattle	Muscle	Sum of parent drug and its 4-epimer  Liquid Chromatography	AOAC 995.09 extension (Canada)	10 days intravenous	Eurovet animal health Handelsweg 25 NL-5531 AE BLADEL The Netherlands Tel. ++31-497544300 Fax ++31-497544302
Milk		3 days				



## 2.2. RESIDUE DEFINITION, METHODS OF DETECTION AND WITHDRAWAL PERIODS OF ANTIFUNGAL DRUGS

Drug groups	Food commodity		Residue Definition (Marker residue) and Method of detection (Technique)	References	Withdrawal period	References
	Species	Tissue or product				
2.2.1. Natamycin	Cattle	Edible tissues	not established	-	Zero	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.395
	Cattle	Edible tissues			7 days	Vetoquinol Co.France
2.2.2. Nystatin	Cattle	Edible tissues				

## 2.3. RESIDUE DEFINITION, METHODS OF DETECTION AND WITHDRAWAL PERIODS OF ANTIPARASITIC DRUGS

## 2.3.1. Residue definition, Methods of detection and Withdrawal period of Anticoccidial drugs

Drug groups	Food commodity		Residue Definition (Marker residue) and Method of detection (Technique)	References	Withdrawal period	References
	Species	Tissue or product				
2.3.1.1. Amprolium	Cattle	Muscle	not established	-	1 days	Drugs and Their Usage William D.Grimly 1998 pp. 107
	Chicken	Muscle			Zero	Global Vet Health S.L. C/Capçanes Nº12-bajos Polígon Agro-Reus. Reus 43206 SPAIN
		Eggs			Zero	Global Vet Health S.L. C/Capçanes Nº12-bajos Polígon Agro-Reus. Reus 43206 SPAIN

	Turkey	Muscle				Zero	Global Vet Health S.L. C/Capçanes Nº12-bajos Polígon Agro-Reus. Reus 43206 SPAIN
<b>2.3.1.2. Clazuril</b>	Pigeon	Muscle	not established	-	Not used for human consumption		Harkers Limited Unit 2, Cavendish Road Bury St. dmunds Suffolk IP33 3TE
<b>2.3.1.3. Clopidol</b>	Chicken	Muscle	Clopidol Liquid Chromatography	Pang GF, Cao YZ, Fan CL, Zhang JJ, Li XM, MacNeil JD.( 2003) Determination of clopidol residues in chicken tissues by liquid chromatography: collaborative study. J AOAC Int ;86(4):685-93.	5 days		Modern livestock and poultry production, 7 <sup>th</sup> ed. James R. Gillespie, 2004, pp.156
<b>2.3.1.4. Decoquinat</b>	Cattle	Muscle	not established	-	1 day		J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26
	Goat	Muscle	not established	-	1 day		
	Chicken	Muscle	not established	-	3 days		
<b>2.3.1.5. Diclazuril</b>	Sheep	Muscle	not established	-	Zero		J.D.G. McEvoy /

							Analytica Chimica Acta 473 (2002) 3–26
	Poultry	Muscle	not established	-	5 days	J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26	
<b>2.3.1.6. Dinitolmide(Zoalene)</b>	Chicken	Muscle	Sum of dinitolmide and its metabolite 3- amino-5-nitro-o - toluamide, expressed as dinitolmide equivalents  Spectrophotometric	Analytical Methods Committee(1969) The determination of dinitolmide (zoalene) in animal feeds <i>Analyst</i> , 94: 1159- 1163	3 days	J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26	
	Turkey				Zero	Canadian Food Inspection Agency.59 Camelot Drive,Ottawa,Ontario, C ANADA, KIA 0Y9	
<b>2.3.1.7. Ethopabate</b>	Chicken	Muscle	Ethopapate Liquid Chromatography	Nagata T, Saeki M, Nakazawa H, Fujita M, Takabatake E. (1985) Sensitive determination of ethopabate residues in chicken tissues by liquid chromatography	5 days	Modern Livestock& Poultry Production 7 <sup>th</sup> ed. James R.Gillespie 2004,pp.156	

<b>2.3.1.8. Halofuginone hydrobromide</b>	Cattle	Muscle	Halofuginone HPLC	with fluorometric detection. J Assoc Off Anal Chem.;68(1):27-8 Kinabo LD, McKellar QA, Murray M. (1989) Determination of halofuginone in bovine plasma by competing-ion high performance liquid chromatography after solid phase extraction. Biomed Chromatogr. ;3(3):136-8.	13 days	J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26
	Chicken	Muscle			5 days	J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26
<b>2.3.1.9. Lasalocid Sodium</b>	Cattle	Muscle	Lasalocid A Liquid Chromatography	Tkáčiková S, Kožárová I, Mačanga J, Levkut M.( 2012) Determination of lasalocid residues in the tissues of broiler chickens by liquid chromatography-tandem mass spectrometry. Food Addit Contam Part A Chem Anal Control Expo Risk Assess. ;29(5):761-9.	Zero	Ridley Block Operations
	Sheep	Muscle			Zero	Ridley Block Operations
	Goat	Muscle			Zero	Ridley Block Operations
	Chicken	Muscle			5 days	J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26

2.3.1.10. Maduramicin ammonium	Chicken	Muscle	Liquid Chromatography	Johnson NA.(1989) Determination of maduramicin by liquid chromatography with atomic absorption spectrometric detection. J Assoc Off Anal Chem. 1989 ;72(2):235-7.	5 days	J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26
2.3.1.11. Methyl benzoquate	Chicken	Muscle	Methyl benzoquate High Performance Liquid Chromatography (HPLC)	George H. J. Merson , Lesley A. Hill and Steven F. Johnson(1985) Determination of methyl benzoquate in poultry feedingstuffs using high-performance liquid chromatography <i>Analyt.</i> , 110, 761-764	5 days	J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26
2.3.1.12. Monensin	Cattle	Muscle	Monensin A LC-MS	Wenlu Song Min Huang Wilson Rumbleiha	Zero	Elanco Animal Health

	Sheep	Muscle		and Hui Li(2007) Determination of amprolium, carbadox, monensin, and tylosin in surface water by liquid chromatography/tandem mass spectrometry Rapid Commun. Mass Spectrom. 2007; 21: 1944–1950	Zero	J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26
	Goat	Muscle			Zero	
	Chicken	Muscle			3 days	
	Chicken	Muscle			5 days	
<b>2.3.1.13. Narasin</b>	Chicken	Muscle	Narasin	COMPENDIUM OF METHODS OF ANALYSIS	5 days	J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26
<b>2.3.1.14. Nicarbazin</b>	Chicken	Muscle	4,4'- dinitrocarbanilide (DNC) LC	Guglielmo Dusi, Elena Faggionato, Valentina Gamba, Alessandro Baiguera (2000) Determination of nicarbazin and clopidol in poultry feeds by liquid chromatography	9 days	J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26

<b>2.3.1.15. Ormetoprim</b>	Salmonids	muscles	not established	Journal of Chromatography A, Volume 882, ( 1-2,) 79-84	42 days	Aquatic Health Resources, USA
		Cat fish		-	3 days	
	Chickens	Muscles			5 days	Modern Livestock & Poultry Production 7 <sup>th</sup> ed. James R. Gillespie 2004, pp.156
	Turkeys	Muscles			5 days	
<b>2.3.1.16. Robenidine hydrochloride</b>	Chicken	Muscle	Robenidine LC	Geraldine Dowling, Michael O'Keeffe, Malcolm R. Smyth(2005) Determination of robenidine in eggs by liquid chromatography with UV spectrophotometric detection Analytica Chimica Acta, Volume 539, (1-2), 31-34	5 days	J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3-26



<p><b>2.3.1.17. Salinomycin Sodium</b></p>	<p>Chicken</p>	<p>Muscle</p>	<p>Salinomycin HPLC</p>	<p>Arun Kumar Mathur (1994) Determination of salinomycin by high-performance liquid chromatography using a precolumn derivatization technique Journal of Chromatography A, Volume 664, ( 2), 284-288</p>	<p>5 days</p>	<p>J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26</p>
<p><b>2.3.1.18. Semduramicin</b></p>	<p>Chicken</p>	<p>Muscle</p>	<p>Semduramicin LC</p>	<p>María José González de la Huebra, Ursula Vincent, Christoph von Holst (2010) Determination of semduramicin in poultry feed at authorized level by liquid chromatography single quadrupole mass spectrometry Journal of Pharmaceutical and Biomedical Analysis, Volume 53, ( 4) 860-868</p>	<p>5 days 10 days</p>	<p>J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26 The Veterinary Formulary 6<sup>th</sup> ed. Yolande Bishop 6<sup>th</sup> ed 2005 pp.176</p>

		Eggs	not established	-	Not established	Bayer plc, Animal Health Division, Bayer House, Strawberry Hill, Newbury, Berkshire RG14 1JA
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## 2.3.2. Residue definition, Method of detection and withdrawal periods of Anthelmintic agents

Drug groups	Food commodity		Residue Definition (Marker residue) and Method of detection (Technique)	References	Withdrawal period	References
	Species	Tissue or product				
2.3.2.1. Abamectin	Cattle	Muscle	Avermectin Bla  LC-MS/MS	Inoue K, Yoshimi Y, Hino T, Oka H.(2009) Simultaneous determination of avermectins in bovine tissues by LC- MS/MS. J Sep Sci. 2009 Nov;32(21):3596-602	42 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.187
				Procházková A, Chouki M, Theurillat R, Thormann W.(2000) Therapeutic drug monitoring of albendazole: determination of albendazole, albendazole sulfoxide, and albendazole sulfone in	27 days	Drugs and Their Usage William D.Grimly 1998 pp. 107  The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.191
2.3.2.2. Albendazole	Cattle	Muscle	Sum of albendazole sulphoxide, albendazole sulphone, and albendazole 2-amino sulphone, expressed as albendazole. capillary electrophoresis		20 days	
		Milk			3 days	Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht –

				<p>human plasma using nonaqueous capillary electrophoresis. Electrophoresis. 21(4):729-36.</p>		<p>Holland, P.O. Box 63 – 1230 AB Loosdrecht - Holland                  T: +31 35 5821220 - F: +31 35 5822224                  M : +31 6 53 86 88 53                  E-mail: mail@dutchfarmint.com                  Internet                  www.dutchfarmint.com</p>
Sheep	Muscle	Muscle			8 days	<p>The Veterinary Formulary 6<sup>th</sup> ed. Yolande Bishop 6<sup>th</sup> ed 2005 pp.191</p>
Goat	Muscle	Muscle			8 days	<p>Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht – Holland, P.O. Box 63 – 1230 AB Loosdrecht - Holland                  T: +31 35 5821220 - F: +31 35 5822224                  M : +31 6 53 86 88 53                  E-mail: mail@dutchfarmint.com                  Internet                  www.dutchfarmint.com</p>
	Milk				3 days	<p>Dutch Farm International B.V. Industrieweg 14c –</p>

<p><b>2.3.2.3. Avermectin (abamectin)</b></p>	<p>Cattle</p>	<p>Muscle</p>	<p>22, 23-Dihydro-avermectin B1a HPLC</p>	<p>GONG Xiaoming, SUN Jun, DONG Jing, YU Jinling, WANG Hongtao(2011) Determination of avermectin, diclazuril, toltazuril and metabolite residues in pork by high performance liquid chromatography-tandem mass spectrometry</p> <p><a href="#">Chinese Journal of Chromatography</a> » 2011, <b>Vol.29</b> » <b>Issue (3)</b>: 217-222</p>		<p>1231 KH Loosdrecht – Holland, P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail: <a href="mailto:mail@dutchfarmint.com">mail@dutchfarmint.com</a> Internet <a href="http://www.dutchfarmint.com">www.dutchfarmint.com</a></p>
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<b>2.3.2.4. Closantel</b>	Cattle	Muscle	Closantel HPLC	Sun HW, Wang FC, Ai LF.( 2008) Determination of closantel residues in milk and animal tissues by HPLC with fluorescence detection and SPE with oasis MAX cartridges. J Chromatogr Sci. Apr;46(4):351-5.	28 days	Drugs and Their Usage William D.Grimly 1998 pp. 108  Blacks Veterinary Dictionary ,Edward Boden,19 <sup>TH</sup> ED.1998
	Sheep	Muscle			42 days	Blacks Veterinary Dictionary ,Edward Boden,19 <sup>TH</sup> ED.1998
<b>2.3.2.5. Derquantel</b>	Sheep	Muscle	Derquantel  HPLC	Australian Pesticides & Veterinary Medicines Authority  Application Summary for Application No 47910	14 days	Pfizer Ltd, Ramsgate Road Sandwich Kent CT13 9NJ
<b>2.3.2.6. Doramectin</b>	Cattle	Muscle	Doramectin  LC	<a href="#">Ali MS, Sun T, McLeroy GE, Phillippo ET.(2000)</a> <a href="#">Simultaneous determination of eprinomectin, moxidectin, abamectin, doramectin, and ivermectin in beef liver by LC with fluorescence</a>	56 days  Pour-on 35 days	The Veterinary Formulary 6 <sup>th</sup> ed ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.187  The Veterinary Formulary 6 <sup>th</sup> ed ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.188

	Sheep	Muscle		<a href="#">detection. J AOAC Int. 83(1):31-8.</a>	63 days  70 days	Blacks Veterinary Dictionary ,Edward Boden,19 <sup>TH</sup> ED.1998  The Veterinary Formulary 6 <sup>th</sup> ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.187
<b>2.3.2.7. Eprinomectin</b>	Cattle	Muscle	Eprinomectin B1a	Sutra JF, Chartier C, Galtier P, Alvinerie M.(1998) Determination of eprinomectin in plasma by high-performance liquid chromatography with automated solid phase extraction and fluorescence detection. Analyst. 123(7):1525-7.	15 days pour-on	The Veterinary Formulary 6 <sup>th</sup> ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.188
		Milk	HPLC		Zero	
<b>2.3.2.8. Febantel/Fenbendazole</b>	Cattle	Muscle	Sum of extractableresidues which maybe oxidised tooxfendazole sulphone	György Morovján, Peter Csokán, László Makransz(1998)  Determination of fenbendazole, praziquantel and pyrantel pamoate in dog plasma	Febantel 35 days  Fenbendazole 14 days	Drugs and Their Usage William D.Grimly 1998 pp. 111  The Veterinary

			HPLC	by high-performance liquid chromatography Journal of Chromatography A, Volume 797, (1-2), 27, 237-244	Fenbendazole 28 days	Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.192
					Milk	4 days
	Sheep	Muscle			3 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.192
					milk	15 days
	Goat	Muscle			7 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.192
					milk	14 days
<b>2.3.2.9. Flubendazole</b>	Chicken	Muscle	Sum of	György Morovján, Peter	7 days	The Veterinary



		eggs	flubendazoleand (2-amino 1H-benzimidazol-5-yl)(4fluorophenyl)m ethanone HPLC	Csokán, László Makransz(1998)  Determination of fenbendazole, praziquantel and pyrantel pamoate in dog plasma by high-performance liquid chromatography Journal of Chromatography A, Volume 797, (1-2), 27, 237-244	Zero	Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.193
<b>2.3.2.10. Ivermectin</b>	Cattle	Muscle	22, 23-Dihydro-avermectin B1a HPLC	<a href="#">Patricia C. Tway</a> , <a href="#">James S. Wood Jr.</a> , <a href="#">George V. Downing</a> (1981)  Determination of ivermectin in cattle and sheep tissues using high-performance liquid chromatography with fluorescence detection J. Agric. Food Chem., 29 (5), 1059-1063	49 days  14 days oral	Drugs and Their Usage William D.Grimly 1998 pp. 112  Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht – Holland, P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet

	Sheep	Muscle			42 days S.C.  10 days oral	Blacks Veterinary Dictionary ,Edward Boden, 19 <sup>TH</sup> ED.1998  Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht – Holland, P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com	www.dutchfarmint.com
<b>2.3.2.11. Levamisole</b>	Cattle	Muscle	Levamisole  GC	R. Woestenborghs, L. Michielsens, J. Heykant(1981) Determination of levamisole in plasma and animal tissues by gas chromatography with thermionic specific	28 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.195	
		Milk			4 days	Dutch Farm International B. V. Industrieweg 14c – 1231 KH Loosdrecht - Holland P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F:	

	Sheep	Muscle	detection Journal of Chromatography B: Biomedical Sciences and Applications, Volume 224, (1) 25-32	21 days	Blacks Veterinary Dictionary ,Edward Boden, 19 <sup>TH</sup> ED.1998	+31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com
	Chicken	Muscle	16 days	Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht – Holland, P.O. Box 63 – 1230 AB Loosdrecht - Holland	T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com	
		Eggs				4 days

<b>2.3.2.12. Mebendazole</b>	Sheep	Muscle	Sum of mebendazolemethyl (5-(1-hydroxy, 1-phenyl)methyl)-1H-benzimidazol-2-yl)carbamate and(2-amino-1H-benzimidazol-5-yl)phenylmethanone, expressed asmebendazole equivalents HPLC	<p><a href="#">Juan José García</a> <a href="#">Francisco Bolás-Fernández</a> <a href="#">Juan José Torrado</a>(1999)</p> <p>Quantitative determination of albendazole and its main metabolites in plasma <a href="#">Journal of Chromatography B: Biomedical Sciences and Applications</a> <a href="#">Volume 723, Issues (1–2), 265–27</a></p>	7 days  14 days	<p>Drugs and Their Usage William D.Grimly 1998 pp. 114</p> <p>The Veterinary Formulary 6<sup>th</sup> ed. ed.Yolande Bishop 6<sup>th</sup> ed 2005 pp.193</p>
	<b>2.3.2.13. Monepantel</b>	Cattle	Muscle Milk Muscle	Monepantel-sulfone HPLC-MS/MS	<p>Kinsella B, Byrne P, Cantwell H, McCormack M, Furey A, Danaher M. (2011) Determination of the new anthelmintic monepantel and its sulfone metabolite in milk and muscle using a UHPLC-MS/MS and</p>	30 days Zero USA 14 days Canada 30 days
	Sheep	Muscle				

<b>2.3.2.14. Moxidectin</b>	Cattle	Muscle	Moxidectin LC-MS	QuEChERS method. J Chromatogr B Analyt Technol Biomed Life Sci. 1;879(31):3707-13. Khunachak A, Dacunha AR, Stout SJ.( 1993) Liquid chromatographic determination of moxidectin residues in cattle tissues and confirmation in cattle fat by liquid chromatography/mass spectrometry J AOAC Int. 76(6):1230-5	65 days ( s/c)	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.189
	Sheep	Muscle			Oral 14 days Injection 70 days	
	Goats	Muscle			14 (oral 0.2 mg/kg) 23 (oral 0.5 mg/kg)	
<b>2.3.2.15. Nitobimin</b>	Cattle	Muscle	Nitobimin LC	Ramadan NK, Mohamed AO, Shawky SE, Salem MY.(2012) Different stability-indicating chromatographic techniques for the determination of nitobimin. J Anal Methods Chem.;2012:754650.	10 days	Drugs and Their Usage William D.Grimly 1998 pp. 135
		Milk			3 days	

<b>2.3.2.16. Nitroxylnil</b>	Sheep	Muscle	<p><a href="#">Nitroxylnil</a></p> <p>GC</p>	<p>doi: <a href="https://doi.org/10.1155/2012/7546">10.1155/2012/7546</a> <a href="#">50</a></p> <p>M. J. Parnell(1970) Determination of nitroxylnil residues in sheep and calves <a href="#">Pesticide Science Volume 1, (4), 138–143,</a></p>	5 days	<p>Blacks Veterinary Dictionary ,Edward Boden, 19<sup>TH</sup> ED.1998</p> <p>The Veterinary Formulary 6<sup>th</sup> ed. Yolande Bishop 6<sup>th</sup> ed 2005 pp.199 Merial Co.</p>
		Milk			3 days	
	Cattle	Muscle			49 days	
	Sheep	Muscle			60 days	
<b>2.3.2.17. Oxfendazole</b>	Cattle	Muscle	<p>Sum of extractables residues which may be oxidised tooxfendazole sulphone HPLC</p>	<p>Tsina IW, Matin SB.(1981) Determination of oxfendazole in cow milk by reversed-phase high-performance liquid chromatography. J Pharm Sci. 70(8):858-60.</p>	7 days	Boehringer Ingelheim
	Sheep	Muscle			24 days	Blacks Veterinary Dictionary ,Edward Boden, 19 <sup>TH</sup> ED.1998
<b>2.3.2.18.Oxyclozanide</b>	Cattle	Muscle	<p>Oxyclozanide HPLC</p>	<p>Jo K, Cho HJ, Yi H, Cho SM, Park JA, Kwon CH, Park HR, Kwon KS, Shin HC.(2011)</p>	14 days	Drugs and Their Usage William D.Grimly 1998 pp. 117
		Milk			Zero	

2.3.2.19. Piperazine	Chicken	eggs	Piperazine HPLC	Determination of Oxyclozanide in Beef and Milk using High-Performance Liquid Chromatography System with UV Detector. Lab AnimRes;27(1):37-40. <a href="#">Renata Gadzala-Kopciuch(2005)</a> Accurate HPLC Determination of Piperazine Residues in the Presence of other Secondary and Primary Amines  Journal of Liquid Chromatography & Related Technologies <a href="#">Volume 28, Issue 14</a> , 2005 (ONLINE ) DOI:10.1081/JLRC200064156	4 days	Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht - Holland P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com
		Muscle			8 days	
	Cattle	Muscle			8 days	Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht - Holland P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail:

							mail@dutchfarmint.com Internet www.dutchfarmint.com	
						Milk	4 days	Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht – Holland, P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com
<b>2.3.2.20. Praziquantel</b>	Sheep	Muscle	Prazequantel	CVMP Summary Report EMEA/MRL/867/03, (1998),	28 days		Merial Animal Health Ltd PO Box 327 Sandringham House, Harlow Business Park, Harlow Essex CM19 5TG	
<b>2.3.2.21. Rafoxanide</b>	Cattle	Muscle	Rafoxanide HPLC	Benchaoui HA, McKellar QA.( 1993) Determination of rafoxanide and closantel in ovine plasma by high	28 days		Drugs and Their Usage William D.Grimly 1998 pp. 120	



<b>2.3.2.22. Thiabendazole</b>	Cattle	Muscle	Sum of thiabendazole and 5-hydroxythiabendazole LC	performance liquid chromatography. Biomed Chromatogr. 7(4):181-3. Cannavan A.; Haggan S.A.; Glenn Kennedy D.(1998) Simultaneous determination of thiabendazole and its major metabolite, 5-hydroxythiabendazole, in bovine tissues using gradient liquid chromatography with thermospray and atmospheric pressure chemical ionisation mass spectrometry  J.ChromatographyB: 718, Issue 1, 23 October 1998, 103–113	30 days	Drugs and Their Usage William D.Grimly 1998 pp. 120
		Milk			4 days	Drugs and Their Usage William D.Grimly 1998 pp. 120
	Goat	Muscle	30 days	Drugs and Their Usage William D.Grimly 1998 pp. 120		
	Sheep	Muscle		Drugs and Their Usage William D.Grimly 1998 pp. 120		
	<b>2.3.2.23. Triclabendazole</b>	Cattle	Muscle	Sum of extractable residues which may be oxidised to ketotriclabendazole	56 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.199

	Sheep	Muscle	HPLC	<p><a href="#">o Oka,</a>  <a href="#">Yuko ItohHiroyuki</a>  <a href="#">Nakazawa(2000)</a>          Simultaneous          determination of          triclabendazole and its          sulphoxide and sulphone          metabolites in bovine          milk by high-          performance liquid          chromatography</p> <p>J.Chromatography,          Volume 882, Issues 1-2,          2000, Pages 99-107</p>	56 days	Blacks Veterinary Dictionary ,Edward Boden,19 <sup>TH</sup> ED.1998
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## 2.3.3. Residue definition, Method of detection and withdrawal periods of Antiprotozoal drugs

Drug groups	Food commodity		Residue Definition (Marker residue) and Method of detection (Technique)	References	Withdrawal al period	References
	Species	Tissue or product				
2.3.3.1. Diminazene	Cattle	Muscle	Diminazene  LC	José e. Roybal, Allen p. Pfenning, Josephm. Storey, steve a. gonzales, and Sherrib. Turnipseed(2003)  Liquid Chromatographic Determination of DiminazeneDiacetu rate (Berenil)in Raw Bovine Milk  Journal of AOAC International. 86., 5, 930-934	21 days	Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht - Holland P.O. Box 63 – 1230 AB Loosdrecht - Holland T: +31 35 5821220 - F: +31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com  Internet www.dutchfarmint.com
		Milk				

								E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com
<b>2.3.3.2. Imidocarb</b>	Cattle	Muscle	Imidocarb LC	<p><u>KoichiInouea, Mari Nunomeb, Tomoaki Hino &amp; Hisao Okaab</u> (2011) Journal of Liquid Chromatography &amp; Related Technologies <a href="#">Volume 34, Issue 18</a>, 2149-2156 (EMEA),</p> <p><u>Perschke H, Vollner L</u>(1985) Determination of the trypanocidal drugs homidium, isometamidium and quinapyramine in bovine serum or plasma using HPLC. <a href="#">Acta Tropica</a> [1985, 42(3):209-216</p>	213 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.177		
		Milk			21 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.177		
<b>2.3.3.3. Isometamidium</b>	Cattle	Muscle	Isometamidium HPLC	<p><u>Perschke H, Vollner L</u>(1985) Determination of the trypanocidal drugs homidium, isometamidium and quinapyramine in bovine serum or plasma using HPLC. <a href="#">Acta Tropica</a> [1985, 42(3):209-216</p>	30 days	Genevet limited Encyclopedic Reference of Parasitology: Diseases, Treatment, Therapy Vol.2, Philip M. Armstrong, Heinz Mehlhorn 2001, pp. 622.		
		Milk			Zero	Genevet limited		

## 2.3.4. Residue definition, Method of detection and withdrawal periods of Ectoparasiticides

Drug groups	Food commodity		Residue Definition (Marker residue) and Method of detection (Technique)	References	Withdrawal period	References
	Species	Tissue or product				
2.3.4.1. Amitraz	Cattle	Muscle	Sum of amitraz and all metabolites containing the 2,4- DMA moiety, expressed as amitraz  GC	<a href="#">M.E.C. Queiroz</a> <a href="#">C.A.A. Valadão</a> <a href="#">A. Farias D.</a> <a href="#">Carvalho F.M. Lanças</a> (2003) Determination of amitraz in canine plasma by solid-phase microextraction-gas chromatography with thermionic specific detection J.Chromatography B <a href="#">Volume 794, (2) 337–</a> 342	4 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop ed 2005 pp.208
		Milk			1 days	
	Meat					
2.3.4.2. Cyfluthrin	Cattle	Muscle	Cyfluthrin (sum of isomers  LC	FAO/WHO Specification 385/TC (November 2004)  FAO SPECIFICATIONS AND EVALUATIONS	1 day	Bayer, Bayer Cross, CyLence and Tempo are registered trademarks of Bayer AG, used under license by Bayer Inc
		Milk			Zero	

		FOR CYFLUTHRIN Page 1 -22			
2.3.4.3. Cyhalothrin	Cattle	Muscle	Cyhalothrin (sum of isomers) HPLC	42 days	Encyclopedia of Parasitology, vol. 1-2 Heinz Mehlhorn, 3ed , pp.378
	Cattle	Muscle	HPLC Determination of Flumethrin, Deltamethrin, Cypermethrin, and Cyhalothrin Residues in the Milk and Blood of Lactating Dairy Cows Journal of Analytical Toxicology 21 : 397-402		
2.3.4.4. Cypermethrin		Milk		<a href="#">Denise Zuccari Bissacot and Igor Vassilieff(1997)</a> HPLC Determination of Flumethrin, Deltamethrin, Cypermethrin, and Cyhalothrin Residues in the Milk and Blood of Lactating Dairy Cows Journal of Analytical Toxicology 21 : 397-402	zero
	Sheep	Muscle	8 days		Novartis Animal Health UK Limited Frimley Business ark Frimley Camberley Surrey GU16 7SR United Kingdom
	Chicken	muscle	Cypermethrin (sum of isomers) HPLC		21 days
	eggs	Zero			
2.3.4.5. Cyromazine	Sheep	Muscle	<a href="#">Cyromazine</a>	28 days	Blacks Veterinary

<b>2.3.4.6. Deltamethrin</b>	Cattle	Muscle	HPLC	<p><a href="#">Wang, Qingfei Zeng, Ming Chen and Tiezheng Liu</a> (2009) High-Performance Liquid Chromatographic Method for the Determination of Cyromazine and Melamine Residues in Milk and Pork <a href="#">Journal of Chromatographic Science</a> Volume 47, ( 7) . 581-584.</p> <p><a href="#">Yan Ding, Catherine A. White, S. Muralidhara, James Bruckner, Michael G. Bartlett</a> (2004) Determination of deltamethrin and its metabolite 3-phenoxybenzoic acid in male rat plasma by high-</p>	<p>20 days</p> <p>Zero</p> <p>7 days</p>	Dictionary ,Edward Boden, 19 <sup>TH</sup> ED.1998		
						Milk	Metabolite 3-phenoxybenzoic acid HPLC	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.214
						Sheep	Muscle	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.214

	Sheep	Muscle		performance liquid chromatography J.Chromatography B:810(2) 221-227	35 days  70 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.211 An imax Ltd, Shepherds Grove West Stanton Bury St Edmunds Suffolk IP31 2AR
<b>2.3.4.7. Diazinon</b>	Sheep	Muscle	Diazinon GC	COMMISSION REGULATION (EU) No 37/2010	35 days  70 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.211  An imax Ltd Shepherds Grove West Stanton Bury St Edmunds Suffolk IP31 2AR
<b>2.3.4.8. Dicyclanil</b>	Sheep	Muscle	Sum of dicyclaniland 2, 4, 6-triamino- pyrimidine-5- carbonitrile	COMMISSION REGULATION (EU) No 37/2010	40 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.217



2.3.4.9. Emamectin	Cattle	Muscle	Sum of dicyclanil and 2, 4, 6-triamino-pyrimidine-5-carbonitrile HPLC	-	Zero	Intervet UK Ltd. Walton Milton Keynes, Bucks. MK7 7AJ
	Salmonids	Muscle				Norway 17.5 at 10°C USA 60 days
2.3.4.10. Fluazuron	Cattle	Muscle	Fluazuron LC	COMMISSION REGULATION (EU) No 37/2010	42 days Don't slaughter calves younger than 10 months suckling on treated dams	Novartis Animal Health: A business unit of Novartis South Africa (Pty) Ltd. (Company Reg. No.: 1946/020671/07). P. O. Box 92, Isando, 1600. Tel.: (011) 929 2387. Email: infosa.ahzais@novartis.com. (FABE 15/11/08)
2.3.4.11. Permethrin	Cattle	Muscle	Permethrin	COMMISSION	Zero	

				(sum of isomers)	REGULATION (EU) No 37/2010	Pour- on 3 days		The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop ed 2005 pp.214
						Milk	Zero	
<b>2.3.4.12. Phoxim</b>	Sheep	Muscle	Phoxim	Not established	JECFA Evaluation: 52 (1999); 62 (2004)	28 days	www. WeiKu.com	
		Milk	Not established			3 days		
<b>2.3.4.13. Teflubenzuron</b>	Salmonids	Muscle	Not established		-	7 days	Trouw (UK) Limited Wincham Northwich Cheshire CW9 6DF	
<b>2.3.4.14. Trichlorfon (metrifonate)</b>	Cattle	Milk	Metrifonate GC		CAC/MRL 2-2012	Pour-on 21 days	Drugs and Their Usage William D.Grimly 1998 pp. 121	

## 2.4. RESIDUE DEFINITION, METHODS OF DETECTION AND WITHDRAWAL PERIODS OF ANTI-INFLAMMATORIES (AI)

## 2.4.1. Residue definition, Method of detection and withdrawal periods of Non Steroidal AI

Drug groups	Food commodity		Residue Definition (Marker residue) and Method of detection (Technique)	References	Withdrawal period	References
	Species	Tissue or product				
2.4.1.1. Carprofen	Cattle	Muscle	Not established	-	21 days	Norbrook Laboratories Limited Station Works Camlough Road Newry Co. Down BT35 6JP Northern Ireland
		Milk			Zero	
2.4.1.2. Diclofenac	Cattle	Muscle	Not established	-	28 days	Genevet limited
		Milk			7 days	
2.4.1.3. Flunixin meglumine	Cattle	Muscle	Not established	-	14 days	Drugs and Their Usage William D.Grimly 1998, pp. 155  The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.344

		Milk			2 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.344
<b>2.4.1.4. Ketoprofen</b>	Cattle	Muscle	Ketoprofen HPLC	Allegri A, Nuzzo L, Zucchelli M, Scaringi AT, Felaco S, Giangreco D, Pavone D, Toniato E, Mezzetti A, Martinotti S, Comuzio S, Di Grigoli M. Fast (2009) HPLC method for the determination of ketoprofen in human plasma using a monolithic column and its application to a comparative bioavailability study in man. Arzneimittelforschung.;59(3):135-40.	4 days	MARKETING AUTHORISATION HOLDER , Orion Corporation , P.O. BOX 65 Fin - 02101 Espoo  The Veterinary Formulary 6 <sup>th</sup> ed. YOLANDE BISHOP 2005 PP.345
		Milk			i.v. 1 day i.m. 4 days	
<b>2.4.1.5. Meloxicam</b>	Cattle	Muscle	Meloxicam HPLC	Rigato HM, Mendes GD, Borges NC, Moreno RA.(2006) Meloxicam determination in	15 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.345
		Milk			5 days	

2.4.1.6. Tolfenamic acid	Cattle	Muscle	-	human plasma by high-performance liquid chromatography coupled with tandem mass spectrometry (LC-MS-MS) in Brazilian bioequivalence studies. <a href="#">Int J Clin Pharmacol Ther.</a> ;44(10):489-98	i.v. 3 days s.c. 7 days	Vétoquinol UK Limited Vétoquinol House Great Slade Buckingham Industrial Park Buckingham MK18 1PA
		Milk				
			Not established			

## 2.4.2. Residue definition, Method of detection and withdrawal periods of Steroidal AI

Drug groups	Food commodity		Residue Definition (Marker residue) and Method of detection (Technique)	References	Withdrawal period	References
	Species	Tissue or product				
2.4.2.1. Dexamethasone	Cattle	Muscle	Dexamethasone.	Kumar V, Mostafa S, Kayo MW, Goldberg EP, Derendorf H(2006). HPLC determination of dexamethasone in human plasma and its application to an in vitro release study from endovascular stents. Pharmazie;61(11):908- 11.	8 days	Dopharma Research B.V. Zalmweg 24 4941 VX Raamsdonksveer The Netherlands
		Milk	HPLC		3 days	
2.4.2.2. Hydrocortisone	Cattle	Milk	Not established	-	Not established	-
2.4.2.3. Prednisolone	Cattle	Muscle	Not established	-	3 days	Pfizer Animal Health Tetra-Delta Pfizer

## 2.5. RESIDUE DEFINITION, METHODS OF DETECTION AND WITHDRAWAL PERIODS OF HORMONES

Drug groups	Food commodity		Residue Definition (Marker residue) and Method of detection (Technique)	References	Withdrawal period	References
	Species	Tissue or product				
2.5.1. Cloprostenol	Cattle	Edible tissues	<sup>14</sup> C-cloprostenol. lactone and its tetranor acid  Radioactive liquid chromatography atmospheric pressure chemical ionization tandem mass spectrometry (LC-APCI-MS-MS)	Annex II of Council Regulation (EEC) No. 377/90.	2 days	VIRBAC S.A. 1ère avenue – 2065 m – L.I.D. 06516 Carros FRANCE
		Milk			1 days  Zero	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.329
2.5.2. Estradiol-beta	Cattle	Muscle	17alpha- hydroxytrenbolone and 17Beta- hydroxytrenbolone  GC/MS	Wu YY, Shi WX, Chen SQ.(2009) [Determination of beta-estradiol, bisphenol A, diethylstilbestrol and salbutamol in human urine by GC/MS]. Zhejiang Da Xue Xue Bao Yi Xue Ban.;38(3):235-41	Zero	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.323

<b>2.5.3. Gonadotrophin</b>	All food producing species	Edible tissues	Not established	-	Zero	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.323
<b>2.5.4. Melengestrol acetate</b>	Cattle	Muscle	Melengestrol acetate liquid chromatography (LC)	Weigand JL, Dille DS.(1988) Determination of melengestrol acetate in feedstuffs with liquid chromatographic preparatory column cleanup and quantitative analysis J Assoc Off Anal Chem.;71(4):707-9.	2 days	Modern Livestock & Poultry Production 7 <sup>th</sup> ed. James R. Gillespie 2004, pp.142
<b>2.5.5. Oxytocin</b>	All food producing species	Edible tissues	Not established	-	Zero	Intervet UK Ltd. Walton Walton Manor Milton Keynes MK7 7AJ The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.331
<b>2.5.6. Progesterone</b>	Cattle	Muscle	Not established	-	Zero	Ceva Animal Health Ltd Unit 3, Anglo Office Park, White Lion Road, Amersham, Buckinghamshire HP7 9FB



					6 h	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.327
	Milk				Zero	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.327
<b>2.5.7. Testosterone</b>	Cattle	Muscle	Not established	-	Zero	Modern Livestock & Poultry Production 7 <sup>th</sup> ed. James R. Gillespie 2004, pp. 145

## 2.6. RESIDUE DEFINITION, METHODS OF DETECTION AND WITHDRAWAL PERIODS OF GROWTH PROMOTING AGENTS

Drug groups	Food commodity		Residue Definition (Marker residue) and Method of detection (Technique)	References	Withdrawal period	References
	Species	Tissue or product				
<b>2.6.1. Arsanilic acid</b>	Chicken	Muscle	Arsenic Atomic Absorption Spectrophotometry	<a href="#">W.A.Maher (1981)</a> Determination of inorganic and methylated arsenic species in marine organisms and sediments analytica Chimica Acta, 126 (1981) 157-165 Elsevier	5 days	University of Nebraska - Lincoln  DigitalCommons@Uni versity of Nebraska - Lincoln . The board of reagents of the Univ. of Nebraska  <a href="http://www.ucsus.org/assets/documents/.../hog_apps.pdf">www.ucsus.org/assets/ documents/.../hog_apps. pdf</a>
	Turkey	Muscle			5 days	
<b>2.6.2. Clenbuterol hydrochloride</b>	Cattle	Muscle	Clenbuterol  GC-MS	<a href="#">Limin He Yijuan Su</a> <a href="#">Zhenling ZengYahong</a> <a href="#">LiuXianhui Huang(2007)</a> Determination of ractopamine and clenbuterol in feeds by gas chromatography– mass spectrometry	14 days	Boehringer Ingelheim Limited, Ellesfield Avenue, Bracknell, Berkshire RG12 8YS United Kingdom
		Milk			Zero	

					<a href="#">Animal Feed Science and Technology</a> <a href="#">Volume 132, (3-4)</a> , 316-323			
<b>2.6.3. Ractopamine</b>	Cattle	Muscle	Ractopamine HPLC Used in swine only	Elanco Report #-231	Zero	ELANCO® Division Eli Lilly Canada Inc., 150 Research Lane, Suite 120, Guelph, Ontario, Canada N1G 4T2		
<b>2.6.4. Rosarsone</b>	Chicken	Muscle	Roxarsone	Frahm L.J, Albrecht ME, McDonnell JP.(1975) Atomic absorption spectrophotometric determination of 4-hydroxy-3-nitrobenzenearsonic acid (roxarsone) in premixes. J Assoc Off Anal Chem. 58(5):945-8.	5 days	<a href="http://www.ucsus.org/assets/documents/.../hog_apps.pdf">www.ucsus.org/assets/documents/.../hog_apps.pdf</a>		
	Turkey	Muscle	Atomic absorption spectrophotometry					
<b>2.6.5. Trenbolone acetate</b>	Cattle	Muscle	Beta-Trenbolone LC-MS	<a href="#">Masakazu Horie</a> , <a href="#">Hiroyuki Nakazawa</a> (2000) Determination of trenbolone and zeranol in bovine muscle and liver by liquid chromatography–electrospray mass	Zero	The <a href="#">Nutrition and Management section of the Alberta Feedlot Management Guide</a> , 2 <sup>nd</sup> Edition published September 2000 Pfizer Animal Health Cooper Veterinary Products (Pty) Ltd Co. Reg. No.		
	<b>2.6.6. Zeranol</b>	Cattle	Muscle	Zeranol	Zero			



## 2.7. RESIDUE DEFINITION, METHODS OF DETECTION AND WITHDRAWAL PERIODS OF NERVOUS SYSTEM DRUGS

Drug groups	Food commodity		Residue Definition (Marker residue) and Method of detection (Technique)	References	Withdrawal period	References
	Species	Tissue or product				
<b>2.7.1. Doxapram HCl</b>	All mammalia n food producing species	Edible tissues	DoxapramHCl  LC-MS-MS	<ul style="list-style-type: none"> <li> <a href="#">Guanyang Lin,</a>  <a href="#">Jianshe Ma, Lufeng</a>  <a href="#">Hu, Xuebao</a>  <a href="#">Wang, Jiayin</a>  <a href="#">Zhu, Xiangin</a>  <a href="#">Wang(2011)</a>            Determination of            Doxapram            Hydrochloride in            Rabbit Plasma by LC-            MS-MS and Its            Application  <a href="#">Chromatographia</a>            73, ( 1-2), 183-187         </li> </ul>	28 days	Pfizer Limited Ramsgate Road Sandwich Kent CT13 9NJ

<p><b>2.7.2. Ketamine</b></p>	<p>All food producing species</p>	<p>Edible tissues</p>	<p>Ketamine GC-MS</p>	<p>Ya-Hsueh Wu Keh-Liang Lin, Su-Chin Chen, Yan-Zin Chang(2008) Simultaneous quantitative determination of amphetamines, ketamine, opiates and metabolites in human hair by gas chromatography/mass spectrometry Rapid Communications in Mass Spectrometry <a href="#">Volume 22, (6), 887–897,</a></p>	<p>3 days Milk 2 days</p>	<p>Food Animal Residue Avoidance &amp; Depletion Program (FARAD) <a href="http://www.farad.org/eldu/prohibit.html">http://www.farad.org/eldu/prohibit.html</a></p>
<p><b>2.7.3. Procaine HCl</b></p>	<p>All food producing species</p>	<p>Edible tissues</p>	<p>Procaine HCl Spectrophotometric method</p>	<p><a href="#">Lian Dong Liu Yuan</a> <a href="#">Liu Huai You Wang</a> <a href="#">Yue SunLi Ma Bo</a> <a href="#">Tang(2000)</a> Use of <i>p</i>-dimethylaminobenzaldehyde as a colored reagent for determination of procaine hydrochloride</p>	<p>3 days</p>	<p>Food Animal Residue Avoidance &amp; Depletion Program (FARAD) <a href="http://www.farad.org/eldu/prohibit.html">http://www.farad.org/eldu/prohibit.html</a></p>

					by spectrophotometry <a href="#">Talantia 52.6</a> , 991–999		
<b>2.7.4. Tricaine Methane sulfonate</b>	Salmonids	Muscle	Not established	-	70 days	Pharmaq Limited Unit 15 Sandleheath Industrial Estate Fordingbridge Hants SP6 1PA	
<b>2.7.5. Xylazine</b>	Cattle	Muscle	Not established	-	14 days	Chanelle Animal Health Ltd, 7 Rodney St. Liverpool L1 9HZ UK.	

**2.8. RESIDUE DEFINITION, METHODS OF DETECTION AND WITHDRAWAL PERIODS OF CARDIOVASCULAR SYSTEM DRUGS**

Drug groups	Food commodity		Residue Definition (Marker residue) and Method of detection (Technique)	References	Withdrawal period	References
	Species	Tissue or product				
<b>2.8.1. Epinephrine</b>	All food producing species	Edible tissues	Epinephrine  High Performance Liquid Chromatography (HPLC)	Kumar Mishra Amrita Mishra and Pronobesh Chattopadhyay(2010) A reversed-phase high performance liquid chromatographic method for determination of Epinephrine in pharmaceutical formulation  Archives of Applied Science Research, 2 (2):251-256	Zero	Dechra Limited Dechra House Jamage Industrial Estate Talke Pits Stoke-on-Trent Staffordshire ST7 1XW , UK



## 2.9. RESIDUE DEFINITION, METHODS OF DETECTION AND WITHDRAWAL PERIODS OF RESPIRATORY SYSTEM DRUGS

Drug groups	Food commodity		Residue Definition (Marker residue) and Method of detection (Technique)	References	Withdrawal period	References
	Species	Tissue or product				
<b>2.9.1. Bromhexine</b>	Cattle	Edible tissues	Bromhexine	Ana C.B. Dias, João L.M. Santos José L.F.C. Lima Elias A.G. Zagatto (2003) Multi-pumping flow system for spectrophotometric determination of bromhexine Analytica Chimica Acta 499, (1– 2), 107–113	Oral 2 days Inject. 28 days	Boehringer Ingelheim Limited Ellesfield Avenue Bracknell Berkshire RG12 8YS, UK
	Poultry	Edible tissues	Spectrophotometric method	MINH DUNG VETERINARY - AQUACULTURE MEDICINE COMPANY LTD.   Web Design: VietProtocol Address: 47/4B Khanh Hoi Village, Tan Phuoc Khanh Town, Tan Uyen District, Binh Duong Province, Viet Nam	Oral zero	
<b>2.9.2. Etamiphylline camsilat</b>	All food producing species	Edible tissues	Not established	-	7 days	Dechra Limited, Dechra House, Jamage Industrial Estate, Talke Pits, Stoke-on- Trent, Staffordshire, ST7 1XW, UK.

## 2.10. RESIDUE DEFINITION, METHODS OF DETECTION AND WITHDRAWAL PERIODS OF DIGESTIVE SYSTEM DRUGS

Drug groups	Food commodity		Residue Definition (Marker residue) and Method of detection (Technique)	References	Withdrawal period	References
	Species	Tissue or product				
<b>2.10.1. Atropine sulfate</b>	All food producing species	Edible tissues	Not established	-	14 days  Milk 3 days	Food Animal Residue Avoidance & Depletion Program (FARAD) <a href="http://www.farad.org/eldu/prohibit.html">http://www.farad.org/eldu/prohibit.html</a>
<b>2.10.2. Poloxalene</b>	All food producing species	Edible tissues	Poloxalene  Spectrophotometric method	Nabeel S. Othman and Shilan A. Omer(2008)  Indirect Spectrophotometric Method for Determination of Bromhexine- Hydrochloride in Pharmaceutical Preparations Raf. Jour. Sci., 19, (2), 16 - 27 ,	Zero	Phibro Animal Health Pfizer, Inc.

## 2.11. RESIDUE DEFINITION, METHODS OF DETECTION AND WITHDRAWAL PERIODS OF URINARY SYSTEM DRUGS

Drug groups	Food commodity		Residue Definition (Marker residue) and Method of detection (Technique)	References	Withdrawal period	References
	Species	Tissue or product				
2.11.1. Hydrochlorothiazide	Cattle	Edible tissues	Hydrochlorothiazide  Gas Chromatography  (GC)	K. Szyrwińska A. Kołodziejczak I. Rykowska W. Wasiak and J. Lulek(2007) Derivatization and gas chromatography– low-resolution mass spectrometry of bisphenol a Acta Chromatographica, 18,49-58	3 days Milk 2 days	Vetoquinol Co.France