

**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 ( $\mu\text{g/kg}$ ) 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:**

<b>No.</b>	<b>Drug</b>	<b>Page</b>	<b>No.</b>	<b>Drug</b>	<b>Page</b>
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	Sulfaethoxypyridazine	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	Australian standard MRL, 2012
		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  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>6.1.4. 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	
<b>6.1.4.2. Penicillins</b> <b>6.1.4.2.1. Amoxicillin</b>  Acceptable Daily Intake (ADI) 0 – 0.7 µg/kg body weight	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	
<b>6.1.4.2.2. Ampicillin</b>  Acceptable Daily Intake (ADI)		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	

14



		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	
	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	

**6.1.5. CHLORAMPHENICOLS****6.1.5.1. Thiamphenicol\***

Acceptable Daily Intake (ADI)  
0-1 ug/kg  
body weight

\* banned by the Food and Drug  
Administration (FDA) in 1997

		Milk (µg/l)	50	
<b>6.1.5.2. Florfenicol*</b>  Acceptable Daily Intake (ADI) 0-1 ug/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 ug/kg body weight	Cattle	Muscle	50	Australian standard MRL, 2012
		Liver	50	
		Kidney	50	
		Fat	50	
		Milk (µg/l)	50	
	Sheep	Muscle	50	Australian standard MRL, 2012
		Liver	50	
		Kidney	50	
		Fat	50	
		Milk (µg/l)	50	
	Goat	Muscle	50	Australian standard MRL, 2012
		Liver	50	
		Kidney	50	
		Fat	50	
		Milk (µg/l)	50	
	Camel	Muscle	50	Australian standard MRL, 2012
		Liver	50	
		Kidney	50	
		Fat	50	
		Milk (µg/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 (µg/l)	100	
	Sheep	Muscle	100	
		Liver	300	
		Kidney	200	
		Fat	100	
		Milk (µg/l)	100	
	Goat	Muscle	100	COMMISSION REGULATION (EU) No 37/2010
		Liver	300	
		Kidney	200	
		Fat	100	
		Milk (µg/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	EMA/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	CAC/MRL 2-2011
		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	
	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 (µg/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 (µg/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 (µg/l)	10	
	Sheep	Muscle	100	Canadian MRL 2011
		Liver	100	
		Kidney	100	
		Fat	100	
		Milk (µg/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	Canadian MRL 2011
		Kidney	100	
		Fat	100	
		Milk (µg/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 (µg/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	

30



	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 (µg/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 µg/l)	10	
<b>6.1.14.9. Sulfaguanidine*</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	
		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	

<b>6.1.14.15. Sulfathiazole*</b>  Acceptable Daily Intake (ADI) 0.2 mg/kg body weight  *banned by US FDA, Canada and EC.		Liver	100	Canadian MRL 2011
		Kidney	100	
		Fat	100	
	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	
		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	

<b>6.1.15.3. Oxytetracycline</b>  Acceptable Daily Intake (ADI) 0-3 µg/kg body weight		Liver	300	
		Kidney	600	
		Fat/skin	300	
	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	
		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	
		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/journal/foundation/agrdtl.php?a_inq=20100">http://www.m5.ws001.squarespace.com/journal/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. Decoquinat</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.squarespace.com/jfcr/foundation/agrdtl.php?a_inq=10900">http://www.m5.ws001.squarespace.com/jfcr/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	Australian standard MRL, 2012
		Liver	1000	
		Kidney	1000	
		Fat /skin	400	Canadian MRL(2011)
<b>6.3.1.11. Methyl benzoquate</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)
		Liver	100	Australian standard MRL, 2012
		Kidney	100	
		Fat /skin	200	Canadian MRL(2011)
<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. Semduramicin</b>  Acceptable Daily Intake (ADI) 3 ug/kg body weight	Chicken	Muscle	50	National Registration Authority for Agricultural and Veterinary Chemicals, Australia, 2001
		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		
<b>6.3.2.1. Abamectin</b>  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	
	Chicken	Meat	10	The Japan Food Chemical Research Foundation, 2012
		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	EMA/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	EMA/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.squarstart.ne.jp/foundation/agrdtl.php?a_inq=3900">http://www.m5.ws001.squarstart.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>
	6.3.2.5. Derquantel  Acceptable Daily Intake (ADI) 0 – 0.3 µg/kg body weight	Sheep	Muscle	0.2
Liver			2.0	
Kidney			0.2	
Fat			0.7	
6.3.2.6. Doramectin  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	CAC/MRL 2-2011
		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. Nitroxynil</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	



<b>6.3.2.17. Oxfendazole</b>  Acceptable Daily Intake (ADI) 0-20 µg/Kg body weight		Liver	1000	Australian standard MRL, 2012
		Kidney	1000	
		Fat	1000	
	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	COMMISSION REGULATION (EU) No 37/2010
<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. Rafoxanide</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	Australian standard MRL, 2012
	Goat	Muscle	100	CAC/MRL 2-2011
		Liver	100	
		Kidney	100	
		Fat	100	
		milk (µg/l)	50	Australian standard MRL, 2012
	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		
<b>6.3.4.1. Amitraz</b>  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	

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

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

EMA/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.

EMA/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.

EMA/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.

EMA/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.

EMA/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 benzoquate	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				
2.1.1. AMINOCOUMARIN ANTIBIOTICS  2.1.1.1. Novobiocin	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	
2.1.2. AMINOCYCLITOL ANTIBIOTICS  2.1.2.1. Spectinomycin	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,	

2.1.3.AMINOGLYCOSIDES ANTIBIOTICS  2.1.3.1. Apramycin	Goat	Muscle	Apramycin  High Performance Liquid Chromatography (HPLC)	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
	Cattle	Muscle			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
2.1.3.2.Dihydrostreptomycin	Chicken	Muscle	Dihydrostreptomycin Gas Chromatography – Mass Spectrophotometry	FAO Food & Nutrition Paper 41/1  4; see also Gerhardt, G.C., Salisbury, C.D.C., & MacNeil, J.D. (1994)	7 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.153
	Cattle	Muscle			30 days  Intramammary	Drugs and Their Usage William D.Grimly 1998 pp. 135  Food Animal Residue Avoidance & Depletion

<b>2.1.3.3. Gentamicin</b>			(GC-MS)	<i>J. AOAC Int.</i> 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>
		Milk			4 days	Drugs and Their Usage William D.Grimly 1998 pp. 135
	Cattle	Muscle	Sum of gentamicin C1, gentamicin C2 C1a, gentamicin C2 and gentamicin C2a	FAO Food & Nutrition Paper 41/11	360 days	Drugs and Their Usage William D.Grimly 1998 pp. 135
		Milk			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>
	Chicken	Muscle	Liquid Chromatography (LC)		5 days	Drugs and Their Usage William D.Grimly 1998 pp. 135
	Goats	Muscle			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>

		Milk				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>
2.1.3.4.Neomycin	Cattle	Muscle	Neomycin B  Liquid Chromatography (LC)	52nd JECFA; data provided to CCRVDF	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	
2.1.3.5.Streptomycin	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 2 days ( oral)	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop , 2005	
		Milk			2 days		
	Sheep	Muscle			14 days		

	Goat	Muscle		data provided to CCRVDF by Canada, 2nd laboratory verification of performance reported by UK	14 days	pp.155	
2.1.4.BETA LACTAM 2.1.4.1.Cephalosporins 2.1.4.1.1. Cefalonium	Cattle	Muscle	Cefalonium	Annex 1 EEC NO 2377/90	21 days	Shering-Plough	
		Milk	High Performance Liquid Chromatography (HPLC)		54 days		
2.1.4.1.2. Cefapirin	Cattle	Muscle	Sum of cefapirin and desacetylcefapirin  High Performance Liquid Chromatography (HPLC)		Sodium 4 days Benthazine 42 days	Intramammary 4 days	Drugs and Their Usage William D.Grimly 1998 pp. 130
		Milk			Sodium 4 days Benthazine 3.5 days		Drugs and Their Usage William D.Grimly 1998 pp. 137
2.1.4.1.3.Ceftiofur	Cattle	Muscle			Canada Zero	Drugs and Their Usage William D.Grimly 1998 pp. 128  The Veterinary	

			Milk	Sum of all residues retaining the structure expressed as desfuoylceftriaxone	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
							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
2.1.4.1.4.Cefuroxime	Cattle	Muscle	Milk	Not established		7 days	Schering-Plough
						3 days	
2.1.4.2.1.Amoxicillin	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
						18 days Intravenous 12 days	The Veterinary Formulary Sixth edition Edited by Yolande Bishop 6 <sup>th</sup> ed 2005 pp.145
		Milk				4 days inject. 2.5 days intravenous	Drugs and Their Usage William D.Grimly 1998 pp. 125
						Oral 2 days	The Veterinary Formulary



						Sixth edition Edited by Yolande Bishop 6 <sup>th</sup> ed 2005 pp.146
2.1.4.2.2. Ampicillin	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	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
		Milk			2 days	Drugs and Their Usage William D.Grimly 1998 pp. 126  Boehringer Ingelheim Vetmedica, Inc.
2.1.4.2.3. Benzyl penicillin	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

			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

2.1.5. CHLORAMPHENICOLS 2.1.5.1.Thiamphenicol			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.
		Milk				
	Sheep	Muscle	Thiamphenicol High Performance Liquid Chromatography (HPLC)	T. Nagataa & M. Saekia(1992) Journal of Liquid Chromatography Volume 15, Issue 12, 1992 Simultaneous Determination of Thiamphenicol, Florfenicol, and	9 days 60 days benzathine	The Veterinary Formulary Sixth edition Edited by Yolande Bishop 6 <sup>th</sup> ed 2005 pp.145 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				
	Cattle	Muscle	Thiamphenicol High Performance Liquid Chromatography (HPLC)	T. Nagataa & M. Saekia(1992) Journal of Liquid Chromatography Volume 15, Issue 12, 1992 Simultaneous Determination of Thiamphenicol, Florfenicol, and	28 days	The Veterinary Formulary Sixth edition Edited by Yolande Bishop 6 <sup>th</sup> ed 2005 pp.145 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				
	Cattle	Muscle	Thiamphenicol High Performance Liquid Chromatography (HPLC)	T. Nagataa & M. Saekia(1992) Journal of Liquid Chromatography Volume 15, Issue 12, 1992 Simultaneous Determination of Thiamphenicol, Florfenicol, and	3 days	The Veterinary Formulary Sixth edition Edited by Yolande Bishop 6 <sup>th</sup> ed 2005 pp.145 Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht - Holland P.O. Box 63 – 1230 AB
		Milk				

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

<b>2.1.6.</b> <b>DIAMINOPYRIMIDINES</b> <b>2.1.6.1. Trimethoprim</b>	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
<b>2.1.7.</b> <b>FLUOROQUINOLONES</b> <b>2.1.7.1. Danofloxacin</b>	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	Liquid		4 days	Saunders Handbook of Veterinary Drugs, Mark

			Chromatography (LC)	35302, Fougères, France		G. Papich, 2004  The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.163
<b>2.1.7.2. Difloxacin</b>	Cattle	Muscle	Difloxacin Liquid High Performance Chromatography (HPLC)	Pharm Res. 1990 Nov;7(11):1177-80.	Not established	-
	Poultry	Muscle		Determination of temafloxacin, sarafloxacin, and difloxacin in bulk drug and dosage forms by high-performance liquid chromatography.  Bauer JF, Elrod L Jr, Fornarino JR, Heathcote DE, Krogh SK, Linton CL, Norris BJ, Quick JE	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
<b>2.1.7.3. Enrofloxacin</b>	Cattle	Muscle	Sum of enrofloxacin and	<a href="#">Marinês J. e Souza</a> <a href="#">Celso F. Bittencourt</a> <a href="#">Lisoni M. Morsch</a> ( 2002)	28 days	Saunders Handbook of Veterinary Drugs, Mark G. Papich, 2004  The Veterinary

				ciprofloxacin High Performance Liquid Chromatography (HPLC)	Journal of Pharmaceutical and Biomedical Analysis <a href="#">Volume 28, 6, (15),</a> 1195–1199	14 days	Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.164
	Poultry	Muscle		LC determination of enrofloxacin	8 days	84 h	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.164
							The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.164
<b>2.1.7.4. Flumequine</b>	Cattle	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 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com
	Chicken	Muscle					
		Eggs					

						+31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com
2.1.7.6. Marbofloxacin	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
		Milk			1.5 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.165
2.1.7.7. Sarafloxacin	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
2.1.8. LINCOSAMIDES 2.1.8.1. Lincomycin	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- Zsilavecz 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	Muscle			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 CCRVDF; 43rd & 47th JECFA	52 days	Ceva Animal Health Limited Unit 3 Anglo Office Park White Lion Road Amersham Buckinghamshire HP7 9FB
		Milk			10 days	Ceva Animal Health Limited Unit 3 Anglo Office Park White Lion Road, Amersham Buckinghamshire HP7 9FB

<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	Muscle			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-tetrahydroxy-3,5,8,10,12,14-hexamethyl-11-[[3,4,6-trideoxy-3-(dimethyl-lamino)- $\beta$ -D-xylo-hexopyranosyl]oxy]-1-oxa-6-azacyclopent-decan-15-one expressed astulathromycinequivalents  HPLC/MS/MS	<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			21 days	Drugs and Their Usage William D.Grimly 1998 pp. 152

			Tylosin A High Performance Liquid Chromatography  (HPLC)	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	28 days  Oral calves 5 days	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
	Chicken	Milk			Milk not used  4.5 days	Drugs and Their Usage William D.Grimly 1998 pp. 152  The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.157
					Oral zero	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.158  Dutch Farm International

					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
2.1.10. ORTHOSOMYCIN 2.1.10.1. Avilamycin	Chicken	Muscle		J . Assoc Off Anal Chem. 1986 69(5):763-		
		Liver				

	Turkey	Muscle	Dichloroisovevernic 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
<b>2.1.11. Pleuromutilin</b> <b>2.1.11.1. Tiamulin</b>	Chicken	Muscle	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	Novartis Animal Health UK Limited Frimley Business Park Frimley, Camberley Surrey, GU16 7SR United Kingdom
		Eggs			Zero	
	Turkey	Muscle			5 days	Novartis Animal Health UK Limited Frimley Business Park Frimley, Camberley Surrey, GU16 7SR United Kingdom
<b>2.1.12. POLYPEPTIDES</b>	Camel	Milk	Sum of bacitracin A, bacitracin B,	Trends in Analytical	Zero	Alpharma Inc.

<b>2.1.12.1. Bacitracin</b>	Chicken	Muscle	andbacitracin 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  High Performance Liquid Chromatography (HPLC)	Ther Drug Monit. 2000;22(5):589-93.  High-performance liquid chromatographic method for the determination of colistin in serum.  Le Brun PP, de Graaf AI, Vinks AA.	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			Oral 1 day	
	Goat	Muscle			1 day	
	Chicken	Muscle			1 day	
	Turkey	Muscle			1 day	
<b>2.1.12.3. Polymyxin B</b>	Cattle	Milk	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	5 days	JAVMA, vol.226(12) June 15, 2005

					capillary electrophoresis with indirect UV detection. <a href="#">Srisom P.</a> , <a href="#">Liawruangrath B.</a> , <a href="#">Liawruangrath S.</a> , <a href="#">Slater JM</a> , <a href="#">Wangkarn S.</a>		
<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	-	
<b>2.1.14.2.Sulfacetamide</b>	Cattle	Muscle	Sulfacetamide/ sulfanilamide Spectrophotometry	Journal of Pharmaceutical sciences 58(10)1171-1300	Not established	-	
<b>2.1.14.3. Sulfachlorpyridazine</b>		Muscle	Sulfachlorpyridazine	Biomed. Eng. Appl.	5 days	Drugs and Their Usage	



	Cattle		High Performance Liquid Chromatography (HPLC)	Basis Commun. 21, 457 (2009). DOI: 10.4015/S1016237209001647		William D.Grimly 1998 pp. 141
<b>2.1.14.4. Sulfadiazine</b>	Cattle	Muscle	Sulfadiazine spectrophotometric method	Acta Pharm. 57 (2007) 333–342 10.2478/v10007-007-0026-4	12 days	The Veterinary Formulary 6 <sup>th</sup> ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.161
		Milk			2 days	
	Sheep	Muscle			14 days	2007 The United States Pharmacopeial Convention
	Chicken	Muscle			7 days	The Veterinary Formulary 6 <sup>th</sup> ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.161
<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	Drugs and Their Usage William D.Grimly 1998, pp. 141
		Milk			3 days	
	Chicken	Muscle			5 days	AAMER et al. / Int. J. Agri. Biol., Vol. 2, No. 3, 2000
<b>2.1.14.6. Sulfadimidine (Sulfamethazine)</b>	Cattle	Muscle			15 days	Drugs and Their Usage William D.Grimly 1998 pp. 143 The Veterinary Formulary 6 <sup>th</sup> ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.159
					18 days	

		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
	Sheep	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
					15 days	Drugs and Their Usage William D.Grimly 1998 pp. 143
					3 days	Drugs and Their Usage William D.Grimly 1998 pp. 143
<b>2.1.14.7. Sulfadoxine</b>	Cattle	Muscle	Sulfadoxine  Liquid Chromatography	J. Anal. Chem., 365(5): 444-447.	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.
		Milk			2 days	Industrieweg 14c – 1231 KH Loosdrecht - Holland

						4 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
2.1.14.8. Sulfaethoxypyridazine	Cattle	Muscle	Sulfaethoxypyridazine e Liquid Chromatography	Berzas Nevado et al Analytica Chimica Acta 442 (2001) 241–248	16 days	3 days	Veterinary Pharmacology and Toxicology, Roy,B.K. 1 <sup>st</sup> ed. 2001. Pp.376
		Milk					
2.1.14.9. Sulfaguanidine	Cattle	Muscle	Sulfaguanidine GC-MS	Bulletin of the Veterinary Institute in Pulawy 55 :717-720 ISSN: 0042-4870	10 days		Adwia Pharmaceut.Co. Egypt
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		2007 The United States Pharmacopeial Convention
	Chicken	Muscle			14 days		
	Turkey	Muscle			14 days		

2.1.14.11. Sulfanilamide	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
2.1.14.12. Sulfanitran	Chicken	Muscle	Not established	-	5 days	AAMER et al. / Int. J. Agri. Biol., Vol. 2, No. 3, 2000  <i>www.ucsusa.org/assets/documents/.../hog_apps.pdf</i>
2.1.14.13. Sulfapyridine	Cattle	Muscle	Not established	-	10 days	2007 The United States Pharmacopeial Convention
		Milk			4 days	2007 The United States Pharmacopeial Convention
2.1.14.14. Sulfaminoxaline	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

		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
	Turkey	Muscle				9 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.162
2.1.14.15. Sulfathiazole	Cattle	Muscle	Not established	-		10 days	2007 The United States Pharmacopeial Convention
		Milk				4 days	
	Chicken	Muscle				14 days	
	Turkey	Muscle				14 days	

2.1.15. TETRACYCLINES  2.1.15.1. Chlortetracycline	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		
	2.1.15.2. Doxycycline	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 Internet 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			L.A. 192 h S.A. 144 h	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			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
		Eggs			1 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.153
	Turkey	Muscle			7 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.153

	Salmonids Lobsters	Muscle			30 days	Phibro Animal Health
2.1.15.4. Tetracycline	Cattle	Muscle	Sum of parent drug and its 4-epimer  Liquid Chromatography	AOAC 995.09 extension (Canada)	10 days intrauterine	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
2.2.2. Nystatin	Cattle	Edible tissues			7 days	Vetoquinol Co.France

### 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 /

				not established				Analytica Chimica Acta 473 (2002) 3–26
	Poultry	Muscle				-	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	
<b>2.3.1.7. Ethopabate</b>	Chicken	Muscle		Ethopabate 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

					with fluorometric detection. J Assoc Off Anal Chem.;68(1):27-8			
<b>2.3.1.8. Halofuginone hydrobromide</b>	Cattle	Muscle	Halofuginone  HPLC		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	

<b>2.3.1.10. Maduramicin ammonium</b>	Chicken	Muscle	Maduramicin 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
<b>2.3.1.11. Methyl benzoquate</b>	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>Analyst</i> , 110, 761- 764	5 days	J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26
<b>2.3.1.12. Monensin</b>	Cattle	Muscle	Monensin A  LC-MS	Wenlu Song Min Huang Wilson Rumbelha	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

					Journal of Chromatography A, Volume 882, ( 1-2,) 79-84			
2.3.1.15. Ormetoprim	Salmonids	muscles		not established	-	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					
2.3.1.16. Robenidine hydrochloride	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



<b>2.3.1.17. Salinomycin Sodium</b>	Chicken	Muscle	Salinomycin HPLC	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	5 days	J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26
<b>2.3.1.18. Semduramicin</b>	Chicken	Muscle	Semduramicin LC	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	5 days	J.D.G. McEvoy / Analytica Chimica Acta 473 (2002) 3–26
					10 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.176

	Eggs	not established	-	Not established	Bayer plc, Animal Health Division, Bayer House, Strawberry Hill, Newbury, Berkshire RG14 1JA
--	------	-----------------	---	-----------------	---

## 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
		Milk		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  20 days  3 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  Dutch Farm International B.V. Industrieweg 14c – 1231 KH Loosdrecht –
2.3.2.2. Albendazole	Cattle	Muscle	Sum of albendazole sulphoxide, albendazole sulphone, and albendazole 2-amino sulphone, expressed as albendazole. capillary electrophoresis			

			human plasma using nonaqueous capillary electrophoresis. Electrophoresis. 21(4):729-36.				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			8 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.191	
	Goat	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			3 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: <a href="mailto:mail@dutchfarmint.com">mail@dutchfarmint.com</a> Internet <a href="http://www.dutchfarmint.com">www.dutchfarmint.com</a>
<b>2.3.2.3. Avermectin (abamectin)</b>	Cattle	Muscle	22, 23-Dihydro- avermectin B1a HPLC	GONG Xiaoming, SUN Jun, DONG Jing, YU Jinling, WANG Hongtao(2011) Determination of avermectin, diclazuril, toltrazuril and metabolite residues in pork by high performance liquid chromatography-tandem mass spectrometry  <a href="#">Chinese Journal of Chromatography » 2011, Vol. 29 » Issue (3): 217- 222</a>		

<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 2005 pp.187  The Veterinary Formulary 6 <sup>th</sup> ed ed.Yolande Bishop 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 ed.Yolande Bishop 2005 pp.187
2.3.2.7. Eprinomectin	Cattle	Muscle	Eprinomectin B1a  HPLC	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 ed.Yolande Bishop 2005 pp.188
		Milk			Zero	
2.3.2.8. Febantel/Fenbendazole	Cattle	Muscle	Sum of extractable residues which may be oxidised to oxfendazole 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

2.3.2.9. Flubendazole			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	3 days		4 days	Drugs and Their Usage William D.Grimly 1998 pp. 111
	Sheep	Muscle	15 days		Blacks Veterinary Dictionary ,Edward Boden, 19 <sup>TH</sup> ED.1998	
		milk	7 days		The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.192	
	Goat	Muscle	14 days		Drugs and Their Usage William D.Grimly 1998 pp. 111	
		milk	1 days			
	Chicken	Muscle	Sum of	György Morovján, Peter	7 days	The Veterinary



		eggs	flubendazole and (2-amino 1H-benzimidazol-5-yl)(4-fluorophenyl)methanone 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	<p>Blacks Veterinary Dictionary ,Edward Boden, 19<sup>TH</sup> ED.1998</p> <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>	www.dutchfarmint.com
2.3.2.11. Levamisole	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:	

			detection Journal of Chromatography B: Biomedical Sciences and Applications, Volume 224, (1) 25-32				+31 35 5822224 M : +31 6 53 86 88 53 E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com
	Sheep	Muscle			21 days	Blacks Veterinary Dictionary ,Edward Boden, 19 <sup>TH</sup> ED.1998	
	Chicken	Muscle			28 days	The Veterinary Formulary 6 <sup>th</sup> ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.195	
		Eggs					16 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 as mebendazole equivalents HPLC	<a href="#">Juan José García</a> <a href="#">Francisco Bolás- Fernández</a> <a href="#">Juan José Torrado</a> (1999)  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>	7 days  14 days	Drugs and Their Usage William D.Grimly 1998 pp. 114  The Veterinary Formulary 6 <sup>th</sup> ed ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.193
<b>2.3.2.13. Monepantel</b>	Cattle	Muscle	Monepantel-sulfone	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	30 days  Zero USA 14 days Canada 30 days	Drugs and Their Usage William D.Grimly 1998 pp. 114
		Milk	HPLC-MS/MS			
	Sheep	Muscle				

					QuEChERS method. J Chromatogr B Analyt Technol Biomed Life Sci. 1;879(31):3707-13.				
<b>2.3.2.14. Moxidectin</b>	Cattle	Muscle	Moxidectin LC-MS		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 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)	Drugs and Their Usage William D.Grimly 1998 pp. 135		
<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 netobimin. J Anal Methods Chem.;2012:754650.	10 days	Drugs and Their Usage William D.Grimly 1998 pp. 135		
		Milk				3 days			

	Sheep	Muscle		doi: <a href="https://doi.org/10.1155/2012/754650">10.1155/2012/754650</a>	5 days	
		Milk			3 days	
<b>2.3.2.16. Nitroxylnil</b>	Cattle	Muscle	<a href="#">Nitroxylnil</a>  GC	M. J. Parnell(1970) Determination of nitroxylnil residues in sheep and calves <a href="#">Pesticide Science Volume I, (4)</a> 138–143,	49 days	Blacks Veterinary Dictionary ,Edward Boden, 19 <sup>TH</sup> ED.1998  The Veterinary Formulary 6 <sup>th</sup> ed ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.199 Merial Co.
					60 days	
	Sheep	Muscle			49 days	
<b>2.3.2.17. Oxfendazole</b>	Cattle	Muscle	Sum of extractables residues which may be oxidised to oxfendazole sulphone HPLC	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.	7 days	Boehringer Ingelheim
		Muscle			24 days	
	Sheep					
<b>2.3.2.18.Oxyclozanide</b>	Cattle	Muscle	Oxyclozanide  HPLC	Jo K, Cho HJ, Yi H, Cho SM, Park JA, Kwon CH, Park HR, Kwon KS, Shin HC.(2011)	14 days	Drugs and Their Usage William D.Grimly 1998 pp. 117
		Milk			Zero	

				Determination of Oxytetracycline in Beef and Milk using High-Performance Liquid Chromatography System with UV Detector. Lab AnimRes;27(1):37-40.		
<b>2.3.2.19. Piperazine</b>	Chicken	eggs	Piperazine HPLC	<p><a href="#">Renata Gadzala-Kopciuch</a>(2005) Accurate HPLC Determination of Piperazine Residues in the Presence of other Secondary and Primary Amines</p> <p>Journal of Liquid Chromatography &amp; Related Technologies <a href="#">Volume 28, Issue 14</a>, 2005 (ONLINE ) DOI:10.1081/JLC200064156</p>	4 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>
		Muscle			8 days	
	Cattle	Muscle			8 days	

						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



				performance liquid chromatography. Biomed Chromatogr. 7(4):181-3.				
2.3.2.22. Thiabendazole	Cattle	Muscle	Sum of thiabendazole and 5hydroxythiabendazole LC	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	30 days		Drugs and Their Usage William D.Grimly 1998 pp. 120			
2.3.2.23. Triclabendazole	Cattle	Muscle	Sum of extractable residues which maybe oxidised to ketotriclabendazole	<a href="#">Kazue Takeba</a> , <a href="#">Kenji Fujinuma</a> <a href="#">Miho Sakamoto</a> , <a href="#">Tomoyuki Miyazaki</a> , <a href="#">Hisa</a>	56 days	The Veterinary Formulary 6 <sup>th</sup> ed ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.199		

	Sheep	Muscle	HPLC	<p><a href="#">o Oka,</a>  <a href="#">Yuko ItohHiroyuki</a>  <a href="#">Nakazawa</a>(2000)  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
--	-------	--------	------	--	---------	--

## 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 period	References
	Species	Tissue or product				
2.3.3.1. Diminazene	Cattle	Muscle	Diminazene  LC	<p>José e. Roybal, Allen p. Pfenning, Josephm. Storey, steve a. gonzales, and Sherrib. Turnipseed(2003)</p> <p>Liquid Chromatographic Determination of DiminazeneDiacetu rate (Berenil)in Raw Bovine Milk</p> <p>Journal of AOAC International. 86., 5, 930-934</p>	21 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</p> <p>Internet www.dutchfarmint.com</p>
		Milk			3 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</p>

						E-mail: mail@dutchfarmint.com Internet www.dutchfarmint.com
2.3.3.2. Imidocarb	Cattle	Muscle	Imidocarb LC	KoichiInouea, <u>Mari Nunomeb</u> , <u>Tomoaki Hino</u> & <u>Hisao Okaab</u> (2011) Journal of Liquid Chromatography & Related Technologies <a href="#">Volume 34, Issue 18</a> , 2149-2156 (EMEA),	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
2.3.3.3. Isometamidium	Cattle	Muscle	Isometamidium HPLC	<a href="#">Perschke H, Vollner L</a> (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	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)</a> 337– 342	4 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop ed 2005 pp.208
	Sheep	Milk			1 days	
	Goat	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	Denise Zuccari <a href="#">Bissacot</a> and <a href="#">Igor Vassilieff</a> (1997)  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	42 days	Encyclopedia of Parasitology, vol. 1-2 Heinz Mehlhorn, 3ed , pp.378
	Cattle	Muscle	HPLC		28 days pour-on	The Veterinary Formulary 6 <sup>th</sup> ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.213
Milk		zero			The Veterinary Formulary 6 <sup>th</sup> ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.213	
2.3.4.4. Cypermethrin	Sheep	Muscle	Cypermethrin (sum of isomers)  HPLC		8 days	Novartis Animal Health UK Limited Frimley Business ark Frimley Camberley Surrey GU16 7SR United Kingdom
	Chicken	muscle	HPLC		21 days	The Veterinary Formulary 6 <sup>th</sup> ed.Yolande Bishop 6 <sup>th</sup> ed 2005 pp.213  Blacks Veterinary
		eggs			Zero	
	2.3.4.5. Cyromazine	Sheep	Muscle		<a href="#">Cyromazine</a>  <a href="#">Ruicheng Wei</a> <a href="#">Ran</a>	28 days

			HPLC	<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.			<a href="#">Dictionary ,Edward Boden, 19<sup>TH</sup> ED.1998</a>
2.3.4.6. Deltamethrin	Cattle	Muscle	Metabolite 3-phenoxybenzoic acid HPLC	<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-	20 days	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.214	
		Milk			Zero	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.214	
	Sheep	Muscle			7 days	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 dicyclanil and 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



				Sum of dicyclanil and 2, 4, 6-triamino-pyrimidine-5-carbonitrile HPLC				
2.3.4.9. Enamectin	Cattle	Muscle		Enamectin B1a		Zero	Intervet UK Ltd. Walton Milton Keynes, Bucks. MK7 7AJ	
	Salmonids	Muscle		Not applicable				
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 Zero Pour- on 6h	The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 6 <sup>th</sup> ed 2005 pp.214
<b>2. 3.4.12. Phoxim</b>	Sheep	Milk	LC	JECFA Evaluation: 52 (1999); 62 (2004)	28 days 3 days	www. WeiKu.com	
		Muscle	Phoxim Not established				
<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
2.4.1.4. Ketoprofen	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  Zero	
2.4.1.5. Meloxicam	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	

				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		
2.4.1.6. Tolfenamic acid	Cattle	Muscle	Not established	-	i.v. 3 days s.c. 7 days	Vétoquinol UK Limited Vetoquinol House Great Slade Buckingham Industrial Park Buckingham MK18 1PA
		Milk			1 days	

## 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. HPLC	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			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  The Veterinary Formulary 6 <sup>th</sup> ed. Yolande Bishop 2005 pp.329
		Milk			1 days		
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 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
2.5.7. Testosterone	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					
2.6.1. Arsanilic acid	Chicken	Muscle	Arsenic Atomic Absorption Spectrophotometry	<a href="#">W.A.Maher</a> (1981) 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@University 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		
2.6.2. Clenbuterol hydrochloride	Cattle	Muscle	Clenbuterol  GC-MS	<a href="#">Limin He Yijuan Su</a> <a href="#">Zhenling ZengYahong</a> <a href="#">LiuXianhui Huang</a> (2007) 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 LJ, 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.ucsusa.org/assets/documents/.../hog_apps.pdf">www.ucsusa.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</a> of the <a href="#">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			

			HPLC	spectrometry J.chromatogr.B <a href="#">Volume 882, Issues 1–2,</a> 53–62		2002/021376/07
<b>2.6.7. Zilpaterol</b>	Cattle	Muscle	Zilpaterol  HPLC	<a href="#">C.S Stachel, W Radeck, P Gowik(2003)</a> Zilpaterol—a new focus of concern in residue analysis Analytica Chimica Acta 493 (2003) 63–67	10 days	Analytica Chimica Acta 493 (2003) 63–67

## 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				
2.7.1. Doxapram HCl	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,</a>  <a href="#">Lufeng Hu,</a>  <a href="#">Xuebao Wang,</a>  <a href="#">Jiayin Zhu,</a>  <a href="#">Xianqin Wang</a>(2011)            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

<b>2.7.2. Ketamine</b>	All food producing species	Edible tissues	Ketamine GC-MS	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>	3 days Milk 2 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>2.7.3. Procaine HCl</b>	All food producing species	Edible tissues	Procaine HCl Spectrophotometric method	<a href="#">Lian Dong Liu Yuan</a> <a href="#">Liu Huai You Wang</a> <a href="#">Yue SunLi Ma Bo Tang</a> (2000) Use of <i>p</i> -dimethylaminobenzaldehyde as a colored reagent for determination of procaine ydrochloride	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>

					by spectrophotometry <a href="#">Talanta 52, 6, 991–999</a>		
<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				
2.8.1. Epinephrine	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				
2.9.1. Bromhexine	Cattle	Edible tissues	Bromhexine  Spectrophotometric method	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			Oral zero	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
2.9.2. Etamiphylline camsilate	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