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# MAXIMUM RESIDUE LIMITS (MRLs) AND RISK MANAGEMENT RECOMMENDATIONS (RMRs) FOR RESIDUES OF VETERINARY DRUGS IN FOODS

CX/MRL 2-2018



# LIST OF ABBREVIATIONS

ADI	Acceptable Daily Intake
ARfD	Acute Reference Dose
BMD	Benchmark Dose
BMDL	Confidence Limit for BMD
bw	Body Weight
CAC	Codex Alimentarius Commission
CCPR	Codex Committee on Pesticide Residues
CCRVDF	Codex Committee on Residues of Veterinary Drugs in Foods
EDI	Estimated Daily Intake
GEADE	Global Estimated Acute Dietary Exposure
GECDE	Global Estimated Chronic Dietary Exposure
JECFA	Joint FAO/WHO Expert Committee on Food Additives
JMPR	Joint FAO/WHO Expert Meeting on Pesticide Residues
LOAEL	Lowest-Observed-Adverse-Effect Level
NOAEL	No-Observed-Adverse-Effect Level
LOQ	Limit of Quantification
mADI	Microbiological Acceptable Daily Intake
MRL	Maximum Residue Limit
RMR	Risk Management Recommendation
TMDI	Theoretical Maximum Daily Intake



#### CX/MRL 2-2018

#### Maximum Residue Limits (MRL)

Abamectin Albendazole Amoxicillin Ampicillin Avylamycin Azaperone Benzylpenicillin/Procaine benzylpenicillin Carazolol Ceftiofur Chlortetracycline/Oxytetracycline/Tetracycline Clenbuterol Closantel Colistin Cyfluthrin Cyhalothrin Cypermethrin and alpha-cypermethrin Danofloxacin Deltamethrin Derquantel Dexamethasone Diclazuril Dicyclanil Dihydrostreptomycin/Streptomycin Diminazene Doramectin Emamectin benzoate Eprinomectin Erythromycin Estradiol-17beta Febantel/Fenbendazole/Oxfendazole Fluazuron Flubendazole Flumequine

Gentamicin Imidocarb Isometamidium Ivermectin Lasalocid sodium Levamisole Lincomycin Lufenuron Melengestrol acetate Monensin Monepantel Moxidectin Narasin Neomycin Nicarbazin Phoxim Pirlimycin Porcine somatotropin Progesterone Ractopamine Sarafloxacin Spectinomycin Spiramycin Sulfadimidine Teflubenzuron Testosterone Thiabendazole Tilmicosin Trenbolone acetate Trichlorfon (Metrifonate) Triclabendazole

#### Risk Management Recommendations (RMR) for Residues of Veterinary Drugs

Carbadox Chloramphenicol Chloropromazine Dimetridazole Furazolidone Gentian Violet Ipronidazole Jes of Veterinary Malachite Green Metronidazole Nitrofural Olaquindox Ronidazole Stilbens

Tylosin

Zeranol

# MAXIMUM RESIDUE LIMITS (MRLs) FOR RESIDUES OF VETERINARY DRUGS IN FOODS

ABAMECTIN	ABAMECTIN (anthelmintic agent)					
JECFA Evalu	ation	45 (1995); 47 (	(1996)			
Acceptable D	aily Intake	0-2 μg/kg bw (1997) established for the sum of abamectin and (Z)-8,9 isomer by JMPR (1997)				
Residue Defi	Residue Definition		Avermectin B1a			
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Cattle	Liver	100	26 (2003)			
Cattle	Kidney	50 26 (2003)				
Cattle	Fat	100	26 (2003)			

ALBENDAZOI	ALBENDAZOLE (anthelmintic agent)				
JECFA Evaluation 34 (1989)					
Acceptable Da	aily Intake	0-50 µg/kg bw	(JECFA34)		
Residue Defin	ition	Except milk, 2-	aminosulfone	e metabolite; Milk, not yet identified	
Species	Tissue	MRL (μg/kg) CAC Notes			
Not specified	Muscle	100	20 (1993)		
Not specified	Liver	5000	20 (1993)	altive	
Not specified	Kidney	5000	20 (1993)		
Not specified	Fat	100 20 (1993)			
Not specified	Milk (µg/l)	100	20 (1993)		

AMOXICILLIN	AMOXICILLIN (antimicrobial agent)				
JECFA Evalu	ation	75 (2011); 85 (2017)			
Microbiologic Daily Intake	cal Acceptable	0–0.002 mg/kg the intestinal n		t (bw) based on the effects of amoxicillin on	
Acute Refere	nce Dose	0.005 mg/kg b microbiota	w based on n	nicrobiological effects on the intestinal	
Estimated Ch Exposure	ronic Dietary	0.14 µg/kg bw of the upper be		the general population), which represents 7%	
Estimated Ac Exposure	ute Dietary	1.4 μg/kg bw ( microbiologica		al population), which represents 28% of the	
		1.6 µg/kg bw ( ARfD	for children),	which represents 31% of the microbiological	
Residue Defi	nition	Amoxicillin			
Species	Tissue	MRL (µg/kg)	CAC	Notes	
Cattle	Muscle	50	35 (2012)		
Cattle	Liver	50	35 (2012)		
Cattle	Kidney	50	35 (2012)		
Cattle	Fat	50	35 (2012)		
Cattle	Milk	4	35 (2012)		
Sheep	Muscle	50	35 (2012)		
Sheep	Liver	50	35 (2012)		
Sheep	Kidney	<b>A 5</b> 0	35 (2012)	dditive	
Sheep	Fat Fat	50	35 (2012)		
Sheep	Milk	4	35 (2012)		
Pigs	Muscle	50	35 (2012)		
Pigs	Liver	50	35 (2012)		
Pigs	Kidney	50	35 (2012)		
Pigs	Fat/Skin	50	35 (2012)		
Finfish	Fillet	50	41 (2018)	The term "finfish" includes all fish species Muscle plus skin in natural proportion	
	Muscle	50	41 (2018)	The term "finfish" includes all fish species	
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AMPICILLIN (	antimicrobial agen	t)			
JECFA Evalu	ation	85 (2017)			
Microbiologic Daily Intake	al Acceptable	0–0.003 mg/kg bw based on a NOAEL equivalent to 0.025 mg/kg bw per day for increase in population(s) of ampicillin-resistant bacteria in the gastrointestinal tract in humans, and using a safety factor of 10 (for the variability in the composition of the intestinal microbiota within and between individuals)			
Acute Refere	nce Dose	0.012 mg/kg b	w based on the	e microbiological end-point	
Estimated Ch Exposure	ronic Dietary	0.29 µg/kg bw 10% of the upp		e general population), which represents he ADI	
Estimated Ac Exposure	ute Dietary	1.9 $\mu g/kg$ bw per day (for the general population), which represents 16% of the ARfD			
		1.7 $\mu$ g/kg bw per day (for children), which represents 14% of the ARfD			
Residue Defin	nition	Ampicillin			
Note		JECFA85 recommended an MRL of 50 µg/kg for ampicillin in finfish muscle and in finfish muscle plus skin in natural proportion, the same as that recommended for amoxicillin, because the modes of action, the physicochemical properties and the toxicological and pharmacokinetic profiles of amoxicillin and ampicillin are very similar.			
Species	Tissue	MRL (µg/kg)	CAC	Notes	
Finfish	Fillet	50	41 (2018)	The term "finfish" includes all fish species Muscle plus skin in natural proportion	
	Muscle	50	41 (2018)	The term "finfish" includes all fish species	
Anti Additive				ditive	

AVILAMYCIN	AVILAMYCIN (antimicrobial agent)					
JECFA Evaluation		70 (2008)				
Acceptable Daily Intake		0-2 mg/kg bw on the basis of a NOAEL of 150 mg avilamycin activity/kg bw per day and a safety factor of 100 and rounding to one significant figure (JECFA70)				
Residue Defi	nition	Dichloroisoeverr	ninic acid (DI	A)		
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Pigs	Muscle	200	32 (2009)			
Pigs	Liver	300	32 (2009)			
Pigs	Kidney	200	32 (2009)			
Pigs	Fat/Skin	200	32 (2009)			
Chicken	Muscle	200	32 (2009)			
Chicken	Liver	300	32 (2009)			
Chicken	Kidney	200	32 (2009)			
Chicken	Fat/Skin	200	32 (2009)			
Turkey	Muscle	200	32 (2009)			
Turkey	Liver	300	32 (2009)			
Turkey	Kidney	200	32 (2009)			
Turkey	Fat/Skin	200	32 (2009)			
Rabbits	Muscle	200	32 (2009)			
Rabbits	Liver	<b>A</b> 300	32 (2009)			
Rabbits	Kidney N L	200	32 (2009)			
Rabbits	Fat/Skin	200	32 (2009)			

AZAPERONE (tranquilizing agent)					
JECFA Evalua	ation	38 (1991); 43 (1	994); 50 (199	98); 52 (1999)	
Acceptable D	aily Intake	0-6 µg/kg bw (JE	ECFA50)		
Residue Defir	nition	Sum of azaperor	ne and azape	erol	
Species	Tissue	MRL (µg/kg) CAC Notes			
Pig	Muscle	60	23 (1999)		
Pig	Liver	100 23 (1999)			
Pig	Kidney	100 23 (1999)			
Pig	Fat	60	23 (1999)		

BENZYLPENICILLIN/PROCAINE BENZYLPENICILLIN (antimicrobial agent)				
JECFA Evalu	ation	36 (1990); 50 (1	998)	
Acceptable D	Acceptable Daily Intake			JECFA50). Residues of benzylpenicillin and uld be kept below this level.
Residue Defi	nition	Benzylpenicillin		
Species	Tissue	MRL (µg/kg) CAC Notes		
Cattle	Muscle	50	23 (1999)	
Cattle	Liver	50	23 (1999)	
Cattle	Kidney	50	23 (1999)	
Cattle	Milk (µg/l)	4	23 (1999)	
Chicken	Muscle	50	23 (1999)	Applies to procaine benzylpenicillin only
Chicken	Liver	50	23 (1999)	Applies to procaine benzylpenicillin only
Chicken	Kidney	50	23 (1999)	Applies to procaine benzylpenicillin only
Pig	Muscle	50	23 (1999)	
Pig	Liver	50	23 (1999)	
Pig	Kidney	50	23 (1999)	

CARAZOLOL (beta-adreniceptor-blocking agent)				
JECFA Evalu	ation 🗧 🌾	38 (1991); 43 (1	994); 52 (199	
Acceptable D	aily Intake	0-0.1 µg/kg bw ( effects of carazo		DI based on the acute pharmacological
Residue Defi	nition	Carazolol		
Species	Tissue	MRL (µg/kg)	CAC	Notes
Pig	Muscle	5	26 (2003)	The concentration at the injection site two hours after treatment may result in an intake that exceeds the ARfD and therefore, an appropriate withdrawal period should be applied
Pig	Liver	25	26 (2003)	
Pig	Kidney	25	26 (2003)	
Pig	Fat/Skin	5	26 (2003)	The concentration at the injection site two hours after treatment may result in an intake that exceeds the ARfD and therefore, an appropriate withdrawal period should be applied

CEFTIOFUR (antimicrobial agent)				
JECFA Evalua	ation	45 (1995); 48 (1	997)	
Acceptable D	aily Intake	0-50 µg/kg bw (.	IECFA45)	
Residue Defir	nition	Desfuroylceftiofu	ır	
Species	Tissue	MRL (µg/kg)	CAC	Notes
Cattle	Muscle	1000	23 (1999)	
Cattle	Liver	2000	23 (1999)	
Cattle	Kidney	6000	23 (1999)	
Cattle	Fat	2000	23 (1999)	
Cattle	Milk (µg/l)	100	23 (1999)	
Pig	Muscle	1000	23 (1999)	
Pig	Liver	2000	23 (1999)	
Pig	Kidney	6000	23 (1999)	
Pig	Fat	2000	23 (1999)	



CHLORTETRACYCLINE/OXYTETRACYCLINE/TETRACYCLINE (antimicrobial agent)						
JECFA Evalu	ation	45 (1995); 47 (1996); 50 (1998); 58 (2002)				
Acceptable Daily Intake		Group ADI for chlortetracycline, oxytetracycline and tetracycline: 0-30 µg/kg bw (JECFA50). Group ADI for chlortetracycline, oxytetracycline and tetracycline.				
Residue Defi	nition	Parent drugs, si	ngly or in con	nbination		
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Cattle	Muscle	200	26 (2003)			
Cattle	Liver	600	26 (2003)			
Cattle	Kidney	1200	26 (2003)			
Cattle	Milk (µg/l)	100	26 (2003)			
Fish	Muscle	200	26 (2003)	Applies only to oxytetracycline		
Giant prawn ( <i>Paeneus monodon</i> )	Muscle	200	26 (2003)	Applies only to oxytetracycline		
Pig	Muscle	200	26 (2003)			
Pig	Liver	600	26 (2003)			
Pig	Kidney	1200	26 (2003)			
Poultry	Muscle	200	26 (2003)			
Poultry	Liver	600	26 (2003)			
Poultry	Kidney	1200	26 (2003)			
Poultry	Eggs	400	26 (2003)			
Sheep	Muscle	200	26 (2003)			
Sheep	Liver	600	26 (2003)			
Sheep	Kidney	1200	26 (2003)			
Sheep	Milk (µg/l)	100	26 (2003)			

**JECFA Evaluation** 

CLENBUTEROL (adrenoceptor agonist)

47 (1996)

Acceptable I	Acceptable Daily Intake		0-0.004 μg/kg bw (JECFA47)				
Residue Defi	inition	Clenbuterol					
Species	Tissue	MRL (µg/kg)	CAC	Notes			
Cattle	Muscle	0.2	26 (2003)	Due to the potential abuse of this drug, the MRLs are recommended only when associated with a nationally approved therapeutic use, such as tocolysis or as an adjunt therapy in respiratory diseases			
Cattle	Liver	0.6	26 (2003)	Due to the potential abuse of this drug, the MRLs are recommended only when associated with a nationally approved therapeutic use, such as tocolysis or as an adjunt therapy in respiratory diseases			
Cattle	Kidney	0.6	26 (2003)	Due to the potential abuse of this drug, the MRLs are recommended only when associated with a nationally approved therapeutic use, such as tocolysis or as an adjunt therapy in respiratory diseases			
Cattle	Fat	0.2	26 (2003)	Due to the potential abuse of this drug, the MRLs are recommended only when associated with a nationally approved therapeutic use, such as tocolysis or as an adjunt therapy in respiratory diseases			
Cattle	Milk (µg/l)	Anot	26 (2003)	Due to the potential abuse of this drug, the MRLs are recommended only when associated with a nationally approved therapeutic use, such as tocolysis or as an adjunt therapy in respiratory diseases			
Horse	Muscle	0.2	26 (2003)	Due to the potential abuse of this drug, the MRLs are recommended only when associated with a nationally approved therapeutic use, such as tocolysis or as an adjunt therapy in respiratory diseases			
Horse	Liver	0.6	26 (2003)	Due to the potential abuse of this drug, the MRLs are recommended only when associated with a nationally approved therapeutic use, such as tocolysis or as an adjunt therapy in respiratory diseases			
Horse	Kidney	0.6	26 (2003)	Due to the potential abuse of this drug, the MRLs are recommended only when associated with a nationally approved therapeutic use, such as tocolysis or as an adjunt therapy in respiratory diseases			
Horse	Fat	0.2	26 (2003)	Due to the potential abuse of this drug, the MRLs are recommended only when associated with a nationally approved therapeutic use, such as tocolysis or as an adjunt therapy in respiratory diseases			

CLOSANTEL	CLOSANTEL (anthelmintic agent)						
JECFA Evalu	ation	36 (1990); 40 (	36 (1990); 40 (1992)				
Acceptable D	aily Intake	0-30 µg/kg bw	(JECFA40)				
Residue Defi	nition	Closantel					
Species	Tissue	MRL (µg/kg)	CAC	Notes			
Cattle	Muscle	1000	20 (1993)				
Cattle	Liver	1000	20 (1993)				
Cattle	Kidney	3000	20 (1993)				
Cattle	Fat	3000	20 (1993)				
Sheep	Muscle	1500	20 (1993)				
Sheep	Liver	1500	20 (1993)				
Sheep	Kidney	5000	20 (1993)				
Sheep	Fat	2000	20 (1993)				



JECFA Evaluation		66 (2006)	66 (2006)				
Acceptable [	Daily Intake	0-7 μg/kg bw (JECFA66)					
Residue Definition		Sum of colistin A	A and colistin	В			
Species	Tissue	MRL (µg/kg)	CAC	Notes			
Cattle	Muscle	150	31 (2008)				
Cattle	Liver	150	31 (2008)				
Cattle	Kidney	200	31 (2008)				
Cattle	Fat	150	31 (2008)				
Cattle	Milk	50	31 (2008)				
Sheep	Muscle	150	31 (2008)				
Sheep	Liver	150	31 (2008)				
Sheep	Kidney	200	31 (2008)				
Sheep	Fat	150	31 (2008)				
Sheep	Milk	50	31 (2008)				
Goat	Muscle	150	31 (2008)				
Goat	Liver	150	31 (2008)				
Goat	Kidney	200	31 (2008)				
Goat	Fat St Addition	150	31 (2008)				
Pig	Muscle	150	31 (2008)	ditive			
Pig	Liver	150	31 (2008)				
Pig	Kidney	200	31 (2008)				
Pig	Fat	150	31 (2008)	The MRL includes skin + fat			
Chicken	Muscle	150	31 (2008)				
Chicken	Liver	150	31 (2008)				
Chicken	Kidney	200	31 (2008)				
Chicken	Fat	150	31 (2008)	The MRL includes skin + fat			
Chicken	Eggs	300	31 (2008)				
Turkey	Muscle	150	31 (2008)				
Turkey	Liver	150	31 (2008)				
Turkey	Kidney	200	31 (2008)				
Turkey	Fat	150	31 (2008)	The MRL includes skin + fat			
Rabbit	Muscle	150	31 (2008)				
Rabbit	Liver	150	31 (2008)				
Rabbit	Kidney	200	31 (2008)				
Rabbit	Fat	150	31 (2008)				

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CYFLUTHRIN (insecticide)						
JECFA Evalu	lation	48 (1997)				
Acceptable D	Daily Intake	0-20 µg/kg bw	(JECFA48)			
Residue Defi	nition	Cyfluthrin				
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Cattle	Muscle	20	26 (2003)			
Cattle	Liver	20	26 (2003)			
Cattle	Kidney	20	26 (2003)			
Cattle	Fat	200	26 (2003)			
Cattle	Milk (µg/l)	40	26 (2003)			

CYHALOTHR	CYHALOTHRIN (insecticide)					
JECFA Evalua	ation	54 (2000); 58 (2	002); 62 (200	)4)		
Acceptable D	aily Intake	0-5 µg/kg bw (JE	ECFA62)			
Residue Defir	nition	Cyhalothrin				
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Cattle	Muscle	20	28 (2005)			
Cattle	Liver	20	28 (2005)			
Cattle	Kidney	<b>A</b> 20	28 (2005)	altive		
Cattle	Fat Fat	400	28 (2005)			
Cattle	Milk	30	28 (2005)			
Pig	Muscle	20	28 (2005)			
Pig	Liver	20	28 (2005)			
Pig	Kidney	20	28 (2005)			
Pig	Fat	400	28 (2005)			
Sheep	Muscle	20	28 (2005)			
Sheep	Liver	50	28 (2005)			
Sheep	Kidney	20	28 (2005)			
Sheep	Fat	400	28 (2005)			

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CYPERMETHRIN AND ALPHA-CYPERMETHRIN (insecticide)					
JECFA Evalu	ation	62 (2004)			
Acceptable D	aily Intake	JECFA62 establicypermethrin and		non ADI of 0-20 μg/kg bw for both methrin	
Residue Defi	nition	Total of cyperme alpha-cypermeth		s (resulting from the use of cypermethrin or ary drugs)	
Species	Tissue	MRLs (µg/kg)	CAC	Note	
Cattle	Muscle	50	29 (2006)		
Cattle	Liver	50	29 (2006)		
Cattle	Kidney	50	29 (2006)		
Cattle	Fat	1000	29 (2006)		
Cattle	Milk	100	29 (2006)		
Sheep	Muscle	50	29 (2006)		
Sheep	Liver	50	29 (2006)		
Sheep	Kidney	50	29 (2006)		
Sheep	Fat	1000	29 (2006)		

DANOFLOXA	DANOFLOXACIN (antimicrobial agent)						
JECFA Evalu	ation	48 (1997)	48 (1997)				
Acceptable D	aily Intake	0-20 µg/kg bw	(JECFA48)	dditive			
Residue Defi	nition ( N N N N N N N N N N N N N N N N N N	Danofloxacin					
Species	Tissue	MRL (µg/kg)	CAC	Notes			
Cattle	Muscle	200	24 (2001)				
Cattle	Liver	400	24 (2001)				
Cattle	Kidney	400	24 (2001)				
Cattle	Fat	100	24 (2001)				
Chicken	Muscle	200	24 (2001)				
Chicken	Liver	400	24 (2001)				
Chicken	Kidney	400	24 (2001)				
Chicken	Fat	100	24 (2001)	Fat/skin in normal proportion			
Pig	Muscle	100	24 (2001)				
Pig	Liver	50	24 (2001)				
Pig	Kidney	200	24 (2001)				
Pig	Fat	100	24 (2001)				

JECFA Evaluation		52 (1999); 60 (2003)			
Acceptable				blished by JMPR (1982).	
Residue Def	-	Deltamethrin	< ,	, , ,	
Species	Tissue	MRL (µg/kg)	CAC	Notes	
Cattle	Muscle	30	26 (2003)		
Cattle	Liver	50	26 (2003)		
Cattle	Kidney	50	26 (2003)		
Cattle	Fat	500	26 (2003)		
Cattle	Milk	30	26 (2003)		
Chicken	Muscle	30	26 (2003)		
Chicken	Liver	50	26 (2003)		
Chicken	Kidney	50	26 (2003)		
Chicken	Fat	500	26 (2003)		
Chicken	Eggs	30	26 (2003)		
Salmon	Muscle	30	26 (2003)		
Sheep	Muscle	30	26 (2003)		
Sheep	Liver	50	26 (2003)		
Sheep	Kidney	50	26 (2003)		
Sheep	Fat	500	26 (2003)	Aditiva	

DERQUANTE	DERQUANTEL (anthelmintic agent)				
JECFA Evalua	ation	75 (2011); 78 (	(2013)		
acute clinica on the nicoti		acute clinical o on the nicotinic	0.3 µg/kg bw on the basis of a LOAEL of 0.1 mg/kg bw per day for ute clinical observations in dogs, consistent with antagonistic activity the nicotinic acetylcholine receptors. A safety factor of 300 was plied to the LOAEL. (JECFA75)		
Estimated Die	Estimated Dietary Exposure Was used. Using the model diet and the MT:TR approach, the result in an estimated dietary exposure of 6.8 µg/person, where represents approximately 38% of the upper bound of the AD (JECFA78)		diet and the MT:TR approach, these MRLs / exposure of 6.8 μg/person, which		
Residue Defin	nition	Derquantel			
Species	Tissue	MRL (µg/kg)	CAC	Notes	
Sheep	Muscle	0.3 38 (2015)			
Sheep	Liver	0.8 38 (2015)			
Sheep	Kidney	0.4 38 (2015)			
Sheep	Fat	7.0	38 (2015)		

DEXAMETHASONE (glucocorticosteroid)							
JECFA Evalu	JECFA Evaluation		70 (2008)				
Acceptable D	aily Intake	0-0.015 µg/kg	bw (JECFA42	2)			
Residue Defi	nition	Dexamethasor	ne				
Species	Tissue	MRL (µg/kg)					
Cattle	Muscle	1.0	32 (2009)				
Cattle	Liver	2.0	32 (2009)				
Cattle	Kidney	1.0	32 (2009)				
Cattle	Milk (µg/l)	0.3	32 (2009)				
Pig	Muscle	1.0	32 (2009)				
Pig	Liver	2.0	32 (2009)				
Pig	Kidney	1.0	32 (2009)				
Horses	Muscle	1.0	32 (2009)				
Horses	Liver	2.0	32 (2009)				
Horses	Kidney	1.0	32 (2009)				

DICLAZURIL	DICLAZURIL (antiprotozoal agent)					
JECFA Evalu	ation	45 (1995); 50 (	45 (1995); 50 (1998)			
Acceptable D	aily Intake	0-30 µg/kg bw	(JECFA50)	ditivo		
Residue Defin	nition	Diclazuril				
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Poultry	Muscle	500	23 (1999)			
Poultry	Liver	3000	23 (1999)			
Poultry	Kidney	2000	23 (1999)			
Poultry	Fat/Skin	1000	23 (1999)			
Rabbit	Muscle	500	23 (1999)			
Rabbit	Liver	3000	23 (1999)			
Rabbit	Kidney	2000	23 (1999)			
Rabbit	Fat	1000	23 (1999)			
Sheep	Muscle	500	23 (1999)			
Sheep	Liver	3000	23 (1999)			
Sheep	Kidney	2000	23 (1999)			
Sheep	Fat	1000	23 (1999)			

DICYCLANIL (insecticide)				
JECFA Evalu	ation	54 (2000); 60 (	(2003)	
Acceptable Daily Intake		0-7 µg/kg bw (	JECFA54)	
Residue Defi	nition	Dicyclanil		
Species	Tissue	MRL (µg/kg)	CAC	Notes
Sheep	Muscle	150	28 (2005)	
Sheep	Liver	125	28 (2005)	
Sheep	Kidney	125	28 (2005)	
Sheep	Fat	200	28 (2005)	

DIHYDROST	REPTOMYCIN / S	TREPTOMYCIN	l (antimicrobia	I agent)		
JECFA Eval	uation	43 (1994); 48 (	43 (1994); 48 (1997); 52 (1999); 58 (2002)			
Acceptable	Daily Intake	0-50 µg/kg bw dihydrostrepto		Group ADI for combined residues of eptomycin.		
Residue Def	inition	Sum of dihydro	ostreptomycir	and streptomycin		
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Cattle	Muscle	600	24 (2001)			
Cattle		600	24 (2001)			
Cattle	Kidney	<b>A</b> 1000	24 (2001)	dditive		
Cattle	Fat	600	24 (2001)			
Cattle	Milk	200	26 (2003)			
Chicken	Muscle	600	24 (2001)			
Chicken	Liver	600	24 (2001)			
Chicken	Kidney	1000	24 (2001)			
Chicken	Fat	600	24 (2001)			
Pig	Muscle	600	24 (2001)			
Pig	Liver	600	24 (2001)			
Pig	Kidney	1000	24 (2001)			
Pig	Fat	600	24 (2001)			
Sheep	Muscle	600	24 (2001)			
Sheep	Liver	600	24 (2001)			
Sheep	Kidney	1000	24 (2001)			
Sheep	Fat	600	24 (2001)			
Sheep	Milk	200	26 (2003)			

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DIMINAZENE (trypanocide)				
JECFA Evalua	<b>Evaluation</b> 34 (1989); 42 (1994)			
Acceptable Daily Intake		0-100 μg/kg bw (JECFA42)		
Residue Defir	nition	Diminazene		
Species	Tissue	MRL (μg/kg) CAC Notes		
Cattle	Muscle	500	22 (1997)	
Cattle	Liver	12000	22 (1997)	
Cattle	Kidney	6000 22 (1997)		
Cattle	Milk (µg/l)	150	22 (1997)	LOQ of the analytical method

DORAMECTI	DORAMECTIN (anthelmintic agent)						
JECFA Evalu	ation	45 (1995); 52 (1	45 (1995); 52 (1999); 58 (2002); 62 (2004)				
Acceptable D	Daily Intake	0-1 µg/kg bw (JE	ECFA58)				
Residue Defi	nition	Doramectin					
Species	Tissue	MRL (µg/kg)	CAC	Notes			
Cattle	Muscle	10	22 (1997)	High concentration of residues at the injection site over a 35 day period after subcutaneous or intramuscular administration of the drug at the recommended dose			
Cattle	Liver	100	22 (1997)				
Cattle	Kidney	30	22 (1997)				
Cattle	Fat	150	22 (1997)	High concentration of residues at the injection site over a 35 day period after subcutaneous or intramuscular administration of the drug at the recommended dose			
Cattle	Milk	15	29 (2006)	Depending on the route and/or time of administration the use of doramectin in dairy cows may result in extended withdrawal periods in milk. This may be addressed in national/regional regulatory programmes.			
Pig	Muscle	5	24 (2001)				
Pig	Liver	100	24 (2001)				
Pig	Kidney	30	24 (2001)				
Pig	Fat	150	24 (2001)				

EMAMECTIN	EMAMECTIN BENZOATE (antiparasitic agent)				
JECFA Evalu	ation	78 (2013)			
Acceptable E	Daily Intake	ADI of 0–0.5 µg/kg bw established by JMPR (2011), based on an overall NOAEL of 0.25 mg/kg bw per day for neurotoxicity from 14- and 53- week studies in dogs, supported by an overall NOAEL of 0.25 mg/kg bw per day from 1- and 2-year studies in rats. An uncertainty factor of 500 was applied to the NOAEL, which includes an additional uncertainty factor of 5 to account for the steep dose–response curve and irreversible histopathological effects in neural tissues at the lowest-observed-adverse-effect level (LOAEL) in dogs, as used by JMPR and confirmed by JECFA78.			
Estimated Di	etary Exposure	11 $\mu g/person$ per day, which represents approximately 37% of the upper bound of the ADI (JECFA78)			
Residue Defi	nition	Emamectin B1a			
Species	Tissue	MRL (µg/kg)	CAC	Notes	
Salmon	Muscle	100	38 (2015)		
Salmon	Fillet	100 38 (2015) Muscle plus skin in natural proportion			
Trout	Muscle	100	38 (2015)		
Trout	Fillet	100	38 (2015)	Muscle plus skin in natural proportion	

EPRINOMECTIN (anthelmintic agent)						
JECFA Evalu	JECFA Evaluation 50 (1998)					
Acceptable Daily Intake 0.0-10 µg/kg bw (JECFA50)				allve		
Residue Defin	nition	Eprinomectin B1a				
Species	Tissue	MRL (μg/kg) CAC Notes				
Cattle	Muscle	100	26 (2003)			
Cattle	Liver	2000	2000 26 (2003)			
Cattle	Kidney	300 26 (2003)				
Cattle	Fat	250 26 (2003)				
Cattle	Milk (µg/l)	20	26 (2003)			

ERYTHROMYCIN (antimicrobial agent)							
JECFA Evaluation		66 (2006)	66 (2006)				
Acceptable D	aily Intake	0-0.7 µg/kg bw (	JECFA66)				
Residue Defi	nition	Erythromycin A					
Species	Tissue	MRL (µg/kg)	CAC	Notes			
Chicken	Muscle	100	31 (2008)				
Chicken	Liver	100	31 (2008)				
Chicken	Kidney	100	31 (2008)				
Chicken	Fat	100	31 (2008)	The MRL includes skin + fat			
Chicken	Eggs	50	31 (2008)				
Turkey	Muscle	100	31 (2008)				
Turkey	Liver	100	31 (2008)				
Turkey	Kidney	100	31 (2008)				
Turkey	Fat	100	31 (2008)	The MRL includes skin + fat			

ESTRADIOL-	ESTRADIOL-17BETA (production aid)					
JECFA Evaluation		25 (1981); 32 (	25 (1981); 32 (1987); 52 (1999)			
Acceptable D	Daily Intake daily	unnecessary (J	ECFA32); 0-	0.05 μg/kg bw (JECFA52)		
Residue Defi	nition	Estradiol-17bet	a.	dditiyo		
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Cattle	Muscle	unnecessary	21 (1995)	Residues resulting from the use of this substance as a growth promoter in accordance with good animal husbandry practice are unlikely to pose a hazard to human health		
Cattle	Liver	unnecessary	21 (1995)	Residues resulting from the use of this substance as a growth promoter in accordance with good animal husbandry practice are unlikely to pose a hazard to human health		
Cattle	Kidney	unnecessary	21 (1995)	Residues resulting from the use of this substance as a growth promoter in accordance with good animal husbandry practice are unlikely to pose a hazard to human health		
Cattle	Fat	unnecessary	21 (1995)	Residues resulting from the use of this substance as a growth promoter in accordance with good animal husbandry practice are unlikely to pose a hazard to human health		

CattleLCattleKCattleF	ly Intake		<i>/</i> ··	,
Species       M         Cattle       M         Cattle       K         Cattle       K         Cattle       F	ion	Sum of fenbend	-7 µg/kg bw	
SpeciesCattleMCattleLCattleKCattleF				
Cattle M Cattle L Cattle K Cattle F	Tissue	expressed as 0		ndazole and oxfendazole sulphone, sulphone equivalents
Cattle L Cattle k Cattle F		MRL (µg/kg)	CAC	Notes
Cattle K Cattle F	Muscle	100	23 (1999)	
Cattle F	Liver	500	23 (1999)	
	Kidney	100	23 (1999)	
Cattle N	Fat	100	23 (1999)	
	Milk (µg/l)	100	23 (1999)	
Goat N	Muscle	100	23 (1999)	
Goat L	Liver	500	23 (1999)	
Goat K	Kidney	100	23 (1999)	
Goat F	Fat	100	23 (1999)	
Horse N	Muscle	100	23 (1999)	
Horse L	Liver	500	23 (1999)	
Horse K	Kidney	100	23 (1999)	
Horse F	Fat Additi	100	23 (1999)	
Pig N	Muscle	100	23 (1999)	ditivo
Pig L	Liver	500	23 (1999)	
Pig K	Kidney	100	23 (1999)	
Pig F	Fat	100	23 (1999)	
Sheep N	Muscle	100	23 (1999)	
Sheep L	Liver	500	23 (1999)	
Sheep K	Kidney	100	23 (1999)	
Sheep F	Fat	100	23 (1999)	
Sheep M	Milk (µg/l)	100	23 (1999)	

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FLUAZURON (insecticide)					
JECFA Evalua	ation	48 (1997)			
Acceptable D	aily Intake	0-40 μg/kg bw (JECFA48)			
Residue Defir	nition	Fluazuron			
Species	Tissue	MRL (µg/kg)	CAC	Notes	
Cattle	Muscle	200	23 (1999)		
Cattle	Liver	500	23 (1999)		
Cattle	Kidney	500 23 (1999)			
Cattle	Fat	7000	23 (1999)		

FLUBENDAZOLE (anthelmintic agent)				
JECFA Evalu	ation	40 (1992)		
Acceptable D	aily Intake	0-12 µg/kg bw	(JECFA40)	
Residue Defin	nition	Flubendazole		
Species	Tissue	MRL (µg/kg)	CAC	Notes
Pig	Muscle	10	21 (1995)	
Pig	Liver	10	21 (1995)	
Poultry	Muscle	200	21 (1995)	
Poultry	Liver	500	21 (1995)	Jailive
Poultry	Eggs	400	21 (1995)	

23

FLUMEQUIN	FLUMEQUINE (antimicrobial agent)					
JECFA Evalu	ation	42 (1994); 48 (1997); 54 (2000); 60 (2002); 62 (2004); 66 (2006)				
Acceptable D	Acceptable Daily Intake		(JECFA62)			
Residue Defi	nition	Flumequine				
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Cattle	Muscle	500	28 (2005)			
Cattle	Liver	500	28 (2005)			
Cattle	Kidney	3000	28 (2005)			
Cattle	Fat	1000	28 (2005)			
Chicken	Muscle	500	28 (2005)			
Chicken	Liver	500	28 (2005)			
Chicken	Kidney	3000	28 (2005)			
Chicken	Fat	1000	28 (2005)			
Pig	Muscle	500	28 (2005)			
Pig	Liver	500	28 (2005)			
Pig	Kidney	3000	28 (2005)			
Pig	Fat	1000	28 (2005)			
Sheep	Muscle	500	28 (2005)			
Sheep	Liver Addition	500	28 (2005)			
Sheep	Kidney	3000	28 (2005)	ditive		
Sheep	Fat	1000	28 (2005)			
Trout	Muscle	500	28 (2005)	Muscle including normal proportion of skin		

GENTAMICIN	GENTAMICIN (antimicrobial agent)					
JECFA Evalu	ation	43 (1994); 48 (	43 (1994); 48 (1997); 50 (1998)			
Acceptable D	aily Intake	0-20 µg/kg bw	(JECFA50)			
Residue Defi	nition	Gentamicin				
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Cattle	Muscle	100	24 (2001)			
Cattle	Liver	2000	24 (2001)			
Cattle	Kidney	5000	24 (2001)			
Cattle	Fat	100	24 (2001)			
Cattle	Milk (µg/l)	200	24 (2001)			
Pig	Muscle	100	24 (2001)			
Pig	Liver	2000	24 (2001)			
Pig	Kidney	5000	24 (2001)			
Pig	Fat	100	24 (2001)			

IMIDOCARB (antiprotozoal agent)					
JECFA Evalu	ation	50 (1998); 60 (	(2003)		
Acceptable D	aily Intake	0-10 µg/kg bw	(JECFA50)		
Residue Defi	nition	Imidocarb			
Species	Tissue	MRL (µg/kg)	CAC	Notes	
Cattle	Muscle	300	28 (2005)		
Cattle	Liver	1500	28 (2005)		
Cattle	Kidney	2000	28 (2005)		
Cattle	Fat	50	28 (2005)		
Cattle	Milk	50	28 (2005)		

ISOMETAMIDIUM (trypanocide)					
JECFA Evalu	ation	34 (1989); 40 (	(1992)		
Acceptable Daily Intake		0-100 μg/kg bw (JECFA40)			
Residue Defin	nition	Isometamidiun			
Species	Tissue	MRL (µg/kg)	CAC	Notes	
Cattle	Muscle	100	21 (1995)		
Cattle	Liver	500	21 (1995)		
Cattle	Kidney	1000	21 (1995)	altive	
Cattle	Fat Fat	100	21 (1995)		
Cattle	Milk (µg/l)	100	21 (1995)		

IVERMECTIN	IVERMECTIN (anthelmintic agent)					
JECFA Evalu	ation	36 (1990); 40 (1992); 54 (2000); 58 (2002); 81 (2015)				
Acceptable D	aily Intake	0-10 $\mu$ g/kg bw on the basis of a NOAEL of 0.5 mg/kg bw per day for neurological effects (mydriasis) and retardation of weight gain in a 14-week dog study, with application of an uncertainty factor of 50 (5 for interspecies differences based on pharmacokinetic studies in dogs and humans and 10 for intraspecies differences). The previous ADI of 0-1 $\mu$ g/kg bw was withdrawn. (JECFA81)				
Estimated Chronic Dietary ExposureThe estimated daily intake (EDI) is 38 μg/person per day, based of 60 kg individual, which represents 6% of the upper bound of the A The GECDE for the general population is 0.9 μg/kg bw per day, w represents 9% of the upper bound of the ADI. The GECDE for ch is 1.5 μg/kg body weight per day, which represents 15% of the up bound of the ADI. The GECDE for infants is 1.3 μg/kg bw per day represents 13% of the upper bound of the ADI. (JECFA81)			resents 6% of the upper bound of the ADI. Il population is 0.9 $\mu$ g/kg bw per day, which r bound of the ADI. The GECDE for children er day, which represents 15% of the upper CDE for infants is 1.3 $\mu$ g/kg bw per day, which			
Acute Refere	nce Dose	• Dose 0.2 mg/kg bw, based on a NOAEL of 1.5 mg/kg bw, the highest dos tested in a safety, tolerability and pharmacokinetics study in healthy human subjects, with application of an uncertainty factor of 10 for intraspecies variability. (JECFA81)				
Estimated Ac Exposure	ute Dietary	A combined analysis of all studies submitted showed that after 14 days, the maximum values of residues found at injection sites led to a GEADE of 52 $\mu$ g/kg bw for the general population and 87 $\mu$ g/kg bw for children, corresponding, respectively, to 27% and 43% of the ARfD. (JECFA81)				
Residue Defi	nition	Ivermectin B <sub>1a</sub>				
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Cattle	Muscle	-30	40 (2017)	ditivo		
Cattle	Liver	800	40 (2017)			
Cattle	Kidney	100	40 (2017)			
Cattle	Fat	400 40 (2017)				
Cattle	Milk	10 26 (2003)				
Pig	Liver	15	20 (1993)			
Pig	Fat	20	20 (1993)			
Sheep	Liver	15	20 (1993)			
Sheep	Fat	20	20 (1993)			

LASALOCID	LASALOCID SODIUM (antiparasitic agent)					
JECFA Evaluation		78 (2013)				
Acceptable D	aily Intake	0-5 µg/kg bw on the basis of a NOAEL of 0.5 mg/kg bw per day from a developmental toxicity study in rabbits and a multigeneration reproductive toxicity study in rats, with application of an uncertainty factor of 100 for interspecies and intraspecies variability. (JECFA78)				
Estimated Die	etary Exposure			alculated, which represents approximately he ADI (JECFA78)		
Residue Defin	nition	Lasalocid A				
extrapolated the MRLs available for duck, inclu			ne MRLs in ch uck, including use in laying h	s in chicken to turkey and quail and icken to pheasant. No information was on approved uses. As the compound is not nens, according to the sponsor, it is not MRLs for egg.		
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Chicken	Muscle	400	40 (2017)			
Chicken	Liver	1200	40 (2017)			
Chicken	Kidney	600	40 (2017)			
Chicken	Skin + Fat	600	40 (2017)			
Turkey	Muscle	400	40 (2017)			
Turkey	Liver	1200	40 (2017)			
Turkey	Kidney	600	40 (2017)			
Turkey	Skin + Fat	<b>A</b> 600	40 (2017)	ditive		
Quail	Muscle	400	40 (2017)			
Quail	Liver	1200	40 (2017)			
Quail	Kidney	600	40 (2017)			
Quail	Skin + Fat	600	40 (2017)			
Pheasant	Muscle	400	40 (2017)			
Pheasant	Liver	1200	40 (2017)			
Pheasant	Kidney	600	40 (2017)			
Pheasant	Skin + Fat	600	40 (2017)			

LEVAMISOLE (anthelmintic agent)						
JECFA Evaluation		36 (1990); 42 (1994)				
Acceptable I	Daily Intake	0-6 µg/kg bw (Jl	ECFA42)			
Residue Def	inition	Levamisole				
Species	Tissue	MRL (µg/kg)				
Cattle	Muscle	10	22 (1997)			
Cattle	Liver	100	22 (1997)			
Cattle	Kidney	10	22 (1997)			
Cattle	Fat	10	22 (1997)			
Pig	Muscle	10	22 (1997)			
Pig	Liver	100	22 (1997)			
Pig	Kidney	10	22 (1997)			
Pig	Fat	10	22 (1997)			
Poultry	Muscle	10	22 (1997)			
Poultry	Liver	100	22 (1997)			
Poultry	Kidney	10	22 (1997)			
Poultry	Fat	10	22 (1997)			
Sheep	Muscle	10	22 (1997)			
Sheep	Liver	100	22 (1997)			
Sheep	Kidney		22 (1997)	Iditive		
Sheep	Fat Fat	10	22 (1997)			

LINCOMYCIN	LINCOMYCIN (antimicrobial agent)				
JECFA Evalu	ation	54 (2000); 58 (	(2002); 62 (20	004)	
Acceptable D	Daily Intake	0-30 µg/kg bw	(JECFA54)		
Residue Defi	nition	Lincomycin			
Species	Tissue	MRL (µg/kg) CAC Notes			
Cattle	Milk	150	26 (2003)		
Chicken	Muscle	200	26 (2003)		
Chicken	Liver	500	26 (2003)		
Chicken	Kidney	500	26 (2003)		
Chicken	Fat	100	26 (2003)	Additional MRL for skin with adhering fat of 300 $\mu$ g/kg	
Pig	Muscle	200	26 (2003)		
Pig	Liver	500	26 (2003)		
Pig	Kidney	1500	26 (2003)		
Pig	Fat	100	26 (2003)	Additional MRL for skin with adhering fat of 300 $\mu$ g/kg	

LUFENURON (insecticide)					
JECFA Evalu	ation	85 (2017)			
Acceptable D	aily Intake	0–0.02 mg/kg bw based on the NOAEL of 1.93 mg/kg bw per day for tonic-clonic seizures and findings in lungs, gastrointestinal tract, liver and urinary tract in a 2-year dietary study in rats, and using a safety factor of 100 (10 for interspecies variability and 10 for intraspecies variability)			
Acute Refere	nce Dose	Unnecessary, in view of lufenuron low acute oral toxicity and the absence of developmental toxicity and other toxicological effects likely to be elicited by a single dose			
Estimated chronic dietary exposure1.1 μg/kg bw per day (for the general population), which repress 5.5% of the upper bound of the ADI. As lufenuron is also used pesticide, the overall dietary exposure was estimated. The ass and detailed results will be displayed in the JECFA85 report. R below are only for use as veterinary drug.			the ADI. As lufenuron is also used as v exposure was estimated. The assumptions displayed in the JECFA85 report. Results		
Residue Defi	nition	Lufenuron			
Species	Tissue	MRL CAC Notes			
Salmon	Fillet	1350	41 (2018)	Muscle plus skin in natural proportion	
Trout	Fillet	1350	41 (2018)	Muscle plus skin in natural proportion	

MELENGESTROL ACETATE (production aid)				
JECFA Evalua	ation	54 (2000); 58 (	(2002); 62 (20	004); 66 (2006) 70 (2008)
Acceptable Da	aily Intake	0-0.03 µg/kg b	w (JECFA54)	dditive
Residue Defir	nition N N L N	Melengestrol acetate		
Species	Tissue	MRL (µg/kg)	CAC	Notes
Cattle	Muscle	1	32 (2009)	
Cattle	Liver	10	32 (2009)	
Cattle	Kidney	2	32 (2009)	
Cattle	Fat	18	32 (2009)	

MONENSIN (	antimicrobial agent	t)				
JECFA Evalu	uation	70 (2008); 75 (2	011)			
Acceptable Daily Intake		$0-10 \ \mu$ g/kg bw on the basis of a NOAEL of 1.14 mg/kg bw per day and a safety factor of 100 and rounding to one significant figure (JECFA70)				
Estimated Di	ietary Exposure	resulting in a val	Using the revised MRL, the TMDI from JECFA70 was recalculated, resulting in a value of 481 $\mu$ g/person, which represents 80% of the upper bound of the ADI (JECFA75)			
Residue Defi	inition	Monensin				
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Cattle	Muscle	10	32 (2009)			
Cattle	Liver	100	35 (2012)			
Cattle	Kidney	10	32 (2009)			
Cattle	Fat	100	32 (2009)			
Cattle	Milk	2	32 (2009)			
Sheep	Muscle	10	32 (2009)			
Sheep	Liver	20	32 (2009)			
Sheep	Kidney	10	32 (2009)			
Sheep	Fat	100	32 (2009)			
Goats	Muscle	10	32 (2009)			
Goats	Liver	20	32 (2009)			
Goats	Kidney		32 (2009)	ditivo		
Goats	Fat	100	32 (2009)			
Chicken	Muscle	10	32 (2009)			
Chicken	Liver	10	32 (2009)			
Chicken	Kidney	10	32 (2009)			
Chicken	Fat	100	32 (2009)			
Turkey	Muscle	10	32 (2009)			
Turkey	Liver	10	32 (2009)			
Turkey	Kidney	10	32 (2009)			
Turkey	Fat	100	32 (2009)			
Quail	Muscle	10	32 (2009)			
Quail	Liver	10	32 (2009)			
Quail	Kidney	10	32 (2009)			
Quail	Fat	100	32 (2009)			

MONEPANTE	MONEPANTEL (anthelmintic agent)				
<b>JECFA Evaluation</b> 75 (2011); 78 (2013), 85 (2017)					
Acceptable D	aily Intake	0–0.02 mg/kg bw based on the NOAEL of 1.93 mg/kg bw per day for tonic-clonic seizures and findings in lungs, gastrointestinal tract, liver and urinary tract in a 2-year dietary study in rats, and using a safety factor of 100 (10 for interspecies variability and 10 for intraspecies variability)			
Acute Refere	nce Dose	Unnecessary			
Estimated Ch Exposure	ironic Dietary	<ul> <li>13.7 μg per kg bw per day (for the general population), which represent 68% of the upper bound of the ADI</li> <li>5.0 μg per kg bw per day (for children), which represents 22% of the upper bound of the ADI</li> <li>4.4 μg per kg bw per day (for infants), which represents 25% of the upper bound of the ADI</li> </ul>			
Residue Defi	nition	Monepantel sulfone, expressed as monepantel			
Species	Tissue	MRL (µg/kg)	CAC	Notes	
Sheep	Muscle	500	38 (2015)		
Sheep	Liver	7000	38 (2015)		
Sheep	Kidney	1700	38 (2015)		
Sheep	Fat	13000 38 (2015)			
	Fat		41 (2018)		
Cattle	Kidney Kidney	1000	41 (2018)		
Calle	Liver Muscle	<b>2000</b> 300	41 (2018) 41 (2018)	dditive	

MOXIDECTIN (anthelmintic agent)						
JECFA Evalu	uation	45 (1995); 47	45 (1995); 47 (1996); 48 (1998); 50 (1998)			
Acceptable I	Daily Intake	0-2 µg/kg bw (	JECFA45)			
Residue Defi	inition	Moxidectin				
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Cattle	Muscle	20	22 (1997)	Very high concentration and great variation in the level of residues at the injection site in cattle over a 49 day period after dosing		
Cattle	Liver	100	22 (1997)			
Cattle	Kidney	50	22 (1997)			
Cattle	Fat	500	22 (1997)			
Deer	Muscle	20	23 (1999)			
Deer	Liver	100	23 (1999)			
Deer	Kidney	50	23 (1999)			
Deer	Fat	500	23 (1999)			
Sheep	Muscle	50	22 (1997)			
Sheep	Liver	100	22 (1997)			
Sheep	Kidney	50	22 (1997)			
Sheep	Fat	500	22 (1997)			

# NARASIN (antimicrobial agent)

JECFA Evaluation Acceptable Daily Intake		70 (2008); 75	70 (2008); 75 (2011) 0-5 μg/kg bw on the basis of a NOAEL of 0.5 mg/kg bw per day and a safety factor of 100 (JECFA70)				
Residue Def	inition	Narasin A					
Species	Tissue	MRL (µg/kg)	CAC	Notes			
Cattle	Muscle	15	35 (2012)				
Cattle	Liver	50	35 (2012)				
Cattle	Kidney	15	35 (2012)				
Cattle	Fat	50	35 (2012)				
Chicken	Muscle	15	32 (2009)				
Chicken	Liver	50	32 (2009)				
Chicken	Kidney	15	32 (2009)				
Chicken	Fat	50	32 (2009)				
Pig	Muscle	15	34 (2011)				
Pig	Liver	50	34 (2011)				
Pig	Kidney	15	34 (2011)				
Pig	Fat	50	34 (2011)				

57 Minte 2 2010						
NEOMYCIN (a	NEOMYCIN (antimicrobial agent)					
JECFA Evalu	JECFA Evaluation 43 (1994); 47 (1996); 52 (1999); 58 (2002); 60 (2003)					
Acceptable D	aily Intake	0-60 μg/kg bw (JECFA47)				
Residue Defi	nition	Neomycin				
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Cattle	Muscle	500	23 (1999)			
Cattle	Liver	500	28 (2005)			
Cattle	Kidney	10000	28 (2005)			
Cattle	Fat	500	23 (1999)			
Cattle	Milk	1500	28 (2005)			

	Masole	000	20 (1000)	
Cattle	Liver	500	28 (2005)	
Cattle	Kidney	10000	28 (2005)	
Cattle	Fat	500	23 (1999)	
Cattle	Milk	1500	28 (2005)	
Chicken	Muscle	500	23 (1999)	
Chicken	Liver	500	23 (1999)	
Chicken	Kidney	10000	23 (1999)	
Chicken	Fat	500	23 (1999)	
Chicken	Eggs	500	23 (1999)	
Duck	Muscle	500	23 (1999)	
Duck	Liver	500	23 (1999)	
Duck	Kidney	10000	23 (1999)	
Duck	Fat St Addition	500	23 (1999)	
Goat	Muscle	500	23 (1999)	dditive
Goat	Liver	500	23 (1999)	
Goat	Kidney	10000	23 (1999)	
Goat	Fat	500	23 (1999)	
Pig	Muscle	500	23 (1999)	
Pig	Liver	500	23 (1999)	
Pig	Kidney	10000	23 (1999)	
Pig	Fat	500	23 (1999)	
Sheep	Muscle	500	23 (1999)	
Sheep	Liver	500	23 (1999)	
Sheep	Kidney	10000	23 (1999)	
Sheep	Fat	500	23 (1999)	
Turkey	Muscle	500	23 (1999)	
Turkey	Liver	500	23 (1999)	
Turkey	Kidney	10000	23 (1999)	
Turkey	Fat	500	23 (1999)	

NICARBAZIN (antiprotozoal agent)					
JECFA Evalua	ation	50 (1998)			
Acceptable Daily Intake		0-400 µg/kg bw	(JECFA50)		
Residue Defir	nition	N,N'-bis(4-nitrop	heyl)urea		
Species	Tissue	MRL (µg/kg)	CAC	Notes	
Chicken	Muscle	200	23 (1999)	Broilers	
Chicken	Liver	200	23 (1999)	Broilers	
Chicken	Kidney	200	23 (1999)	Broilers	
Chicken	Fat/Skin	200	23 (1999)	Broilers	

PHOXIM (inse	PHOXIM (insecticide)					
JECFA Evalu	ation	52 (1999); 62 (2004)				
Acceptable D	aily Intake	0-4 µg/kg bw (.	JECFA52)			
Residue Defi	nition	Phoxim				
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Goat	Muscle	50	26 (2003)			
Goat	Liver	50	26 (2003)			
Goat	Kidney	50	26 (2003)			
Goat	Fat	400	26 (2003)	daluve		
Pig	Muscle	50	26 (2003)			
Pig	Liver	50	26 (2003)			
Pig	Kidney	50	26 (2003)			
Pig	Fat	400	26 (2003)			
Sheep	Muscle	50	26 (2003)			
Sheep	Liver	50	26 (2003)			
Sheep	Kidney	50	26 (2003)			
Sheep	Fat	400	26 (2003)			

PIRLIMYCIN	PIRLIMYCIN (antimicrobial agent)					
JECFA Evaluation		62 (2004)				
Acceptable D	Daily Intake	0-8 µg/kg bw (JE	CFA62)			
Residue Defi	nition	Pirlimycin				
Species	Tissue	MRLs (µg/kg) CAC Note				
Cattle	Muscle	100	29 (2006)			
Cattle	Liver	1000	29 (2006)			
Cattle	Kidney	400	29 (2006)			
Cattle	Fat	100	29 (2006)			
Cattle	Milk	100	29 (2006)	JECFA evaluated the effect of pirlimycin residues on starter cultures and for this reason recommended an MRL of 100 µg/kg of milk. Codex Members may therefore adapt national/regional MRLs in order to address this technological aspect for trade of fresh liquid milk intended for processing using starter culture.		

PORCINE SO	PORCINE SOMATOTROPIN (production aid)					
JECFA Evalua	ation	52 (1999)				
Acceptable Da	aily Intake	Not Specified (	JECFA52)	1 1.1.		
Residue Defir	nition	Not applicable		dditive		
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Pig	Muscle	not specified	26 (2003)			
Pig	Liver	not specified	26 (2003)			
Pig	Kidney	not specified	26 (2003)			
Pig	Fat	not specified	26 (2003)			

PROGESTER	PROGESTERONE (production aid)						
JECFA Evaluation		25 (1981); 32 (1987); 52 (1999)					
Acceptable I	Daily Intake	0-30 µg/kg bw	(JECFA52)				
Residue Defi	inition	Progesterone					
Species	Tissue	MRL (µg/kg)	CAC	Notes			
Cattle	Muscle	unnecessary	21 (2005)	Residues resulting from the use of this substances as a growth promoter in accordance with good animal husbandry practice are unlikely to pose a hazard to human health			
Cattle	Liver	unnecessary	21 (2005)	Residues resulting from the use of this substances as a growth promoter in accordance with good animal husbandry practice are unlikely to pose a hazard to human health			
Cattle	Kidney	unnecessary	21 (2005)	Residues resulting from the use of this substances as a growth promoter in accordance with good animal husbandry practice are unlikely to pose a hazard to human health			
Cattle	Fat	unnecessary	21 (2005)	Residues resulting from the use of this substances as a growth promoter in accordance with good animal husbandry practice are unlikely to pose a hazard to human health			

RACTOPAMI	RACTOPAMINE (production aid)					
JECFA Evalu	ation	40 (1992); 62 (	2004); 66 (20	006)		
Acceptable D	aily Intake	0-1 µg/kg bw (	JECFA66)			
Residue Defi	nition	Ractopamine				
Species	Tissue	MRL (μg/kg) CAC Notes				
Cattle	Muscle	10	35 (2012)			
Cattle	Liver	40	35 (2012)			
Cattle	Kidney	90	35 (2012)			
Cattle	Fat	10	35 (2012)			
Pig	Muscle	10	35 (2012)			
Pig	Liver	40	35 (2012)			
Pig	Kidney	90	35 (2012)			
Pig	Fat	10	35 (2012)	The MRL includes skin + fat		

SARAFLOXACIN (antimicrobial agent)						
JECFA Evaluation		50 (1998)				
Acceptable Dail	y Intake	0-0.3 µg/kg bw	(JECFA50)			
Residue Definiti	on	Sarafloxacin				
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Chicken	Muscle	10	24 (2001)			
Chicken	Liver	80	24 (2001)			
Chicken	Kidney	80	24 (2001)			
Chicken	Fat	20	24 (2001)			
Turkey	Muscle	10	24 (2001)			
Turkey	Liver	80	24 (2001)			
Turkey	Kidney	80	24 (2001)			
Turkey	Fat	20	24 (2001)			

SPECTINOMYCIN (antimicrobial agent)						
JECFA Evaluation		42 (1994); 50 (1998)				
Acceptable D	aily Intake	0-40 µg/kg bw	(JECFA42)			
Residue Defin	nition Addition	Spectinomycin	1			
Species	Tissue	MRL (µg/kg)	CAC COLUNION			
Cattle	Muscle	500	23 (1999)			
Cattle	Liver	2000	23 (1999)			
Cattle	Kidney	5000	23 (1999)			
Cattle	Fat	2000	23 (1999)			
Cattle	Milk (µg/l)	200	23 (1999)			
Chicken	Muscle	500	23 (1999)			
Chicken	Liver	2000	23 (1999)			
Chicken	Kidney	5000	23 (1999)			
Chicken	Fat	2000	23 (1999)			
Chicken	Eggs	2000	23 (1999)			
Pig	Muscle	500	23 (1999)			
Pig	Liver	2000	23 (1999)			
Pig	Kidney	5000	23 (1999)			
Pig	Fat	2000	23 (1999)			
Sheep	Muscle	500	23 (1999)			
Sheep	Liver	2000	23 (1999)			
Sheep	Kidney	5000	23 (1999)			
Sheep	Fat	2000	23 (1999)			

SPIRAMYCIN	I (antimicrobial agen	t)				
JECFA Evaluation		38 (1991); 43 (1994); 47 (1996); 48 (1997)				
Acceptable D	Daily Intake	0-50 µg/kg bw	(JECFA43)			
Residue Defi	nition			f spiramycin and neospiramycin; s (antimicrobially active residues)		
Species	Tissue	MRL CAC Notes				
Cattle	Muscle	200	22 (1997)			
Cattle	Liver	600	22 (1997)			
Cattle	Kidney	300	22 (1997)			
Cattle	Fat	300	22 (1997)			
Cattle	Milk (µg/l)	200	22 (1997)			
Chicken	Muscle	200	22 (1997)			
Chicken	Liver	600	22 (1997)			
Chicken	Kidney	800	22 (1997)			
Chicken	Fat	300	22 (1997)			
Pig	Muscle	200	22 (1997)			
Pig	Liver	600	22 (1997)			
Pig	Kidney	300	22 (1997)			
Pig	Fat	300	22 (1997)			

# Anti Additive

SULFADIMIDINE (antimicrobial agent)					
JECFA Evalua	ation	34 (1989); 38 (	(1991); 42 (19	994)	
Acceptable Daily Intake		0-50 µg/kg bw	(JECFA42)		
Residue Defir	nition	Sulfadimidine			
Species	Tissue	MRL (µg/kg)	CAC	Notes	
Cattle	Milk (µg/l)	25	21 (1995)		
Not specified	Muscle	100	21 (1995)		
Not specified	Liver	100	21 (1995)		
Not specified	Kidney	100	21 (1995)		
Not specified	Fat	100	21 (1995)		

TEFLUBENZ	TEFLUBENZURON (insecticide)					
JECFA Evalu	ation	81 (2015)	81 (2015)			
Acceptable D	aily Intake	0-5 µg/kg bw on the basis of a lower 95% confidence limit on the benchmark dose for a 10% response (BMDL10) of 0.54 mg/kg bw per day for hepatocellular hypertrophy in male mice observed in a carcinogenicity study, with application of an uncertainty factor of 100 to account for interspecies and intraspecies variability. (JECFA81)				
Estimated ch exposure	ronic dietary	individual, which bound of the A 1.6 µg/kg bw p of the ADI. The which represen GECDE for infa	The EDI is 42.9 $\mu$ g/person per day, on the basis of a 60 kg individual, which represents approximately 14% of the upper bound of the ADI. The GECDE for the general population is 1.6 $\mu$ g/kg bw per day, which represents 31% of the upper bound of the ADI. The GECDE for children is 2.1 $\mu$ g/kg bw per day, which represents 43% of the upper bound of the ADI. The GECDE for infants is 0.9 $\mu$ g/kg bw per day, which represents 18% of the upper bound of the ADI. (JECFA81)			
Residue Defi	nition	Teflubenzuron				
Species	Tissue	MRL (µg/kg) CAC Notes				
Salmon	Muscle	400	40 (2017)			
Salmon	Fillet	400	40 (2017)	Muscle plus skin in natural proportion		

TESTOSTER	TESTOSTERONE (production aid)						
JECFA Evaluation		25 (1981); 32 (1987); 52 (1999)					
Acceptable I	Daily Intake	0-2 µg/kg bw (	0-2 μg/kg bw (JECFA52)				
Residue Defi	nition	Testosterone					
Species	Tissue	MRL (µg/kg)	CAC	Notes			
Cattle	Muscle	unnecessary	21 (1995)	Residues resulting from the use of this substances as a growth promoter in accordance with good animal husbandry practice are unlikely to pose a hazard to human health.			
Cattle	Liver	unnecessary	21 (1995)	Residues resulting from the use of this substances as a growth promoter in accordance with good animal husbandry practice are unlikely to pose a hazard to human health.			
Cattle	Kidney	unnecessary	21 (1995)	Residues resulting from the use of this substances as a growth promoter in accordance with good animal husbandry practice are unlikely to pose a hazard to human health.			
Cattle	Fat	unnecessary	21 (1995)	Residues resulting from the use of this substances as a growth promoter in accordance with good animal husbandry practice are unlikely to pose a hazard to human health.			

THIABENDAZOLE (anthelmintic agent)							
JECFA Evalu	JECFA Evaluation		40 (1992); 48 (1997); 58 (2002)				
Acceptable	Acceptable Daily Intake		0-100 μg/kg bw (JECFA40)				
Residue Definition		Sum of thiabendazole and 5-hydroxythiabendazole					
Species	Tissue	MRL (µg/kg)	CAC	Notes			
Cattle	Muscle	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use			
Cattle	Liver	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use			
Cattle	Kidney	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use			
Cattle	Fat	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use			
Cattle	Milk (µg/I)	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use			
Goat	Muscle	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use			
Goat	Liver	Ant	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use			
Goat	Kidney	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use			
Goat	Fat	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use			
Goat	Milk (µg/l)	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use			
Pig	Muscle	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use			
Pig	Liver	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use			
Pig	Kidney	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use.			
Pig	Fat	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use			
Sheep	Muscle	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use			

Species	Tissue	MRL (µg/kg)	CAC	Notes
Sheep	Liver	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use
Sheep	Kidney	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use
Sheep	Fat	100	21 (1995)	The MRL also covers residues derived from feed containing the residues resulted from agricultural use

TILMICOSIN (antimicrobial agent)							
JECFA Evaluation		47 (1996); 54 (2000); 70 (2008)					
Acceptable Daily Intake		0-40 µg/kg bw	0-40 μg/kg bw (JECFA47)				
Residue Defi	nition	Tilmicosin					
Species	Tissue	MRL (µg/kg)	CAC	Notes			
Cattle	Muscle	100	23 (1999)				
Cattle	Liver	1000	23 (1999)				
Cattle	Kidney	300	23 (1999)				
Cattle	Fat	100	23 (1999)				
Chicken	Muscle	<b>A</b> 150	34 (2011)	Iditive			
Chicken	Liver	2400	34 (2011)				
Chicken	Kidney	600	34 (2011)				
Chicken	Skin/Fat	250	34 (2011)				
Pig	Muscle	100	23 (1999)				
Pig	Liver	1500	23 (1999)				
Pig	Kidney	1000	23 (1999)				
Pig	Fat	100	23 (1999)				
Sheep	Muscle	100	23 (1999)				
Sheep	Liver	1000	23 (1999)				
Sheep	Kidney	300	23 (1999)				
Sheep	Fat	100	23 (1999)				
Turkey	Muscle	100	34 (2011)				
Turkey	Kidney	1200	34 (2011)				
Turkey	Liver	1400	34 (2011)				
Turkey	Skin/Fat	250	34 (2011)				

TRENBOLONE ACETATE (growth promoter)						
JECFA Evaluation		26 (1982); 27 (1983); 32 (1987); 34 (1989)				
Acceptable Daily Intake		0-0.02 µg/kg b	0-0.02 μg/kg bw (JECFA34)			
Residue Defin	Residue Definition		Cattle muscle, beta-Trenbolone; Cattle liver, alpha-Trenbolone			
Species	Tissue	MRL (µg/kg) CAC		Notes		
Cattle	Muscle	2	21 (1995)			
Cattle	Liver	10	21 (1995)			

TRICHLORFON (Metrifonate) (insecticide)					
JECFA Evaluation		54 (2000); 60 (	2003); 66 (20	006)	
Acceptable D	aily Intake	0-2 μg/kg bw (JECFA60)			
Residue Definition		JECFA54 confirmed the MRL for cows's milk and the guidance levels for muscle, liver, kidney and fat of cattle recommended (WHO TRS 900, 2001)			
Species Tissue		MRLs (µg/kg)	CAC	Notes	
Cattle	Milk	50	29 (2006)		

	N Addil.						
TRICLABENDAZOLE (anthelmintic agent)							
JECFA Evalu	ation	40 (1992); 66 (	40 (1992); 66 (2006); 70 (2008)				
Acceptable D	Daily Intake	0-3 µg/kg bw (	0-3 μg/kg bw (JECFA40)				
Residue Defi	nition	Ketotriclabned	azole				
Species	Tissue	MRL (µg/kg) CAC Notes					
Cattle	Muscle	250	32 (2009)				
Cattle	Liver	850	32 (2009)				
Cattle	Kidney	400	32 (2009)				
Cattle	Fat	100	32 (2009)				
Sheep	Muscle	200	32 (2009)				
Sheep	Liver	300	32 (2009)				
Sheep	Kidney	200	32 (2009)				
Sheep	Fat	100	32 (2009)				

42

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JECFA Evaluation Acceptable Daily Intake		<ul> <li>70 (2008)</li> <li>0-30 μg/kg bw based on a microbiological end-point derived from in vitro MIC susceptibility testing and faecal binding data (MICcalc = 1.698) (JECFA70)</li> </ul>				
Species	Tissue	MRLs (µg/kg)	CAC	Notes		
Cattle	Muscle	100	32 (2009)			
Cattle	Liver	100	32 (2009)			
Cattle	Kidney	100	32 (2009)			
Cattle	Fat	100	32 (2009)			
Cattle	Milk	100	32 (2009)			
Pig	Muscle	100	32 (2009)			
Pig	Liver	100	32 (2009)			
Pig	Kidney	100	32 (2009)			
Pig	Fat	100	32 (2009)			
Chicken	Muscle	100	32 (2009)			
Chicken	Liver	100	32 (2009)			
Chicken	Kidney	100	32 (2009)			
Chicken	Fat/Skin	100	32 (2009)	1 1.1.		
Chicken	Eggs	<b>A</b> 300	32 (2009)	AITIVE		

ZERANOL (growth promoter)						
JECFA Evaluation		26 (1982); 27 (1983); 32 (1987)				
Acceptable D	Acceptable Daily Intake		0-0.5 μg/kg bw (JECFA32)			
Residue Defir	Residue Definition		Zeranol			
Species	Tissue	MRL (µg/kg)	CAC	Notes		
Cattle	Muscle	2	21 (1995)			
Cattle	Liver	10	21 (1995)			

# **RISK MANAGEMENT RECOMMENDATIONS (RMRs) FOR RESIDUES OF VETERINARY DRUGS**

CARBADOX (growth promoter)

JECFA evaluation: 36 (1990); 60 (2003)

CAC adoption: 37 (2014)

## **Recommended risk management measures**

In view of the JECFA conclusions on the available scientific information, there is no safe level of residues of carbadox or its metabolites in food that represents an acceptable risk to consumers. For this reason, competent authorities should prevent residues of carbadox in food. This can be accomplished by not using carbadox in food producing animals.

CHLORAMPHENICOL (antimicrobial agent)

## JECFA evaluation: 12 (1968); 32 (1987); 42 (1994); 62 (2004)

**CAC adoption:** 37 (2014)

## Recommended risk management measures

In view of the JECFA conclusions on the available scientific information, there is no safe level of residues of chloramphenicol or its metabolites in food that represents an acceptable risk to consumers. For this reason, competent authorities should prevent residues of chloramphenicol in food. This can be accomplished by not using chloramphenicol in food producing animals.

CHLORPROMAZINE (tranquilliser agent)

JECFA evaluation: 38 (1991)

CAC adoption: 37 (2014)

## **Recommended risk management measures**

In view of the JECFA conclusions, although insufficient data were available or there was a lack of data to establish a safe level of residues of chlorpromazine or its metabolites in food representing an acceptable risk to consumers, significant health concerns were identified. For this reason, competent authorities should prevent residues of chlorpromazine in food. This can be accomplished by not using chlorpromazine in food producing animals.

DIMETRIDAZOLE (antiprotozoal agent)

JECFA evaluation: 34 (1989)

**CAC adoption:** 38 (2015)

## **Recommended risk management measures**

In view of the JECFA conclusions, although insufficient data were available or there was a lack of data to establish a safe level of residues of dimetridazole or its metabolites in food representing an acceptable risk to consumers, significant health concerns were identified. For this reason, competent authorities should prevent residues of dimetridazole in food. This can be accomplished by not using dimetridazole in food producing animals.

FURAZOLIDONE (antimicrobial agent)

JECFA evaluation: 40 (1992)

CAC adoption: 37 (2014)

## **Recommended risk management measures**

In view of the JECFA conclusions on the available scientific information, there is no safe level of residues of furazolidone or its metabolites in food that represents an acceptable risk to consumers. For this reason, competent authorities should prevent residues of furazolidone in food. This can be accomplished by not using furazolidone in food producing animals.

**GENTIAN VIOLET** (antibacterial, antifungal and anthelminthic agent)

JECFA evaluation: 78 (2013) JECFA

CAC adoption: 41 (2018)

## Recommended risk management measures

In view of the JECFA conclusions on the available scientific information, there is no safe level of residues of gentian violet or its metabolites in food that represents an acceptable risk to consumers. For this reason, competent authorities should prevent residues of gentian violet in food. This can be accomplished by not using gentian violet in food producing animals.

# **IPRONIDAZOLE** (antiprotozoal agent)

## JECFA evaluation: 34 (1989)

#### CAC adoption: 38 (2015)

## **Recommended risk management measures**

In view of the JECFA conclusions, although insufficient data were available or there was a lack of data to establish a safe level of residues of ipronidazole or its metabolites in food representing an acceptable risk to consumers, significant health concerns were identified. For this reason, competent authorities should prevent residues of ipronidazole in food. This can be accomplished by not using ipronidazole in food producing animals.

MALACHITE GREEN (antifungal and antiprotozoal agent)

JECFA evaluation: 70 (2008)

CAC adoption: 37 (2014)

#### **Recommended risk management measures**

In view of the JECFA conclusions on the available scientific information, there is no safe level of residues of malachite green or its metabolites in food that represents an acceptable risk to consumers. For this reason, competent authorities should prevent residues of malachite green in food. This can be accomplished by not using malachite green in food producing animals.

**METRONIDAZOLE** (antiprotozoal agent)

JECFA evaluation: 34 (1989)

CAC adoption: 38 (2015)

#### **Recommended risk management measures**

In view of the JECFA conclusions, although insufficient data were available or there was a lack of data to establish a safe level of residues of metronidazole or its metabolites in food representing an acceptable risk to consumers, significant health concerns were identified. For this reason, competent authorities should prevent residues of metronidazole in food. This can be accomplished by not using metronidazole in food producing animals. nti Additive

## NITROFURAL (antimicrobial agent)

JECFA evaluation: 40 (1992)

CAC adoption: 37 (2014)

## **Recommended risk management measures**

In view of the JECFA conclusions, although insufficient data were available or there was a lack of data to establish a safe level of residues of nitrofural or its metabolites<sup>1</sup> in food representing an acceptable risk to consumers, significant health concerns were identified. For this reason, competent authorities should prevent residues of nitrofural in food. This can be accomplished by not using nitrofural in food producing animals.

<sup>1</sup> Semicarbazide is not a unique indicator of nitrofural use and low levels can be associated with other legitimate sources.

**OLAQUINDOX** (antibacterial agent)

JECFA evaluation: 36 (1990); 42 (1994)

CAC adoption: 37 (2014)

#### **Recommended risk management measures**

In view of the JECFA conclusions, although insufficient data were available or there was a lack of data to establish a safe level of residues of olaquindox or its metabolites in food representing an acceptable risk to consumers, significant health concerns were identified. For this reason, competent authorities should prevent residues of olaquindox in food. This can be accomplished by not using olaquindox in food producing animals.

**RONIDAZOLE** (antiprotozoal agent)

JECFA evaluation: 34 (1989); 42 (1994)

CAC adoption: 38 (2015)

#### **Recommended risk management measures**

In view of the JECFA conclusions, although insufficient data were available or there was a lack of data to establish a safe level of residues of ronidazole or its metabolites in food representing an acceptable risk to consumers, significant health concerns were identified. For this reason, competent authorities should prevent residues of ronidazole in food. This can be accomplished by not using ronidazole in food producing animals.

STILBENES (growth promoter)

JECFA evaluation: 5 (1960)

IARC evaluation: monograph 100A (2012)

**CAC adoption:** 37 (2014)

# **Recommended risk management measures**

In view of the available scientific information, there is no safe level of residues of stilbenes or their metabolites in food that represents an acceptable risk to consumers. For this reason, competent authorities should prevent residues of stilbenes in food. This can be accomplished by not using stilbenes in food producing animals.

