



**JOINT FAO/WHO FOOD STANDARDS PROGRAMME  
CODEX COMMITTEE ON RESIDUES OF VETERINARY DRUGS IN FOODS**

**Twentieth Session**

*San Juan, Puerto Rico, 7-11 May 2012*

**PROPOSED DRAFT MAXIMUM RESIDUE LIMITS FOR VETERINARY DRUGS**

**(at Step 3 of the Procedure)**

Governments and international organizations wishing to submit comments at Step 3 on the proposed draft Maximum Residues Limits for Veterinary Drugs arising from the 75<sup>th</sup> JECFA Meeting (see Annex 1) are invited to do so **no later than 31 March 2012** as follows: U.S. Codex Office, Food safety and Inspection Service, US Department of Agriculture, Room 4861, South Building, 14<sup>th</sup> Independence Avenue, S.W., Washington DC 20250, USA (Telefax: +1 202 720 3157; or *preferably* E-mail: [CCRVD-USSEC@fsis.usda.gov](mailto:CCRVD-USSEC@fsis.usda.gov)), with a copy to the Secretary, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, Viale delle Terme di Caracalla, 00153 Rome, Italy (Telefax: +39.06.5705.4593; E-mail: [Codex@fao.org](mailto:Codex@fao.org), *preferably*).

**BACKGROUND**

1. The 75<sup>th</sup> Meeting Joint FAO/WHO Expert Committee on Food Additives (JECFA) was convened in Rome, Italy, from 8 to 17 November 2011 to evaluate residues of certain veterinary drugs in foods. The full reports of the meeting will be published in the WHO Technical Report Series<sup>1</sup>. Toxicological monographs summarising the data that were considered by the Committee will be published in *WHO Food Additives Series No.66*; residue monographs summarising the data that were considered by the Committee will be published in *FAO JECFA Monographs No. 12*. Recommendations on other veterinary drugs i.e. ivermectin and triclabendazole as well as other considerations and recommendations are provided in the document CX/RVDF 12/20/3 (Agenda Item Matters from FAO/WHO and from the 75<sup>th</sup> Meeting of the Joint FAO/WHO Expert Committee on Food Additives (JECFA)).

2. Annex 1 to this document presents the recommendations of the 75<sup>th</sup> JECFA Meeting on numerical Maximum Residues Limits (MRLs) for the veterinary drugs amoxicillin, apramycin, derquantel, monensin, monepantel and narasin.

3. Governments and international organizations wishing to submit comments at Step 3 on the proposed draft Maximum Residues Limits for Veterinary Drugs recommended by the 75<sup>th</sup> JECFA Meeting (*see* Annex 1) are invited to do so **no later than 31 March 2012**.

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<sup>1</sup> Summary and conclusions of the 75<sup>th</sup> JECFA meeting are available on FAO and WHO websites as follows: one <http://www.fao.org/food/food-safety-quality/home-page/en/> and <http://www.who.int/foodsafety/chem/jecfa/summaries/Summary75.pdf>

**Annex 1**

**PROPOSED DRAFT MAXIMUM RESIDUE LIMITS (MRLs) FOR VETERINARY DRUGS  
(AT STEP 3)**

Recommendations arising from the 75<sup>th</sup> Meeting of the Joint FAO/WHO Expert Committee on Food Additives (JECFA)

**AMOXICILLIN** (antimicrobial agent)

**Acceptable Daily Intake (ADI):** 0-0.7 µg/kg body weight on the basis of microbiological effects (75<sup>th</sup> JECFA, 2011).

**Estimated Dietary Exposure (EDI):** The 75<sup>th</sup> JECFA (2001) did not calculate an EDI for amoxicillin owing to the small number of quantifiable residue data points. Using the model diet of 300 g muscle, 100 g liver, 50 g kidney, 50 g fat and 1.5 liter of milk with the MRLs recommended, the theoretical maximum daily intake (TMDI) is 31 µg/person, which represents 74% of the upper bound of the ADI.

**Residue Definition:** Amoxicillin.

Species	Tissue	MRLs (µg/kg) recommended by the 75 <sup>th</sup> JECFA	Step	JECFA
Cattle	Muscle	50	3	75
Cattle	Liver	50	3	75
Cattle	Kidney	50	3	75
Cattle	Fat	50	3	75
Cattle	Milk	4	3	75
Sheep	Muscle	50	3	75
Sheep	Liver	50	3	75
Sheep	Kidney	50	3	75
Sheep	Fat	50	3	75
Sheep	Milk	4	3	75
Pigs	Muscle	50	3	75
Pigs	Liver	50	3	75
Pigs	Kidney	50	3	75
Pigs	Fat/Skin	50	3	75

**APRAMYCIN** (antimicrobial agent)

**Acceptable Daily Intake (ADI):** 0-30 µg/kg body weight on the basis of microbiological effects (75<sup>th</sup> JECFA, 2011).

**Estimated Dietary Exposure (EDI):** Using the limits of quantification (LOQs) of the analytical methods as calculated by the 75<sup>th</sup> JECFA as residue levels for muscle, fat and liver, together with the proposed MRLs for kidney, the theoretical intake in the worst-case scenario would be around 1400 µg/day and would not exceed the upper bound of the ADI (75<sup>th</sup> JECFA, 2011).

**Residue Definition:** Apramycin.

Species	Tissue	MRLs (µg/kg) recommended by the 75 <sup>th</sup> JECFA	Step	JECFA
Cattle	Kidney	5000	3	75
Chickens	Kidney	5000	3	75

Because of data limitations, the 75<sup>th</sup> JECFA was unable to recommend MRLs in tissues and species other than cattle kidney and chicken kidney. The sponsor is requested to provide improved analytical methods with better performance and lower limits of quantification (LOQs) and residue depletion studies with appropriate sampling points close to the zero withdrawal periods for all tissues and species. The validated analytical methods and residue depletion studies are requested by the end of 2014.

**DERQUANTEL** (antiparasitic agent)

**Acceptable Daily Intake (ADI):** 0-0.3 µg/kg body weight on the basis of a lowest-observed-adverse-effect level (LOAEL) of 0.1 mg/kg body weight per day for acute clinical observations in dogs, consistent with antagonistic activity on the nicotinic acetylcholine receptors. A safety factor of 300 was applied to the LOAEL (75<sup>th</sup> JECFA, 2011).

**Estimated Dietary Exposure (EDI):** As the ADI was based on an acute effect, the 75<sup>th</sup> JECFA (2011) did not calculate an EDI. Using the model diet of 300 g muscle, 100 g live, 50 g kidney, 50 g fat and 1.5 liter of milk with the MRLs recommended, the theoretical maximum daily intake (TMDI) is 8 µg/person, which represents 45% of the upper bound of the ADI.

**Residue Definition:** Derquantel.

Species	Tissue	MRLs (µg/kg) recommended by the 75 <sup>th</sup> JECFA	Step	JECFA
Sheep	Muscle	0.2	3	75
Sheep	Liver	2.0	3	75
Sheep	Kidney	0.2	3	75
Sheep	Fat	0.7	3	75

The 75<sup>th</sup> JECFA was not able to recommend a MRL for sheep milk, as no residue data were provided.

**MONENSIN** (antimicrobial agent and production aid)

**Acceptable Daily Intake (ADI):** 0-10 µg/kg body weight on the basis of a NOAEL of 1.14 mg/kg body weight per day and a safety factor of 100 and rounding to one significant figure (70<sup>th</sup> JECFA, 2008).

**Estimated Dietary Exposure (EDI):** Using the revised MRL, the theoretical maximum daily intake (TMDI) from the 70<sup>th</sup> JECFA was recalculated, resulting in a value of 481 µg/person, which represents 80% of the upper bound of the ADI (75<sup>th</sup> JECFA, 2011).

**Residue Definition:** Monensin A.

Species	Tissue	MRLs (µg/kg) recommended by the 75 <sup>th</sup> JECFA	Step	JECFA
Cattle	Liver	100	3	75

The 75<sup>th</sup> JECFA was unable to revise the current MRLs for goats and sheep, as no additional residue data were provided.

**MONEPANTEL** (anthelmintic)

**Acceptable Daily Intake (ADI):** 0-20 µg/kg body weight on the basis of a lowest-observed-adverse-effect level (LOAEL) of 1.8 mg/kg body weight per day considering liver effects in mice, and a safety factor of 100, with rounding to one significant figure (75<sup>th</sup> JECFA, 2011).

**Estimated Dietary Exposure (EDI):** Using the model diet and a ration of marker residue to total residue of 100% for muscle and 66% for fat, liver and kidney, and applying a correction factor of 0.94 to account for the mass difference between the marker residue and monepantel, the EDI is 201 µg/person, which represents 17% of the upper bound of the ADI (75<sup>th</sup> JECFA, 2011).

**Residue Definition:** Monepantel sulfone.

Species	Tissue	MRLs (µg/kg) recommended by the 75 <sup>th</sup> JECFA	Step	JECFA
Sheep	Muscle	300	3	75
Sheep	Liver	3000	3	75
Sheep	Kidney	700	3	75
Sheep	Fat	5500	3	75

The 75<sup>th</sup> JECFA was unable to propose an MRL for sheep milk, as no data were provided.

**NARASIN** (antimicrobial agent and production aid)

**Acceptable Daily Intake (ADI):** 0-5 µg/kg body weight on the basis of a NOAEL of 0.5 mg/kg body weight per day and a safety factor of 100 (70<sup>th</sup> JECFA, 2008).

**Residue Definition:** Narasin A.

Species	Tissue	MRLs(µg/kg) recommended by the 70 <sup>th</sup> JECFA	Step	MRLs (µg/kg) recommended by the 75 <sup>th</sup> JECFA	Step	JECFA
Cattle	Muscle	15 T <sup>a</sup>	7	15	3	75
Cattle	Liver	50 T <sup>a</sup>	7	50	3	75
Cattle	Kidney	15 T <sup>a</sup>	7	15	3	75
Cattle	Fat	50 T <sup>a</sup>	7	50	3	75

<sup>a</sup> The MRL recommended by the 70<sup>th</sup> JECFA were temporary.