

codex alimentarius commission

FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD HEALTH
ORGANIZATION

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Agenda item 8

CX/RVDF 00/7
February 2000

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON RESIDUES OF VETERINARY DRUGS IN FOODS

Twelfth Session

Washington, D.C., 28 - 31 March 2000

CONSIDERATION OF MAXIMUM RESIDUE LIMITS FOR VETERINARY DRUGS AT STEPS 7 AND 4

HARMONIZATION OF MRL SETTING FOR COMPOUNDS USED BOTH AS PESTICIDES AND AS VETERINARY DRUGS

BACKGROUND

The Committee at its last Session noted discussions held at the 22nd Session of the Commission¹, the 29th² and 30th³ Sessions of Codex Committee on Pesticide Residues (CCPR) and the 1997 Joint FAO/WHO Meeting on Pesticide Residues (JMPR)⁴ concerning differences in the way the CCRVDF and the CCPR established MRLs. These discussions emphasized the need for harmonization and consistency throughout Codex, particularly in the areas of the consideration of fat solubility of compounds; residue definitions; commodity definitions, especially the definition of "muscle" in relation to fat content; levels recommended for the same commodity/compound combinations; and dietary models used for risk assessment. The Committee further noted the recommendations of the JMPR on harmonization of proposals from JMPR and JECFA for MRLs for compounds with both agricultural and veterinary uses.

The Committee generally recognized the need for harmonization and requested the FAO Secretaries of the JECFA and JMPR to convene an informal meeting of experts in the areas of residues of veterinary drugs and pesticides to consider these issues. The outcome of this meeting would be reported and considered by the CCRVDF and the CCPR. As a number of issues needing to be addressed depended on the outcome of this meeting, the Committee deferred discussions on this matter until its 12th session.⁵

An informal JECFA/JMPR Harmonization Meeting was convened in Rome in February 1999 in order to resolve differences in residue definitions and related matters and to ensure harmonization and consistency between the JECFA and JMPR when considering chemicals that were used both as veterinary drugs and pesticides. It considered five main issues including four issues identified by the CCPR and another on sampling, and made a number of recommendations addressed to either of CCRVDF, CCPR, JECFA or JMPR. (see below)

These recommendations were considered briefly by JECFA at its 52nd meeting (February 1999) and were received favourably in general. The 52nd JECFA agreed to change the expression of MRLs in milk

¹ July 1997 (ALINORM 97/37, paras 63 and 113)

² April 1997 (ALINORM 97/24A, paras 9-12)

³ April 1998 (ALINORM 99/24, paras 70, 75, 77)

⁴ CX/RVDF 98/2 and CX/RVDF 98/2-Add.1.

⁵ September 1998 (ALINORM 99/31, paras 8-9)

from a volume basis to a weight basis. At its 54th meeting in February 2000, JECFA will consider these recommendations more thoroughly.

The CCPR at its 31st Session⁶ received a preliminary oral report of the Harmonization Meeting and noted that those recommendations pertinent to the work of JMPR would be considered by the 1999 JMPR. The CCPR noted that many of the harmonization issues related to specific substances could be resolved only when these substances were re-evaluated and agreed that detailed consideration on the recommendations of the Harmonization Meeting be postponed pending their publication and subsequent consideration by the 1999 JMPR. At this Session the CCPR agreed to support the MRL for cyfluthrin in milk as recommended by this Committee, then at Step 5, in order to promote harmonization.

The Commission at its 23rd Session (June-July, 1999; Rome) again requested the JECFA and JMPR to give further consideration on discrepancies between their recommendations on MRLs, residue definitions, and related matters as these problems were rather of a generic nature.⁷

The 1999 JMPR in September 1999 considered fully those recommendations relevant to its work.

The recommendations of the JECFA/JMPR Informal Harmonization Meeting are contained in the following section for consideration and action, if necessary, by this Committee. Information from the 1999 JMPR is also included, as appropriate, to assist discussions on certain recommendations. Some relevant information is also contained in an annex to this paper.

RECOMMENDATIONS OF THE JECFA/JMPR INFORMAL HARMONIZATION MEETING

The Meeting addressed five topic areas: muscle versus meat; fat soluble residues; definition of residues of pesticides with isomers like cypermethrin, abamectin, cyfluthrin, and others used for agricultural and veterinary purposes; standardization of sampling procedures for animal and agricultural products; harmonization of approaches for risk assessment. The recommendations derived from those discussions are summarized below in four topic areas.

The recommendations are directed to CCRVDF/CCPR or JECFA/JMPR, as appropriate.

TISSUE

1. For sampling purposes, CCPR should revise the term "fatty tissue" to "fat tissue" in the definition of meat and fat in the Codex Classification of Food and Feed.
2. Clarification of the definition of muscle tissue (Volume 3 of Codex Alimentarius) is needed to establish the portion of the commodity to which the MRL applies. Muscle tissue (JECFA/CCRVDF) shall include interstitial fat and exclude trimmable fat. It is recognized that other minor components, e.g., connective tissue, may be present in muscle tissue. Muscle tissue includes skeletal muscle tissue and all other edible muscle tissues. For muscle tissues other than skeletal muscle, the MRLs for skeletal muscle tissue shall apply, unless studies show greater residues in the other types of tissue. Sponsors may submit data for consideration for other muscle tissues, such as tongue, etc.
3. For the determination of fat-soluble pesticide/veterinary drug residues in meat/muscle for enforcement or monitoring purposes, laboratories are advised to collect and to analyze trimmable fat and to report the residue on a lipid basis, i.e., meat (fat) for JMPR and fat for JECFA. For meat without trimmable fat, the entire commodity should be analyzed as meat/muscle, but only where the MRL has been set on meat/muscle basis.

1999 JMPR: The recommendation is in agreement with current JMPR practice in recommending MRLs for fat-soluble compounds.

⁶ April 1999 (ALINORM 99/24A, paras7-9, 64, 90, 93, 96, 99).

⁷ See also Section A of CX/RVDF 00/2.

4. For the determination of non-fat soluble pesticides/veterinary drugs residues in meat/muscle, laboratories are advised to analyze meat/muscle with trimmable fat removed, as far as is practical.

1999 JMPR: The Meeting agreed that the JMPR practice (past and present) in recommending MRLs for non-fat-soluble compounds in animal commodities is in accord with the recommendation. Data are reviewed for muscle, but the recommended MRL is expressed as applying to 'meat' for analytical purposes.

5. Where JECFA and JMPR have recommended MRLs for the same chemical with the same residue/marker residue definitions on the same commodity, the higher MRL shall prevail.

1999 JMPR: The JMPR is aware of this situation. Although the JMPR will evaluate the data received and report the estimated maximum residue level the recommended MRL will take into account the CCRVDF MRL. The reviewer (JMPR or JECFA) should be alerted to the current status of the MRLs in both the CCPR and CCRVDF systems.

6. **CCRVDF** should consider describing fat as the trimmable lipid-based tissue (eg., subcutaneous, perirenal, etc) from food producing animals.

MILK

7. For the determination of fat-soluble pesticide/veterinary drug residues in milk, the milk fat portion of fresh milk should be analyzed, and the results should be expressed on a whole milk basis using 4% as the nominal fat content.

1999 JMPR: The JMPR agrees with the recommendation, as this is its current practice in the evaluation of fat-soluble pesticide residues in milk.

8. For the determination of non-fat soluble pesticide/veterinary drug residues in milk, laboratories should analyze the whole milk and should report residues on a whole milk basis.
9. JECFA should consider expressing MRLs for milk on a weight (kg) basis rather than the current volume (l) basis.

Secretariat's Note: The 52nd JECFA already recommended MRLs in milk on a weight basis. The Committee is invited to consider the amendments of all Codex MRLs and draft/proposed draft MRLs in milk as recommended above to be expressed on a weight basis ($\mu\text{g}/\text{kg}$).

The Codex Committee on Milk and Milk Products at its 3rd Session (May 1998) agreed advance the Draft General Standard for the Use of Dairy Terms to Step 8 for adoption by the Commission to replace the existing Code of Principles Concerning Milk and Milk Products. The Draft General Standard was subsequently adopted by the Commission at its 23rd Session (June-July 1999) as final text. In the adopted General Standard, the definition of milk is as follows:

“2.1 Milk is the normal mammary secretion of milking animals obtained from one or more milkings without either addition to it or extraction from it, intended for consumption as liquid milk or for further processing.”

That Committee also revised the sections on labelling requirements. The CCRVDF is invited to consider the above new definition to replace the existing one that originated from the Code of Principles superseded by the General Standard for the Use of Dairy Terms. The CCPR will also consider this new definition at its 32nd Session.

EGGS

10. JECFA should specify that the portion of the raw commodity “egg” (in shell) to be analyzed is the whole egg white and yolk combined after removal of the shell. The present description suggests that shell is included in the commodity analyzed.
11. The description of eggs should not be limited to chicken, and sampling size should be a minimum of 500 grams. **CCRVDF** and CCPR are invited to modify the appropriate sections of Volumes 2 and 3 on sampling, accordingly.

12. *CCRVDF* establishes MRLs on raw meat and poultry products only. *CCRVDF* should consider deletion of the sampling guidelines for the processed products for Class E (types 16 - 19).

HARMONIZATION

13. The working group noted disparate residue definitions by CCPR and *CCRVDF* for abamectin and recommended that *CCRVDF*/JECFA consider expansion of its residue definition to include other isomers, such as the photodegradation isomer of B1a. CCPR/JMPR should consider its need to include the various isomers as part of the periodic review of abamectin.

1999 JMPR: The JMPR agrees that residue definitions should be harmonised where possible and will consider the recommendation at the next periodic evaluation of abamectin. The scheduling of the periodic review of the compound is a matter for discussion by the CCPR priorities working group.

14. Cypermethrin and alpha-cypermethrin should remain as the marker residue definitions for their use as veterinary drugs for cypermethrin and alpha-cypermethrin, respectively, and cypermethrin (sum of isomers) should remain as the residue definition for the pesticide cypermethrin. Guidance should be supplied to laboratories on the designation of the measured residue as cypermethrin or alpha-cypermethrin based on the chromatography of the test substance.

1999 JMPR: Cypermethrin is scheduled for periodic evaluation by the JMPR in September 2004 and this issue will be considered further at that time. Cypermethrin is also scheduled for evaluation by JECFA in February 2000. However, it is noted that there may be enforcement problems if products containing the unresolved mixture of isomers are still registered alongside products containing a single pair of isomers, (alpha-cypermethrin) or two isomeric pairs (zeta-cypermethrin) where different MRLs exist for the different products. In addition, animals may be exposed to more than one type of product and problems may again occur if laboratories are monitoring only a single marker residue and not the sum of the isomers.

15. Harmonization efforts should be undertaken on a case-by-case basis where marker residue definition/residue definition differences occur between JECFA and JMPR.

1999 JMPR: The JMPR agrees that residue definitions should be harmonised where relevant. The JMPR may adopt different definitions for enforcement and for the estimation of dietary intake, and this should be taken into account when harmonization is considered.

16. JECFA should review the apparent anomaly of MRLs for both fat and muscle for the fat-soluble drugs alpha-cypermethrin and cypermethrin. JECFA should consider which sample tissues are to be analyzed by the enforcement laboratory.

17. CCPR should amend the note explaining the "V" designation for MRLs. The present description, "the MRL accommodates veterinary uses," is confusing and should be amended to "the MRL accommodates external animal treatments."

1999 JMPR: The Meeting agreed to use the suggested amendment and include the amended terminology in future recommendations.

18. For compounds that are common to both, JMPR and JECFA should use the more specific animal commodity descriptions to enhance harmonization. For example, separate MRLs for cattle muscle, goat muscle, horse muscle, pig muscle, and sheep muscle are preferable to meat of cattle, horses, pigs and sheep.

1999 JMPR: The JMPR agrees that when there are MRLs recommended to accommodate direct veterinary treatments (JMPR/JECFA), they should be species-specific rather than generic. This will allow JECFA to see clearly that the MRL relates to specific animal uses as opposed to exposure from consuming treated feed items.

19. Each expert panel needs a better understanding of the other's procedures for food safety assessments for estimating MRLs and dietary exposure, for example. JECFA will provide JMPR its guidance document describing the JECFA evaluation procedures when the draft version is finalized. The JMPR FAO Manual (1997) will be distributed to the JECFA members at the February 1999 meeting.

1999 JMPR: The JMPR looks forward to the publication of the JECFA manual with interest and notes that the FAO manual has been distributed to JECFA members.

20. The JECFA/JMPR Group acknowledged the very different approaches used for dietary exposure determinations. JMPR will provide JECFA with detailed reports of its assessments, dietary intake calculations and % ADI determinations for compounds of interest to JECFA. When the data are available, JECFA will provide JMPR with median and upper limit animal commodity residue values and dietary intake calculations/% ADI determinations for compounds of interest to JMPR.

1999 JMPR: There is a need to discuss further the two approaches to dietary intake calculations and investigate in detail the current approaches used by JECFA. The JMPR is aware that in future intake estimates there is a need to take into account residues in animal commodities resulting from direct veterinary treatments for those pesticides which are not used on major animal feed commodities, e.g. thiabendazole and deltamethrin. It is noted that JECFA will provide median residue levels to the JMPR FAO Panel for inclusion in dietary intake assessments in place of the STMRs.

21. JECFA and JMPR should consider the exchange of one panel member each for a portion of the expert panel meetings to facilitate the harmonization of MRLs and risk assessment for substances used as veterinary drugs and pesticides.
22. The Joint Secretary for JMPR will attend the JECFA meeting, and the Joint Secretary for JECFA will attend the JMPR meeting, particularly when MRLs and risk assessments of substances used as veterinary drugs and as pesticides are being considered.
23. Joint meetings of JMPR and JECFA should be held on an *ad hoc* basis to address issues of a mutual interest, for example, how to address MRL and ADI issues for classes of compounds with common modes of action, e.g., organophosphorus compounds.
24. For compounds of mutual interest, JMPR and JECFA should have each other's recommendations/reports available when conducting evaluations. The Joint Secretaries will have responsibility for obtaining and distributing the documents and information, as appropriate.

NEED FOR HARMONIZATION IN SETTING MRLS FOR COMPOUNDS USED BOTH AS PESTICIDES AND VETERINARY DRUGS

• **COMMODITY DEFINITIONS**

	Volume 2 of the Codex Alimentarius	Volume 3 of the Codex Alimentarius
Muscle/Meat	<p>Meat: <i>Meats are the muscular tissues, including adhering fatty issues such as intramuscular and subcutaneous fat from animal carcasses or cuts of these as prepared for wholesale or retail distribution in a “fresh” state. The cuts offered to the consumer may include bones, connective tissues and tendons as well as nerves and lymph nodes.</i></p> <p>The commodity description of “fresh” meat includes meat which has been quick-frozen or quick-frozen and thawed. This group does not include edible offal.</p> <p><u>Portion of commodity to which the MRL applies (and which is analyzed):</u> Whole commodity (without bones). For fat-soluble pesticides a portion of adhering fat is analyzed and MRLs apply to the fat. For those commodities where the adhering fat is insufficient to provide a suitable sample, the whole commodity (without bone) is analyzed and the MRL applies to the whole commodity (e.g. rabbit meat)</p>	<p>Meat: <i>The edible part of any mammal.</i></p> <p>Muscle: <i>Muscle tissue only (Definition established and adopted by the JECFA).</i></p>
Fat	<p><i>Mammalian fats, excluding milk fats, are derived from the fatty tissues of animals (not processed).</i></p> <p><u>Portion of the commodity to which the MRL applies (and which is analyzed):</u> Whole commodity.</p>	N/A
Milk	<p><i>Milks are the mammary secretions of various species of lactating herbivorous ruminant animals, usually domesticated.</i></p> <p>In conformity with the Code of Principles Concerning Milk and Milk Products the term “milk” shall mean exclusively the normal mammary excretion obtained from one or more milkings without either addition thereto or extraction therefrom.</p> <p>Notwithstanding the provisions in the preceding paragraph, “the term ‘milk’ may be used for milk treated without altering its composition, or for milk, the fat content of which has been standardized under domestic legislation”.</p> <p><u>Portions of the commodity to which the MRL applies (and which is analyzed):</u> Whole commodity</p> <p>Codex MRLs for fat-soluble pesticides in milk and milk products are expressed on a whole products basis.</p> <p>For a “milk product” with a fat content less than 2%, the MRL applied should be half those specified for milk. The MRL for “milk products” with a fat content of 2% or more should be 25 times the maximum residue limits specified for milk, <u>expressed on a fat basis.</u></p>	<p><i>Exclusively the normal mammary secretion obtained from one or more milkings without either addition thereto or extraction therefrom. The term may be used for milk treated without altering its composition, or for milk the fat content of which has been standardized under domestic legislation. The term may also be used in association with a word or words to designate the type, grade, origin and/or intended use of such milk or to describe the physical treatment or the modification of composition to which it has been subjected, provided that the modification is restricted to an addition and/or withdrawal of natural milk constituents. In international trade, the origin of the milk shall be stated if it is not bovine. (Taken from the Code of Principles Concerning Milk and Milk Products⁸, Codex Alimentarius, First Edition, Volume XVI)</i></p>

⁸ Superseded by the General Standard for the Use of Dairy Terms adopted by the Commission at its 23rd Session as final text.

	Volume 2 of the <i>Codex Alimentarius</i>	Volume 3 of the <i>Codex Alimentarius</i>
Egg	Eggs are the fresh edible portion of the body produced by female birds, especially domestic fowl. Portions of the commodity to which the MRL applies (and which is analyzed): Whole egg whites and yolks combined after removal of shell.	Egg (in shell) of domesticated chickens (hens).

• **RESIDUE DEFINITIONS OF COMPOUNDS CONSIDERED BY THE CCRVDF AND CCPR**

	As pesticide	As veterinary drug
Abamectin	Sum of avermectin B _{1a} , avermectin B _{1b} and (Z)-8,9-avermectin B _{1a} and (Z)-8,9-avermectin B _{1b} ⁹	Avermectin B _{1a}
Cyfluthrin	Cyfluthrin (fat-soluble)	Cyfluthrin
Cypermethrin	Cypermethrin (sum of isomers) (fat-soluble)	Cypermethrin: Cypermethrin alpha-Cypermethrin: alpha-Cypermethrin
Thiabendazole	Thiabendazole or, in the case of animal products, sum of thiabendazole and 5-hydroxythiabendazole	Sum of thiabendazole and 5-hydroxythiabendazole
Cyhalothrin	Cyhalothrin (sum of all isomers)	(Scheduled for review by JECFA:2000)
Deltamethrin	Deltamethrin (fat-soluble)	Deltamethrin
Permethrin	Permethrin (sum of isomers) (fat-soluble)	(Scheduled for review by JECFA: 2000)
Phoxim	MRLs revoked	Phoxim

• **MRLS ADOPTED OR BEING ELABORATED FOR COMPOUNDS USED BOTH AS VETERINARY DRUGS AND PESTICIDES (EXPRESSED IN THE SAME MANNER)**

Abamectin

Species	Tissue/Commodity	MRLP (mg/kg)	Step	MRLVD (µg/kg)	Step
cattle	meat	0.01 (*) ¹⁰	6		
goat	meat	0.01 (*)	6		
cattle	liver	0.1 V ^{1/}	6	100	7
cattle	kidney	0.05 V ^{1/}	6	50	7
cattle	fat	0.1 V ^{1/}	6	100	7
cattle	milk	0.005	6		
goat	milk	0.005	6		
cattle	edible offal	0.05 ^{2/}	6		
goat	edible offal	0.1	6		

1/ The 1997 JMPR proposed a harmonized MRL to accommodate the JECFA recommendation arising from veterinary uses of abamectin.

2/ Recommended for withdrawal (1997 JMPR). The 1997 JMPR recommended 2 MRLs for cattle liver and kidney to accommodate the JECFA recommendations arising from veterinary uses of abamectin.

Cyfluthrin

Species	Tissue/Commodity	MRLP (mg/kg)	Step	MRLVD (µg/kg)	Step
cattle	muscle			20	6
cattle	liver			20	6
cattle	kidney			20	6
cattle	fat			200	6
cattle	milk	0.01 1/	Adopted	40 (µg/l)	6

⁹ The Codex Committee on Pesticide Residues is seeking information on the inclusion of (Z)-8,9-avermectin B_{1b} and its parent compound in the residue definition of abamectin.

¹⁰ (*), the MRL is set at or about the limit of determination; V, the MRL accommodates veterinary uses; MRL without the suffix V means that the residues arise from contaminated feeds.

1/ The CCPR at its 31st Session expressed its support for the MRL at 0.04 mg/kg in milk for the sake of harmonization.

Cypermethrin (see also residue definitions above)

Species	Tissue/ Commodity	Cypermethrin		Cypermethrin		alpha-Cypermethrin	
		MRLP (mg/kg)	Step	MRLVD (µg/kg)	Step	MRLVD (µg/kg)	Step
cattle	muscle			200 T	8	100 T	8
sheep	muscle			200 T	8	100 T	8
mammals ^{1/}	meat	0.2 (fat)V	Adopted				
chicken	muscle			200 T	8	100 T	8
poultry	meat	0.05 (*)	Adopted				
cattle	liver			200 T	8	100 T	8
sheep	liver			200 T	8	100 T	8
chicken	liver			200 T	8	100 T	8
cattle	kidney			200 T	8	100 T	8
sheep	kidney			200 T	8	100 T	8
chicken	kidney			200 T	8	100 T	8
mammals ^{1/}	edible offal	0.05 (*)V	Adopted				
cattle	fat			1000 T	8	500 T	8
sheep	fat			1000 T	8	500 T	8
chicken	fat			1000 T	8	500 T	8
cattle	milk			50 T (µg/l)	8	25 T (µg/l)	8
not specified	milks	0.05 FV	Adopted				
chicken	eggs			100 T	8	50 T	8
not specified	eggs	0.05 (*)	Adopted				

1/ Other than marine mammals.

Deltamethrin

Species	Tissue/ Commodity	MRLP (mg/kg)	Step	MRLVD (µg/kg)	Step
cattle	muscle			30 ^{1/}	3
cattle	meat				
sheep	muscle			30 ^{1/}	3
mammals ^{2/}	meat	0.5 (fat) V	Adopted		
chicken	muscle			30 ^{1/}	3
poultry	meat	0.01 (*)	Adopted		
salmon	muscle			30 ^{1/}	3
cattle	liver			50	3
sheep	liver			50	3
chicken	liver			50	3
cattle	kidney			50	3
pig	kidney			50	3
sheep	kidney			50	3
chicken	kidney			50	3
mammals	edible offal	0.05 V	Adopted		
poultry	edible offal	0.01 (*)	Adopted		
cattle	fat			500	3
sheep	fat			500	3
chicken	fat			500	3
cattle	milk			30 ^{1/}	3
not specified	milks	0.02 F V	Adopted		
Chicken	eggs			30 ^{1/}	3
not specified	eggs	0.01 (*)	Adopted		

1/ No residues were detected. MRLs are for guidance only and are based on two times the limit of quantification of the analytical method.

2/ Other than marine mammals.

Thiabendazole

Species	Tissue/ Commodity	MRLP (mg/kg)	Step	MRLVD (µg/kg)	Step
cattle	muscle			100 a/	Adopted
cattle	meat	0.1 ^{1/2/4/}	Adopted		
cattle	meat	0.05	6(a)		
pig	muscle			100 a/	Adopted
pig	meat	0.1 ^{1/2/4/}	Adopted		
sheep	muscle			100 a/	Adopted
sheep	meat	0.1 ^{1/2/4/}	Adopted		
goat	muscle			100 a/	Adopted
goat	meat	0.1 ^{1/2/4/}	Adopted		
horse	meat	0.1 ^{2/4/}	Adopted		
poultry	meat	0.05	Adopted		
cattle	liver			100 a/	Adopted
pig	liver			100 a/	Adopted
sheep	liver			100 a/	Adopted
goat	liver			100 a/	Adopted
cattle	kidney			100 a/	Adopted
pig	kidney			100 a/	Adopted
sheep	kidney			100 a/	Adopted
goat	kidney			100 a/	Adopted
cattle	edible offal	0.1 ^{1/3/4/}	Adopted		
cattle	edible offal	0.1	6(a)		
goat	edible offal	0.1 ^{1/3/4/}	Adopted		
horse	edible offal	0.1 ^{3/4/}	Adopted		
pig	edible offal	0.1 ^{1/3/4/}	Adopted		
sheep	edible offal	0.1 ^{1/3/4/}	Adopted		
cattle	fat			100 a/	Adopted
pig	fat			100 a/	Adopted
sheep	fat			100 a/	Adopted
goat	fat			100 a/	Adopted
cattle	milk	0.05	6(a)	100 a/	Adopted
goat	milk			100 a/	Adopted
not specified	milks	0.1 (*) ^{1/4/}	Adopted		

a/ These MRLs also cover residues derived from feed containing the residues resulted from agricultural uses.

1/ The MRL accommodates veterinary uses.

2/ The MRL was adopted for meat of cattle, goats, horses, pigs & sheep.

3/ The MRL was adopted for edible offal of cattle, goats, horses, pigs & sheep.

4/ To be replaced by the MRLs for relevant commodity of cattle (1997 JMPR). It should be noted that these are the MRLs adopted to cover residues arising from both agricultural uses and veterinary uses (horses, only from agricultural uses).

• **SAMPLING OF EGGS**

Recommended Methods of Sampling for the Determination of Pesticide Residues for Compliance with MRLs (CAC/GL 33-1999)(ALINORM 99/24A, Appendix III)

Table 5. Egg and dairy products: description of primary samples and minimum size of laboratory samples

Commodity classification	Examples	Nature of primary samples to be taken	Minimum size of each laboratory sample
Class B, primary food commodities of animal origin			
1. Poultry eggs, type 7, group 039			
1.1 Eggs, except quail and similar		whole eggs	12 whole chicken eggs, 6 whole goose or duck eggs
1.2 Eggs, quail and similar		whole eggs	24 whole eggs
Class E, processed foods of animal origin			
3.4 Liquid, frozen or dried egg products		unit(s) taken aseptically with a sampling device	0.5 kg

Codex Guidelines for the Establishment of a Regulatory Programmes for Control of Veterinary Drugs Residues in Foods (CAC-GL 16-1993)(Volume 3 of the *Codex Alimentarius*)

Appendix B Sampling for the Control of Veterinary Drugs Residues in Fish, Milk and Egg Products, Table B: Milk , Eggs, Dairy Products and Aquatic Animal Products

Commodity	Instructions for collection	Minimum quantity required for laboratory sample
VI. Group 039 (Eggs and Egg Products)		
A. Liquid and frozen eggs	Use sample schedule. Subsample size will be 0.25 litre liquid or 0.5 litre packed shavings from aseptic drillings into containers.	500 g
B. Dried egg products	Use sample schedule. For containers of 0.5 kg or less or 0.25 litre or less, collect a minimum of 2 units per subsample. For containers of 0.5 to 10 kg select 1 unit per subsample. for containers of 10 kg or more collect 1 kg from each unit sampled. Collect with aseptic technique.	500 g
C. Shell eggs		
1. Retail packages	Use sample schedule. Subsample size is 1 dozen.	500 g or 10 whole eggs
2. Commercial cases	For 15 cases or less collect 1 dozen from each case, minimum of 2 dozen eggs. For 16 or more cases collect 1 dozen from 15 random cases.	500 g or 10 whole eggs