資料４－（３）

コーデックス食品添加物汚染物質部会の概要

平成１５年４月

３月１７日から２１日にタンザニアにおいて第３５回コーデックス食品添加物汚染物質部会が開催され、農水省から代表団を送った。審議の概要は以下のとおりである。

１．食品添加物（ＧＳＦＡ：食品添加物一般基準）

（１）ＧＳＦＡ前文修正案

前文修正案（使用基準値の作成等）については、食品の安全性を確保するため報告された最小の値から議論すべきとするＥＵや、開発途上国等のデータを踏まえて最大基準値を設けるべきとする開発途上国等の各国間で合意に達することができなかったことから、ワーキンググループを設け、次回会合までに更なる検討を行うことが決定された。

（２）ＧＳＦＡ食品分類システムの改訂

食品添加物の使用基準を定めるための食品分類表については、コーデックス総会において仮の採択（ステップ５）を求めることとなった。また、日本、中国、韓国、タイ等のアジア地域の代表団は、次回会合までに食品分類表のうち大豆製品（豆腐、豆乳等）について提案を作成することとなった。

（３）ＧＳＦＡ表１の改訂

食品添加物の使用基準（対象食品の種類、最大基準値）を示した表１については、ワーキンググループが次回会合までに更なる検討を行うことが決定された。

２．汚染物質

（１）カドミウム

カドミウムの基準値の検討では、精米、大豆、軟体動物（二枚貝、頭足類）及びピーナツの基準値案が差し戻された。（ステップ４→３）他方、野菜、果実、小麦、肉類等については、コーデックス総会において基準値案として採択（ステップ５）するよう勧告することが決定された。（参考１）

（２）鉛

魚の鉛の基準値案の検討では、基準値案が差し戻され（ステップ７→６）、今後、各国からの分析データを基に統計解析を行い、いくつかのレベル（例えば0.2、0.4、0.5mg/kg）の基準値が適用できる魚種のリストを作成することが決定された。（参考２）

（３）デオキシニバレノール（赤カビ毒）

穀類及び穀類製品の種類ごとに基準値の検討を開始することについて、その承認をコーデックス総会に対して求めることを決定した。これに伴い、実態調査結果の提出や基準値案の提案を各国に求めることを合意した。（参考３）

（４）ダイオキシン類

ダイオキシン類については、最大基準値の検討は当面行わず、ダイオキシン類による食品の汚染源を特定する観点から、各国から分析データを収集し、食品及び飼料中の通常濃度範囲を明らかにする作業を行うことを決定した。

他方、食品汚染低減のための汚染源対策については、一層促進するため、農業規範や製造規範に焦点をあてて作業を行うことを決定した。

（５）その他

アクリルアミドについては、各国で様々な食品の実態調査や濃度低減のための研究が進んでいることが紹介され、英国が中心となって（日本も参画）ディスカッション・ペーパーを作り部会で検討することを決定した。

（参考１）

○食品中の汚染物質及び毒素に関する一般規格／表１
：カドミウム

CODEX ALIMENTARIUS - GENERAL STANDARD FOR CONTAMINANTS AND TOXINS IN FOOD
SCHEDULE 1 - MAXIMUM AND GUIDELINE LEVELS FOR CONTAMINANTS AND TOXINS IN FOOD

1.6 Cadmium

Synonym: Cd
Toxicology: PTWI 7 mcg/kg bw
Reference: JECFA 1988, 2000 (55),
Definition: cadmium, total

Commodity/Product Code	Name	Level mg/kg	Suffix	Type	Step/ Status	Committee	Reference, Standard	Notes, remarks
	Cereals*	0.1		ML	CXL	CPL, FAC 01	CAC/GL 39-2001	* excl. bran, germ, wheat grain, rice
	Pulses*	0.1		ML	CXL	CPL, FAC 01	CAC/GL 39-2001	* does not include peanut
	Legumes*	0.1		ML	CXL (*)	CPL, FAC 01	CAC/GL 39-2001	* excl. soybean
	Fruit	0.05		ML	3 → 5	FAC 02		# See Alinorm 03/3, para. 20
	Vegetables, excl. tomatoes and *	0.05		ML	3 → 5	FAC 02		* see other mentioned vegetables
	Leafy vegetables, fresh herbs,	0.2		ML	3 → 5	FAC 02		
	Fungi, celeriac	0.2		ML	3 → 5	FAC 02		
	Potatoes*, stem & root vegetables**	0.1		ML	3 → 5	FAC 02		* peeled ** excl. celeriac
	Wheat grain*	0.2		ML	3 → 5	FAC 02		* incl. bran and germ
	Milled rice	0.2		ML	3	FAC 02		
	Soybean and peanuts	0.2		ML	3	FAC 02		
	Meat of cattle, poultry, pig, sheep	0.05		ML	3 → 5	FAC 02		
	Meat of horse	0.2		ML	3 → 5	FAC 02		
	Liver of cattle, poultry, pig, sheep		1)	ML		FAC 02		
	Kidney of cattle, poultry, pig, sheep		1)	ML		FAC 02		
	Crustaceans		1)	ML		FAC 02		
	Molluscs	1.0		ML	3	FAC 02		

(*) 果実、野菜、小麦、肉類等については、コーデックス総会にステップ5として採択が求められることになった。

Natural mineral water	0.003	*	ML	CXL	CS 108-1981	* mg/l

Notes and remarks

General

A position document (CX/FAC 95/19) on cadmium was followed by a discussion document (last version CX/FAC 99/21) in which MLs for cadmium were proposed. Since then the proposed MLs were discussed in the CCFAC and progress is mentioned in the CCFAC Reports.

1) The proposed MLs for crustaceans (at 0.5 mg/kg, excl. lobster & brown meat from crab), liver of cattle, poultry, pig and sheep (at 0.5 mg/kg), kidney of cattle, poultry, pig and sheep (at 1.0 mg/kg) were discontinued as these food groups were minor contributors to exposure from cadmium.

（参考２）

○食品中の汚染物質及び毒素に関する一般規格／表１

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CODEX ALIMENTARIUS - GENERAL STANDARD FOR CONTAMINANTS AND TOXINS IN FOOD
SCHEDULE 1 - MAXIMUM AND GUIDELINES LEVELS FOR CONTAMINANTS AND TOXINS IN FOOD

1.11 Lead

Synonym: Pb
Toxicology: PTWI 25 mcg/kg bw per week
Reference: JECFA 1972, 1978, 1987, 1993
Definition: lead, total

Commodity/Product Code	Name	Level mg/kg	Suffix	Type	Step/ Status	Committee	Reference, Standard	Notes, remarks
FC1 FP9 FS12 FB18	Fruit, except...	0.1		ML	CXL	FAC 00	CS 230-2001	
FT26 F130	Small fruit and berries	0.2		ML	CXL	FAC 00	CS 230-2001	
VA 35 VO50 VC45 VR75	Vegetables, except ...* #	0.1		ML	CXL	FAC 00	CS 230-2001	* see other mentioned vegetables and product codes # includes potatoes as peeled p.
VB 40	Brassica, except kale	0.3		ML	CXL	FAC 00	CS 230-2001	
VL 53	Leafy vegetables, except spinach	0.3		ML	CXL	FAC 00	CS 230-2001	
C 81	Cereal grains	0.2		ML	CXL	FAC 00	CS 230-2001	
VD 70	Pulses	0.2		ML	CXL	FAC 00	CS 230-2001	
VP 60	Legume vegetables	0.2		ML	CXL	FAC 00	CS 230-2001	
MM97 PM100	Meat of cattle, pig, sheep, poultry	0.1		ML	CXL	FAC 00	CS 230-2001	
MF 97 PF 111	Fat from meat, poultry	0.1		ML	CXL	FAC 00	CS 230-2001	
MO 97	Edible offal of cattle, pig, poultry	0.5		ML	CXL	FAC 00	CS 230-2001	
ML 107	Milk* 1) 2)	0.02	R	ML	CXL	FAC 00	CS 230-2001	* also sec. milk products, as consumed.
FM 183	milk fat 2) 5)	0.1	R	ML	CXL	FAC 00	CS 230-2001	
FF 269	wine 3)	0.20		ML	CXL	FAC 00	CS 230-2001	
LM unspec.	Infant formulae	0.02		ML	CXL	FAC 00	CS 230-2001	

WF115 VD120)	Fish * #	0.2		ML	6	FAC 02		* as fish muscle # comments asked
WS 125)								
WC 143	Crustaceans		4)			FAC 02		
IM 151	Molluscs		4)			FAC 02		
JF 175	Fruit juices*	0.05		ML	CXL	FAC 01		* ready to drink; includes nectars
	Fruit juices and nectars	0.3*		ML	CXL		CS various	* mentioned to be under review
	Vegetable juices	0.3*		ML	CXL		CS various	* mentioned to be under review
	Chocolate (except..)	1		ML	CXL		CS 87-1981	
	Chocolate, unsweetened	2		ML	CXL		CS 87-1981	
	Dry cocoa products		*				CS 105-1981*	* ML of 2 mg/kg deleted in R2001
	Cocoa products, other		*				CS141-1983*	*ML of 2 mg/kg deleted in R2001
	Composite and filled chocolate	1		ML	CXL		CS142-1983	
	Cocoa butter confectionery	1	*	ML	CXL		CS 147-1985	* ML of 0.5 mg/kg deleted in R2001
	Vinegar	1	*	ML	CXL		162-87*	* regional European Standard
	Mayonnaise	0.3	*	ML	CXL		CS 168-1987*	* regional European Standard
	Natural mineral water	0.01	*	ML	CXL		CS 108-1981	* mg/l

Notes and remarks

Further notes and MLs to be incorporated (e.g. situation regarding lead MLs in commodity standards not fully covered here yet)
The CAC agreed (ALINORM 01/41, para. 124) that the CCFAC should develop a Code of Practice on the prevention and reduction of lead contamination in food and recommended that the FAO Guidelines on lead-soldered cans could be useful in this regard. A first draft of this Code of Practice (CX/FAC 03/28) is to be discussed by the 2003 CCFAC.

1) For dairy products, an appropriate concentration factor should apply.
2) The 2001 CAC requested reevaluation of the lead MLs in milk and milk fat (ALINORM 01/41, para. 121); see also ALINORM 03/12 para. 135-137.
3) The OIV requested special consideration to be given to levels of lead in wines that had been stored for long periods of time (ALINORM 01/41).
4) The 34th CCFAC decided to discontinue the elaboration of MLs for lead in crustaceans and bivalve molluscs (previously proposed to be 0.5 resp. 1.0 mg/kg, at step 6), because they did not significantly contribute to the total dietary lead exposure.
5) The 34th CCFAC (2002) decided that the ML of 0.05 mg/kg in butter (as contained in CS A-1 1971, Rev. 1-1999) should be deleted

（参考３）

○食品中の汚染物質及び毒素に関する一般規格／表１
：デオキシニバレノール（赤カビ毒）

CODEX ALIMENTARIUS - GENERAL STANDARD FOR CONTAMINANTS AND TOXINS IN FOOD
SCHEDULE 1 - MAXIMUM AND GUIDELINE LEVELS FOR CONTAMINANTS AND TOXINS IN FOOD

5.3.8 Deoxynivalenol

Synonym: Vomitoxin. Deoxynivalenol is abbreviated as DON
Toxicology: PMTDI 1 mcg/kg bw
Reference: JECFA 56 (2001)
Definition: deoxynivalenol

Commodity/Product Code	Name	Level mcg/kg	Suffix	Type	Step/ Status	Committee	Reference, Standard	Notes, remarks
GC 81	raw cereal grains subject to sorting etc.	[2000]		ML	1)	FAC 01-02		1) proposed in CX/FAC 03/35
	Cereal grain and cereal products*	[500]		ML	1)	FAC 01-02		* for direct human consumption, except Infant food
	Cereal-based infant foods	[100]		ML	1)	FAC 01-02		

Notes and remarks

DON is the major compound of a group of chemically related mycotoxins called type B trichothecenes (which are epoxy-sesquiterpenoid compounds) and is produced by certain *Fusarium* species, which are pathogens of several cereal grains. Closely related compounds are e.g. nivalenol and several acetyl-DON derivatives. DON is water-soluble and chemically very stable under most normal food processing conditions. DON contamination is commonly found in various cereals and cereal products. It undergoes rapid metabolism and elimination in livestock species and the transfer from feed to animal products is probably negligible. Maximum levels in feed are not needed to product public health, but are useful for the protection of animal health and productivity. Especially pigs are vulnerable.

In animals, decreased feed consumption, diarrhoea and vomiting have been observed as acute effects. JECFA recognized that DON can lead to outbreaks of acute illness in humans. The available data did not permit to set an acute reference dose however. The PMTDI is based on a chronic dietary study with mice, applying a safety factor of 100. An intake at the level of the PMTDI is not expected to result in effects of DON on the immune system, growth or reproduction, which are the most critical effects. JECFA recommended that toxic equivalency factors relative to DON be developed for the other trichothecenes commonly occurring in cereal grains, if sufficient data become available. The JECFA estimated that the PMTDI for DON could be exceeded in 4 out of 5 regional diets.

The situation regarding deoxynivalenol has been reviewed in a discussion paper (last version CX/FAC 03/35).

DON is incorporated with a specific Annex for trichothecenes in the Code of Practice for the prevention of mycotoxin contamination in cereals, which is being developed (last version in Appendix XII of ALINORM 03/12, to be discussed by the 2003 CCFAC in step 6).