

# codex alimentarius commission



FOOD AND AGRICULTURE  
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Agenda Item 14 (a)

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**JOINT FAO/WHO FOOD STANDARDS PROGRAMME**  
**CODEX COMMITTEE ON FOOD ADDITIVES AND CONTAMINANTS**

**Thirty-sixth Session**

**Rotterdam, The Netherlands, 22 -26 March 2004**

**MAXIMUM LEVEL FOR PATULIN IN APPLE JUICE AND APPLE JUICE INGREDIENTS IN  
OTHER BEVERAGES**

**NEW DATA SUBMITTED**

The following comments have been received from: Brazil  
in response to CL 2003/13-FAC

**BRAZIL:**

Brazil supports the proposed limit and forward the data requested by CCFAC.

Table 1

Food	Sample		Contaminated				Method HPLC	
	N <sup>o</sup>	Períod	Mean (µg/kg)	Min/Máx (µg/kg)	>LOQ <sup>a</sup>	<LOQ	LOD	LDQ
Apple juice	76	01/1992 a 04/1993	15,38	6,4 a 77,5	15	61	4,3	6,0 (1)

<sup>a</sup>Máximo Resíduo Permitido

(1) MACHINSKI JR, M. & MIDIO, A.F. Validation of a simple and sensitive HPLC method for patulin in apple juice. Alimentaria, Madrid, december, p.23-25, 1998.

Referência: MACHINSKI JR, M. & MIDIO, A.F. A incidência de patulina em jugo de manzana industrializado. Alimentaria, Madrid, v.276, octubre, p.61-64, 1996.

Sampling: It was done collecting random samples of commercialized apple juice in supermarkets of the city of Maringá, Paraná, Brazil

Determination of patulin in apple juice commercialized in Paraná, Brazil.

Table 2

<b>Sample (Apple juice) (Suco de Maçã)</b>	<b>Patulin (µg/L)</b>	<b>Sample (Apple juice)</b>	<b>Patulin (µg/L)</b>
1	10,0	9	8,8
2	8,0	10	19,8
3	7,2	11	9,9
4	8,1	12	7,1
5	10,5	13	7,7
6	8,4	14	6,5
7	34,8	15	6,4
8	77,5		

Detection Limit: 2 ng

Quantification Limit: 3 ng

Rereference: Incidência de Patulina em Jugo de Manzana Industrializado (Alimentaria 33:61-64, 1996).

Determination of patulin in apple juice commercialized in Campinas, Brazil.

Table 3

<b>Year</b>	<b>Sample</b>	<b>Nº of brand</b>	<b>Level - patulin(µg/L)</b>
1992	14	4	ND, 17 (1 amostra)
1993	6	2	ND
1995	12	2	ND

ND – not detected

Reference: Incidence of Patulin in Fruits and Fruit Juices Marketed in Campinas, Brazil (Food Additives and Contaminants, 1999, Vol. 16, Nº 2, 71-74)

Occurrence of patulin in apple juice by high performance liquid cromatography (HPLC)

Table 4

<b>Origin</b>	<b>Packing</b>	<b>Result <sup>a</sup> (µg/L)</b>
Bahia	Tetra Pak	ND
Rio de Janeiro	Tetra Pak	ND
Minas Gerais	Tetra Pak	10,0
Rio Grande do Sul	Tetra Pak	ND
São Paulo	Tetra Pak	ND
Ceará	Glass	ND
Rio Grande do Sul	Tetra Pak	ND

<sup>a</sup> Triplicata

ND – n not detected

Detection limit: Limite de Detecção: < 5µg/L

Reference: Ocorrência de Patulina em Suco de Maçã por Cromatografia Líquida de Alta Eficiência (Revista IAL, 59(1/2):21-25, 2000).