



**WORLD PROCESSING TOMATO COUNCIL**

Paris 19 October 2010.

## **RESEARCH TRENDS ON TOMATO PRODUCTS**



**Montaña Cámara Hurtado**

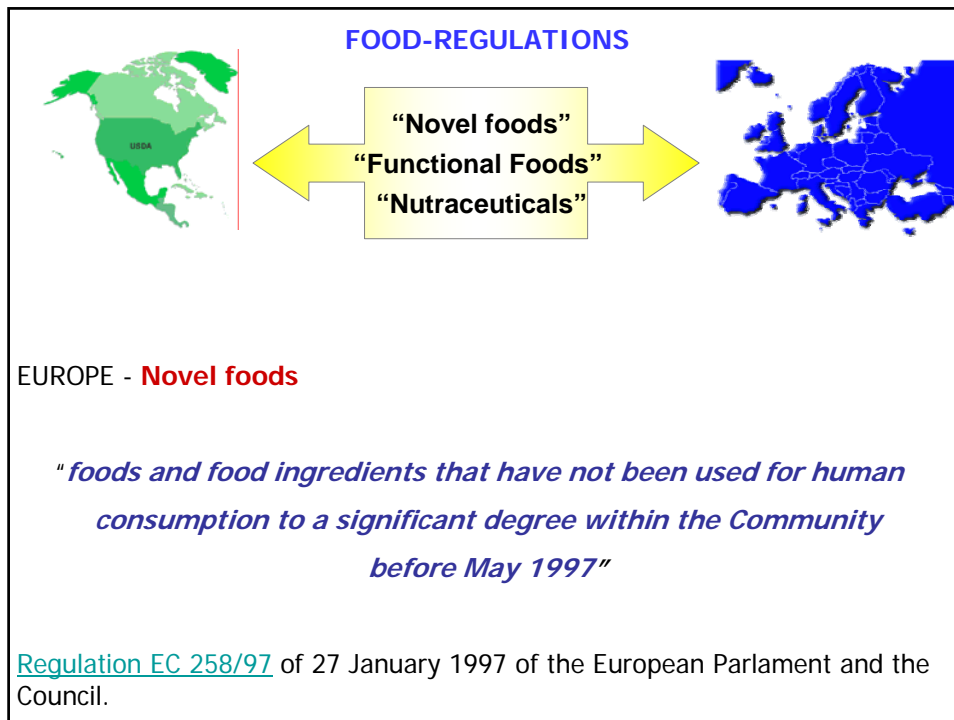
Food Science and Nutrition Department. Pharmacy Faculty.  
Universidad Complutense de Madrid.Spain.

[mcamara@farm.ucm.es](mailto:mcamara@farm.ucm.es)

### **ADVANCES IN TOMATO AND HEALTH ASPECTS**

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- Tomato Products and Byproducts as  
**NOVEL FOODS AND NOVEL INGREDIENTS DEVELOPMENT**
  
- VALORIZATION OF FINAL PRODUCTS
  - Nutritional Value: **NUTRITIONAL PROFILES**
  
  - Bioactives Compounds: **HEALTH CLAIMS**



<b>NOVEL FOOD AUTHORIZATIONS</b>	
Reglament CE. 258/97	
<a href="#">Decisión 2009/365/CE de la Comisión</a> , de 28 de abril de 2009	<b>licopeno de Blakeslea trispora</b> as new ingredient <b>Solicitant: Vitatene, UK. Características: &gt; 95%licopeno trans, &lt;5% otros carotenoides</b>
<a href="#">Decisión 2009/362/CE de la Comisión</a> , de 30 de abril de 2009	<b>licopeno de Blakeslea trispora</b> as new ingredient <b>Solicitant: DSM Nutritional Products Ltd. Irlanda. Características: &gt; 96%licopeno</b>
<a href="#">Decisión 2009/355/CE de la Comisión</a> , de 28 de abril de 2009	<b>licopene from tomato oleoresin</b> as new ingredient <b>Solicitant: Lycored.</b>
<a href="#">Decisión 2009/348/CE de la Comisión</a> , de 23 de abril de 2009	<b>Licopeno sintético.</b> As new ingredient <b>Solicitant: BASF.</b>
<a href="#">Decisión 2006/721/CE</a> , <b>licopeno de Blakeslea trispora</b> As new ingredient	<b>Solicitant: Vitatene, AntibioticsUK. Características: &gt; 95%licopeno cis-trans</b>

Normas Alimentarias FAO/OMS ENGLISH | FRANÇAIS | ESPAÑOL

**CODEX alimentarius**

SOBRE EL CODEX    REUNIONES Y ACONTECIMIENTOS    NORMAS OFICIALES

ENGLISH | FRANÇAIS

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**GSFA Online**

Actualizado hasta la 32ª Reunión de la Comisión del Codex Alimentarius (2009)


**RESULTADOS DE LA BÚSQUEDA POR ADITIVO ALIMENTARIO**

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Se han hallado 45 aditivos con la clase funcional "Colorantes":

160a(i)	beta-Carotenos (sintético)
160a(ii)	beta-Carotenos, (vegetales)
160a(iii)	beta-Carotenos ( <i>Blakeslea trispora</i> )
160b(i)	Extractos de annato, base de bixina
160b(ii)	Extractos de annato, base de norbixina
160d(i)	Licopeno (sintético)
160d(iii)	Licopeno ( <i>Blakeslea trispora</i> )
160e	beta-apo-8'-Carotenal
160f	Éster etílico del ácido beta-apo-8'-carotenoico
161b(i)	Lutein de <i>Tagetes erecta</i>
161g	Cantaxantina
161h(i)	Zeaxanthin (sintético)

Publication date: 14/04/2008



*Summary of opinion*  
*The EFSA Journal (2008) 674, 1-66*

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**Use of lycopene as a food colour<sup>1</sup>**

**Scientific Opinion of the Panel on Food Additives, Flavourings, Processing Aids and Materials in Contact with Food**

(Questions No EFSA Q-2007-001, Q-2007-081, Q-2008-076)

Synthetic lycopene from *Blakeslea trispora* (E160d)

Acceptable Daily Intake (ADI) for lycopene of 0.5 mg /kg body

High consumers of foods containing lycopene such as pre-school and school children, may exceed the ADI.

Non-alcoholic flavoured drinks are the largest potential source of lycopene.

Specifications for lycopene from tomatoes may need to be updated taking the actual lycopene content in current colouring preparations into account.

## Regulation on Nutrition and Health Claims made on foods

Reglaments 1924/2006 and 1925/ 2006

### Article 4

The setting of **nutrient profiles** for foods bearing nutrition and health claims

### Article 13

**Health claims** other than those referring to the reduction of disease risk and to children's development and health

### Article 14

**Reduction of disease risk claims** and **claims referring to children's development and health**

## TOMATO FIBRE

Accepted Manuscript

Nutritional Characterization of tomato fiber as a useful ingredient for food industry

P. García Herrera, M.C. Sánchez-Mata, M. Cámara

PII: S1466-8564(10)00075-5

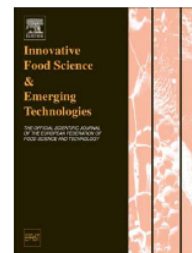
DOI: doi: [10.1016/j.ifset.2010.07.005](https://doi.org/10.1016/j.ifset.2010.07.005)

Reference: INNFOO 715

To appear in: *Innovative Food Science and Emerging Technologies*

Received date: 14 May 2010

Accepted date: 26 July 2010



✓ TF has an average value of 80% of total dietary fiber (much higher than other vegetable by-products), being insoluble fiber the major component.

✓TF can be considered under the denomination of "**Source of Fiber**", since its contents surpasses 3g/100g.

✓A minimum addition of 3.9 g of TF per 100g of final product will be enough to meet the legal requirements to use the nutritional claim "**Source of Fiber**".

## NUTRIENT PROFILES

Foods promoted with claims might be perceived by consumers as having a nutritional, physiological or other health advantage over similar or other products without claims.

The use of nutrient profiles **aims to avoid a situation where nutrition or health claims could mislead consumers as to the overall nutritional quality of a food product when trying to make healthy choices in the context of a balanced diet.**

•The **FOOD NUTRITIONAL PROFILE** is based on its proximate composition plus the specific content of **FAT, SUGARS AND SALT.**

Working document on the setting of nutrient profiles - 13/02/2009



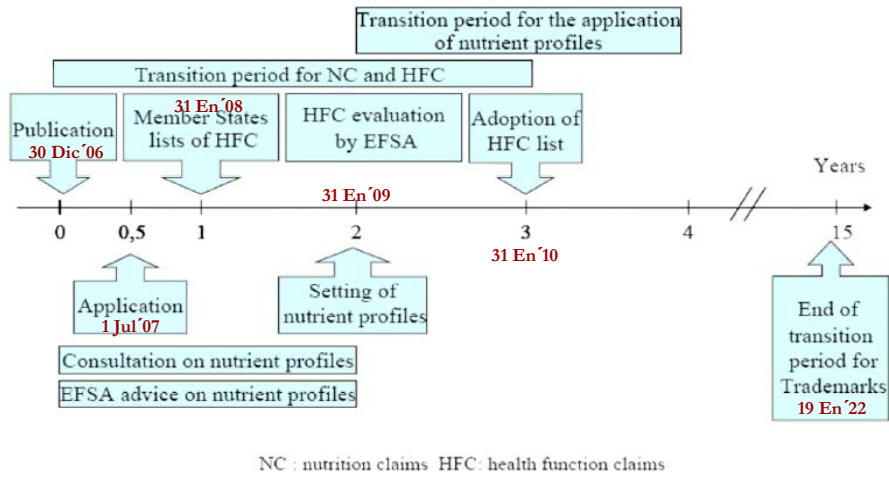
EUROPEAN COMMISSION  
HEALTH AND CONSUMERS DIRECTORATE-GENERAL

**ANNEX 1: specific nutrient profiles and conditions of use, which food or certain categories of food must comply with in order to bear nutrition or health claims**

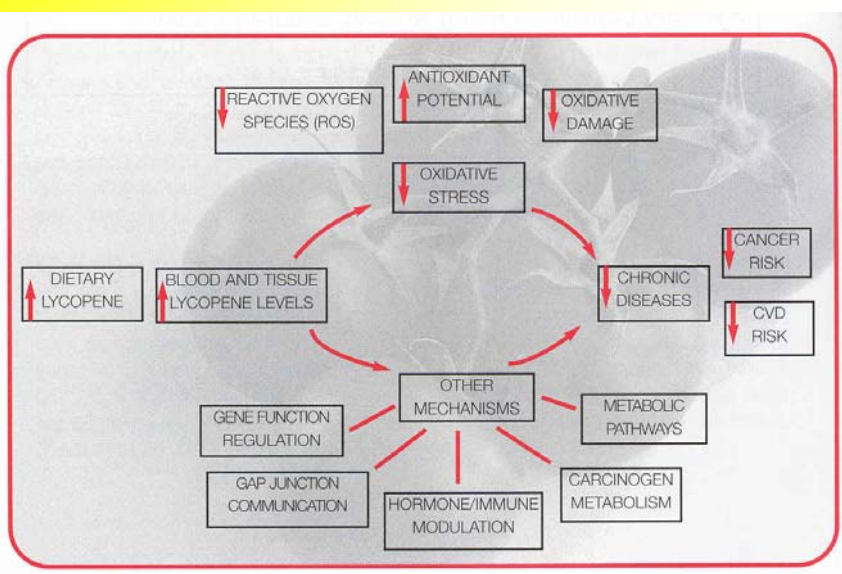
Food category	Specific conditions*	Thresholds		
		Sodium (mg/100g or 100ml)	Saturates (g/100g or 100ml except when specified otherwise)	Sugars (g/100g or 100ml)
Vegetable oils and spreadable fats as defined in Council Regulation (EC) No 2991/94		500	30 kcal /100g	-
Fruits, vegetables, seeds, and their products, except oils	Fruits, vegetables, and their products, except oils**	400	5	15
	Seeds*** and their products, except oils	400	10	15



## Transition periods

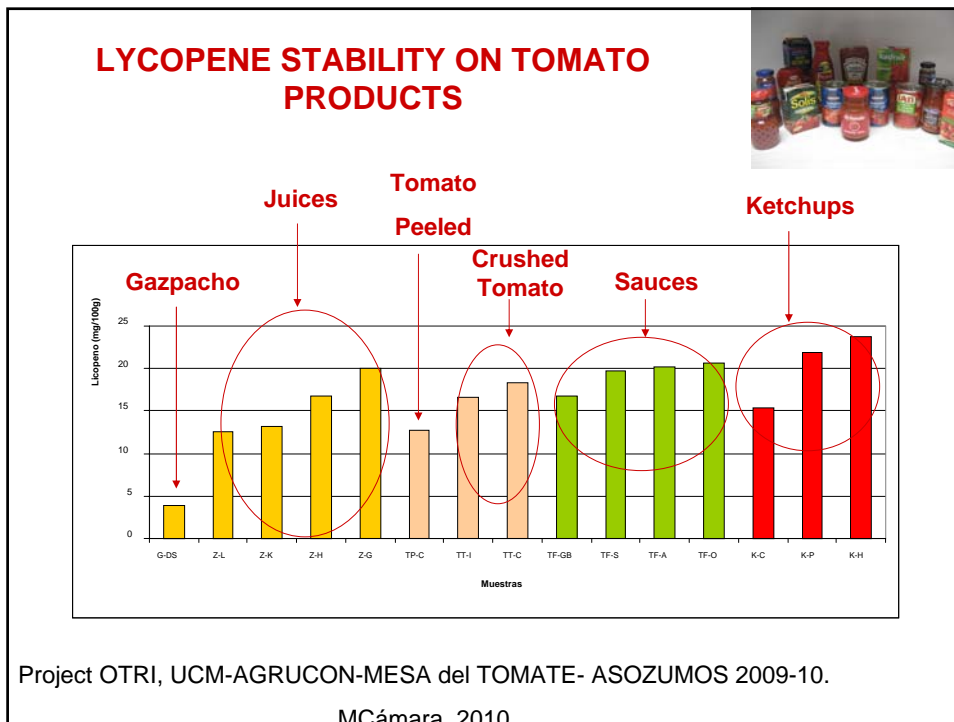


## LYCOPENE ANTIOXIDANT EFFECT

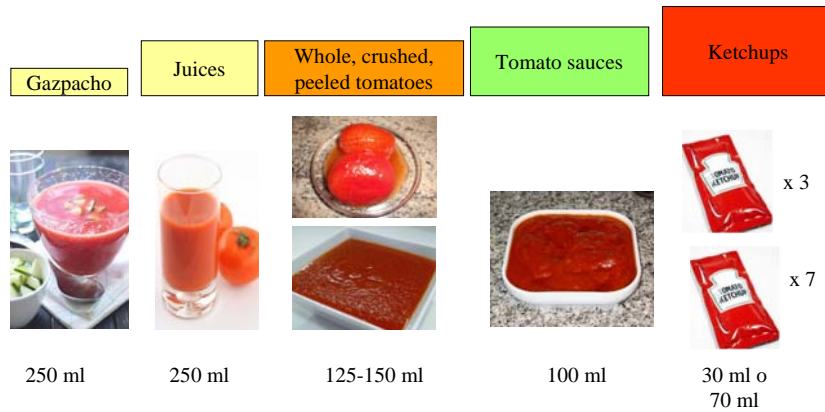


**Consolidated list of Article 13 health claims on Other substances**  
 For Conditions of use, Nature of evidence and Scientific references see similar health relationships submitted by Member States

Food	Health relationship	Coding	Example of wording	Stakcholder Coding
Lycopene	Skin health	CG08, CT06, CT18	Contributes to the maintenance of healthy skin when exposed to sun light. (Avoid sunburns by using an effective sun screen. Lycopene is not a replacement for sun screens)	405
1607		Similar health relationships submitted by Member States		Quantity 3
Lycopene	Antioxidant properties	CG09, CT06, CT21	Lycopenes contained in this product ensure antioxidant action. ensure protective effect on the organism. contribute to the protection of the cellular membranes from	407
1608		Similar health relationships submitted by Member States		Quantity 5
Lycopene	Prostate health	CG09, CT06, CT19	Contributes to the normal functioning of the prostate/helps to maintain a healthy prostate/helps to keep your prostate in shape/helps to reduce oxidative damage of prostate cells and	409
1809		Similar health relationships submitted by Member States		Quantity 2
Lycopene	Heart health	CG09, CT06, CT22	Helps to maintain a healthy heart/contributes to maintain a healthy cardiovascular system/contributes to protect the arteries from narrowing and hardening/contributes to keep the	409
1610		Similar health relationships submitted by Member States		Quantity 3
Lycopenes from tomato juices	Antioxidant properties	CG09, CT06, CT21	Lycopenes contained in this product ensure antioxidant action/lycopenes contained in this product ensure protective effect on the organism;	410
1611		Similar health relationships submitted by Member States		Quantity 4



## CONCLUSIONS

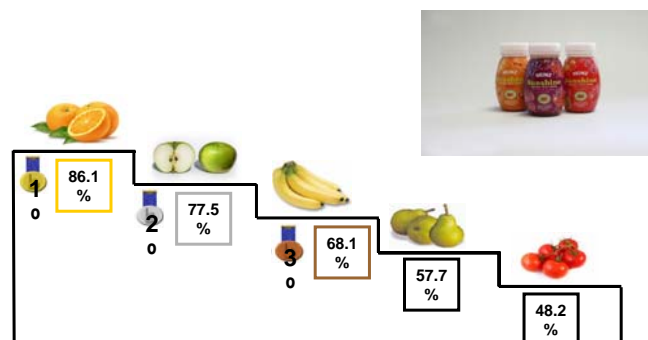


A daily intake of 7 to 8 mg of lycopene is enough to maintain levels of lycopene necessary to show its antioxidant capacity and prevent chronic diseases (Rao, 2006).

## CONSUMER NEEDS - EXPECTATIONS

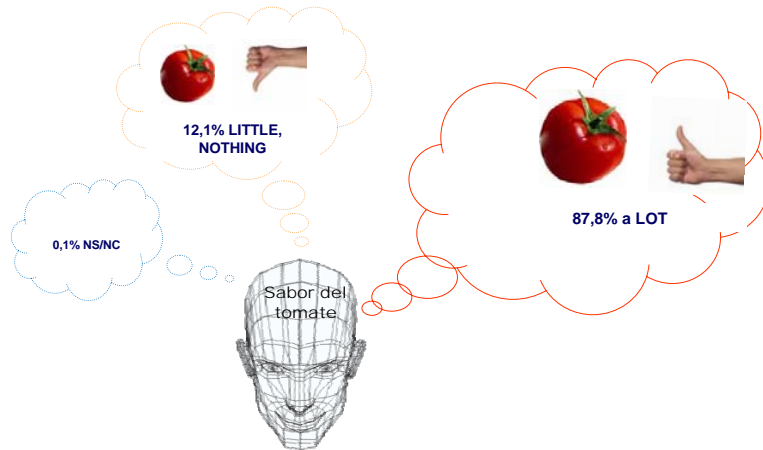
### CONSUMER PREFERENCES IN FRUIT JUICES. HEINZ SUNSHINE CASE STUDY

Cámara, M. Fernández-Ruiz, V.; Sánchez-Mata, M.C.  
Universidad Complutense de Madrid – Food science and Nutrition Department.



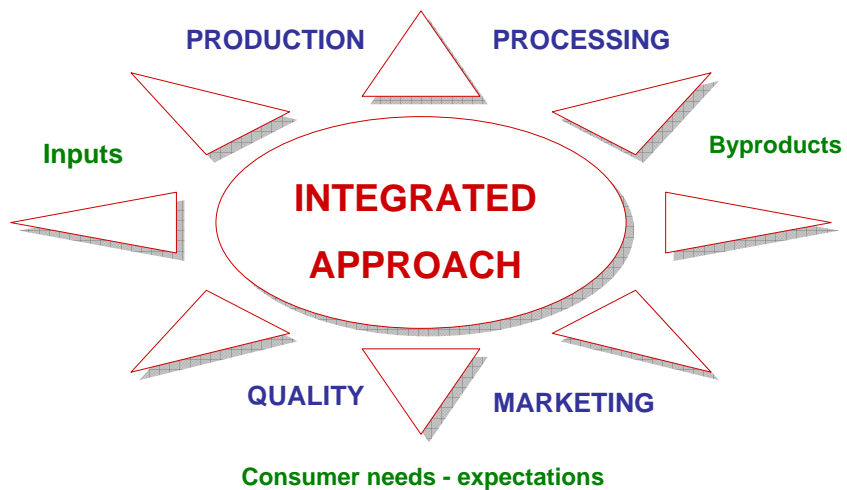


## 9 /10 LIKE TOMATO FLAVOR



Estudio Heinz Sunshine 

## FUTURE



## SUSTENTABILITY



Universidad Complutense de Madrid, Spain.  
Moncloa Campus of International Excellence

Montaña Cámara, PhD.  
Food Science and Nutrition Department.  
[mcamara@farm.ucm.es](mailto:mcamara@farm.ucm.es)

Research Leader of UCM Team :

NOVEL FOODS. Scientific, technological and social aspects.

AlimNova

#### SCIENTIFIC PAPERS RELATED TO TOMATE, PROCESSING AND HEALTH

##### Fresh Tomato

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##### Tomato Byproducts

Torija,M<sup>o</sup>E.; Cámara, M.; del Valle, M. **"Estudio analítico del residuo sólido producido en la elaboración de derivados de tomate"** *Actas de Horticultura SECH*. 27, 316-318, 1999.  
M. Cámara, M.Del Valle, M<sup>o</sup>E. Torija, C.Castilho. **"Fatty acid composition of tomato pomace"** *Acta Horticulturae* Nº 542 Ed. T.K. Hartz. ISHS, 175- 180, 2001. ISBN 90-6605-9249.  
Del Valle, M.; Cámara, M.; Torija, ME. **"Effect of pomace addition on tomato paste quality"** *Acta Horticulturae* 613, 399-406, 2003.  
Del Valle, M.; Cámara, M., Torija. **"Composición química del subproducto de tomate"** *Alimentación, Equipos y Tecnología*. nº185, 67-70. 2003  
Del Valle, M.; Cámara, M., Torija. **"Posible utilización industrial del subproducto de tomate"** *Alimentación, Equipos y Tecnología*. nº192, 96-100. 2004  
Del Valle, M.; Cámara, M., Torija. **"Aprovechamiento de residuos vegetales: subproducto de tomate"** *Alimentación, Equipos y Tecnología*. nº 201, 87-93. Mayo 2005  
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José S. Torrecilla, Montaña Cámara, Virginia Fernández-Ruiz, Guiomar Plera, and Jorge O. Caceres. **"Solving the Spectroscopy Interference Effects of  $\beta$ -carotene and Lycopene by Neural Networks"** *J Agric. Food Chem*. 56, 6261-6266, 2008  
Montaña Cámara, José S. Torrecilla, Jorge O. Caceres, M<sup>o</sup> Cortes Sánchez Mata, and Virginia Fernández-Ruiz. **Neural Network Analysis of Spectroscopic Data of Lycopene and  $\beta$ -carotene content in Food Samples compared to HPLC-UV-Vis**. *J Agric. Food Chem*. 58, 72-75, 2010.  
Fernández-Ruiz,V; Torrecilla JS; Cámara, M; Sánchez Mata, MC; Shoemaker CF. **Radial Basis Network Analysis of Color Parameters to Estimate Lycopene Content on Tomato Fruits**. *Talanta*, 83, 9-13, 2010.