



International Workshop
(Dubrovnik 2011)
UNECE Standard FFV-36. TOMATOES



International Workshop on Commercial Quality Standards
for Fresh Fruit and Vegetables
(Dubrovnik 2011)
UNECE STANDARD FFV-36. TOMATOES

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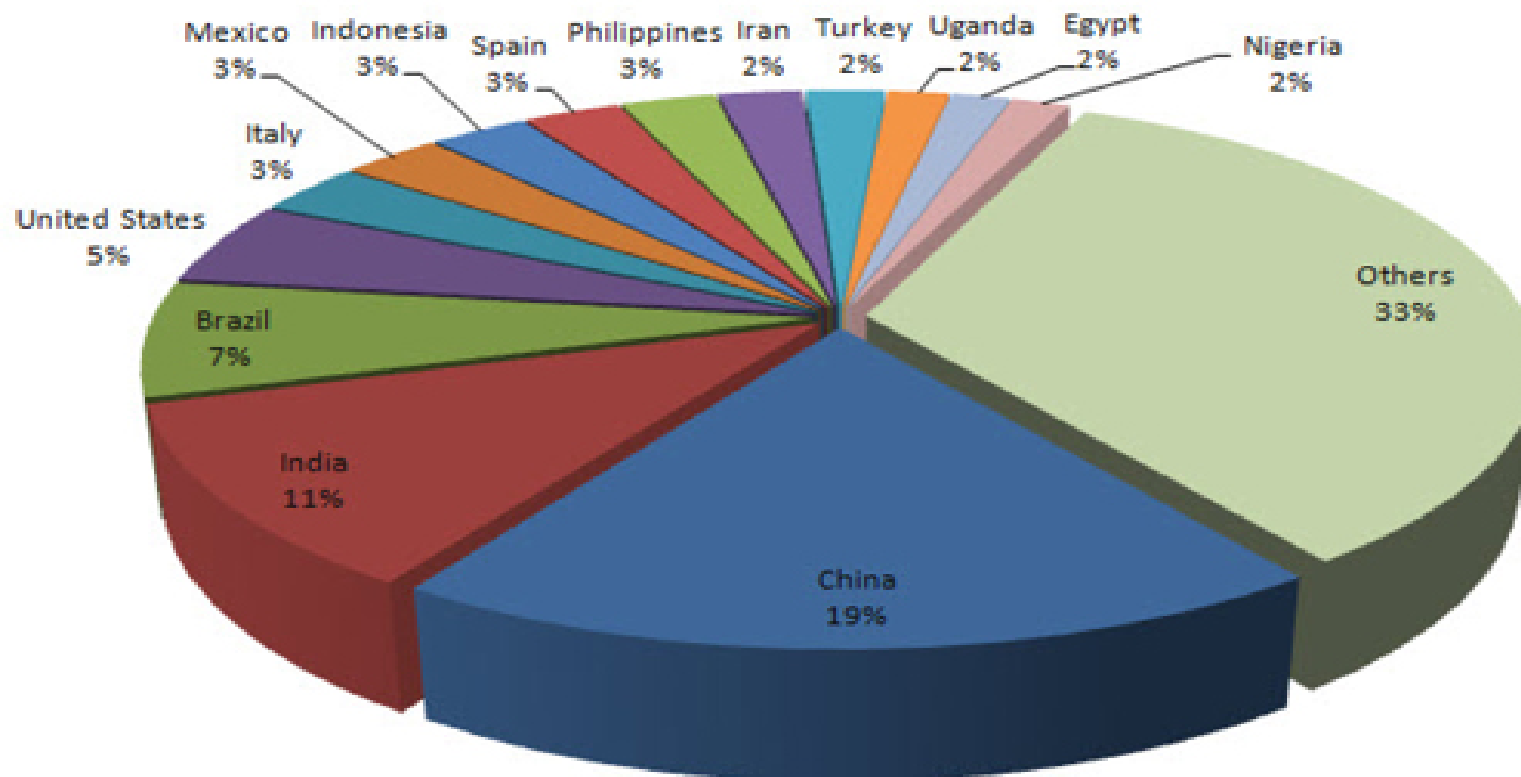
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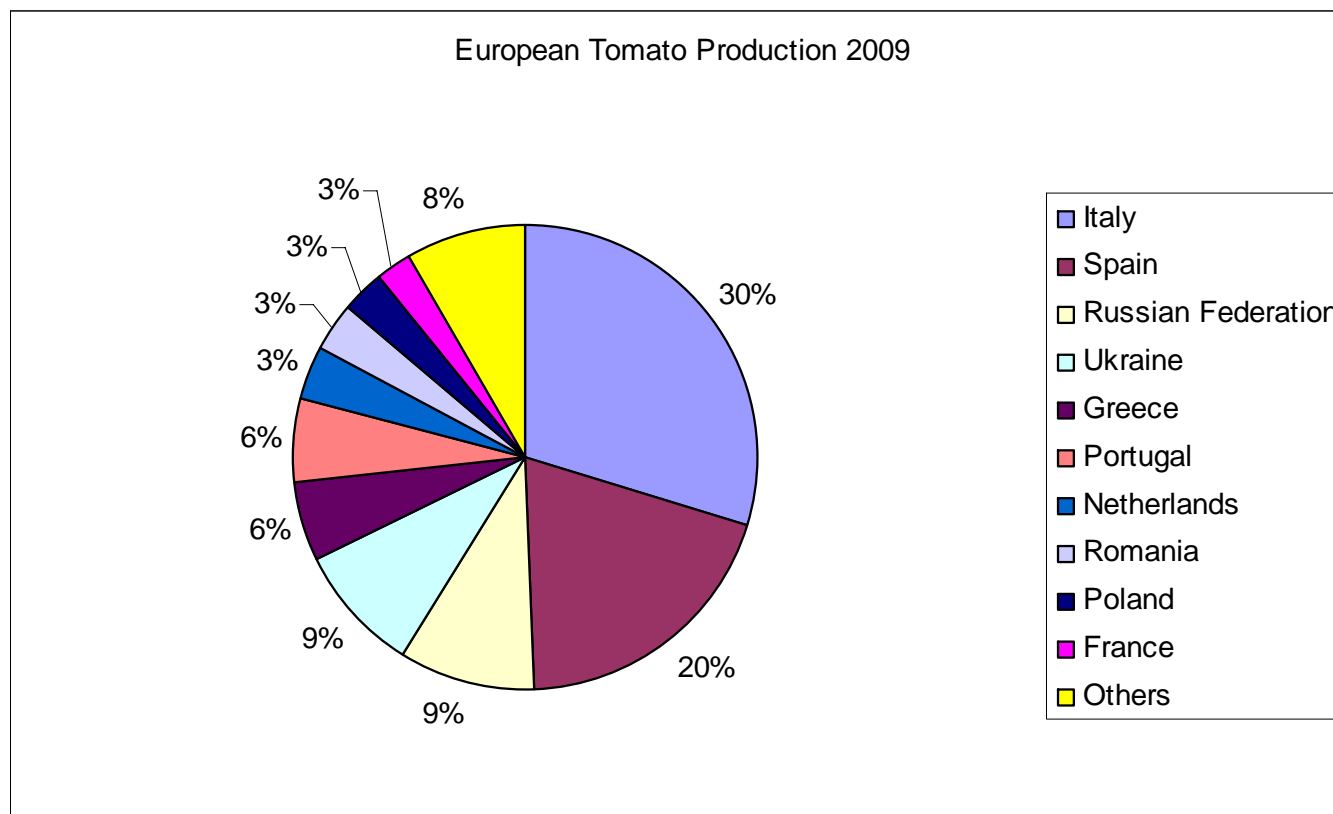
Tomatoes

Production and Trade

World Fruit Production 2008 Total 570 Million Tons



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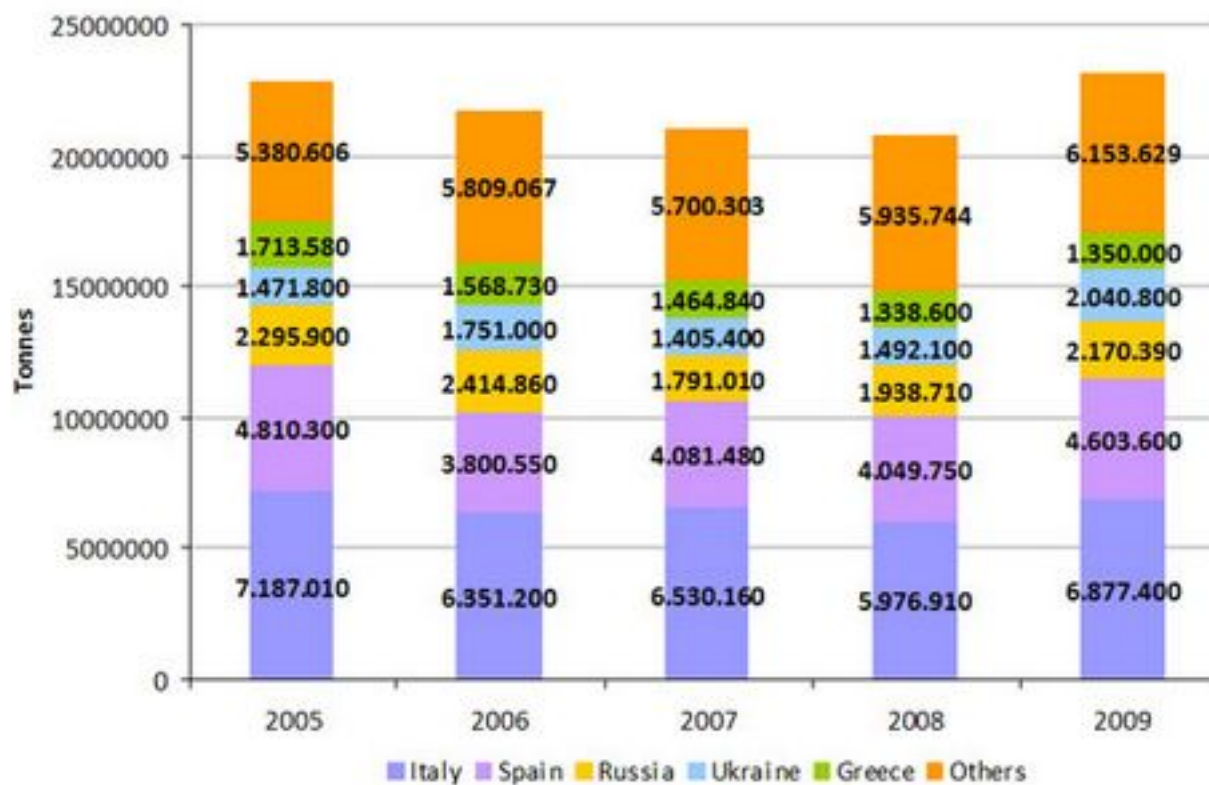


Total: 23.195.819 Tonnes

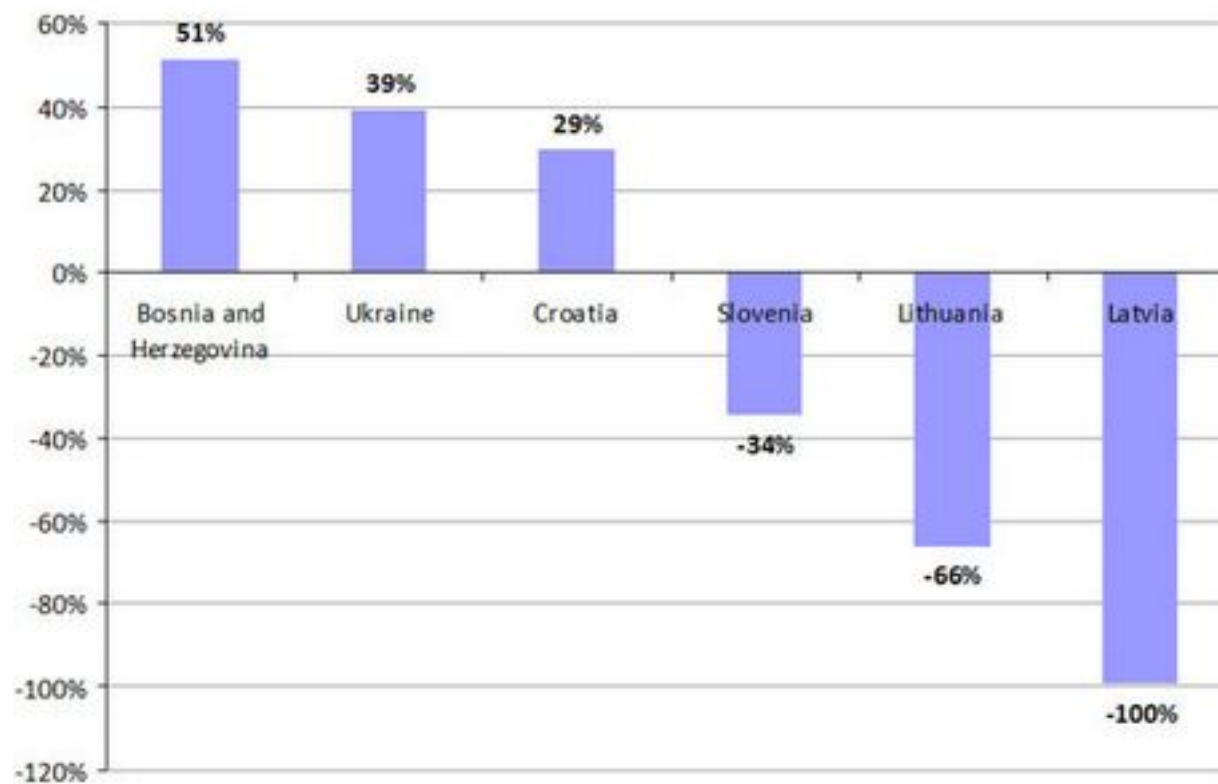
Source: FAOSTAT

Croatia: 37.419 “

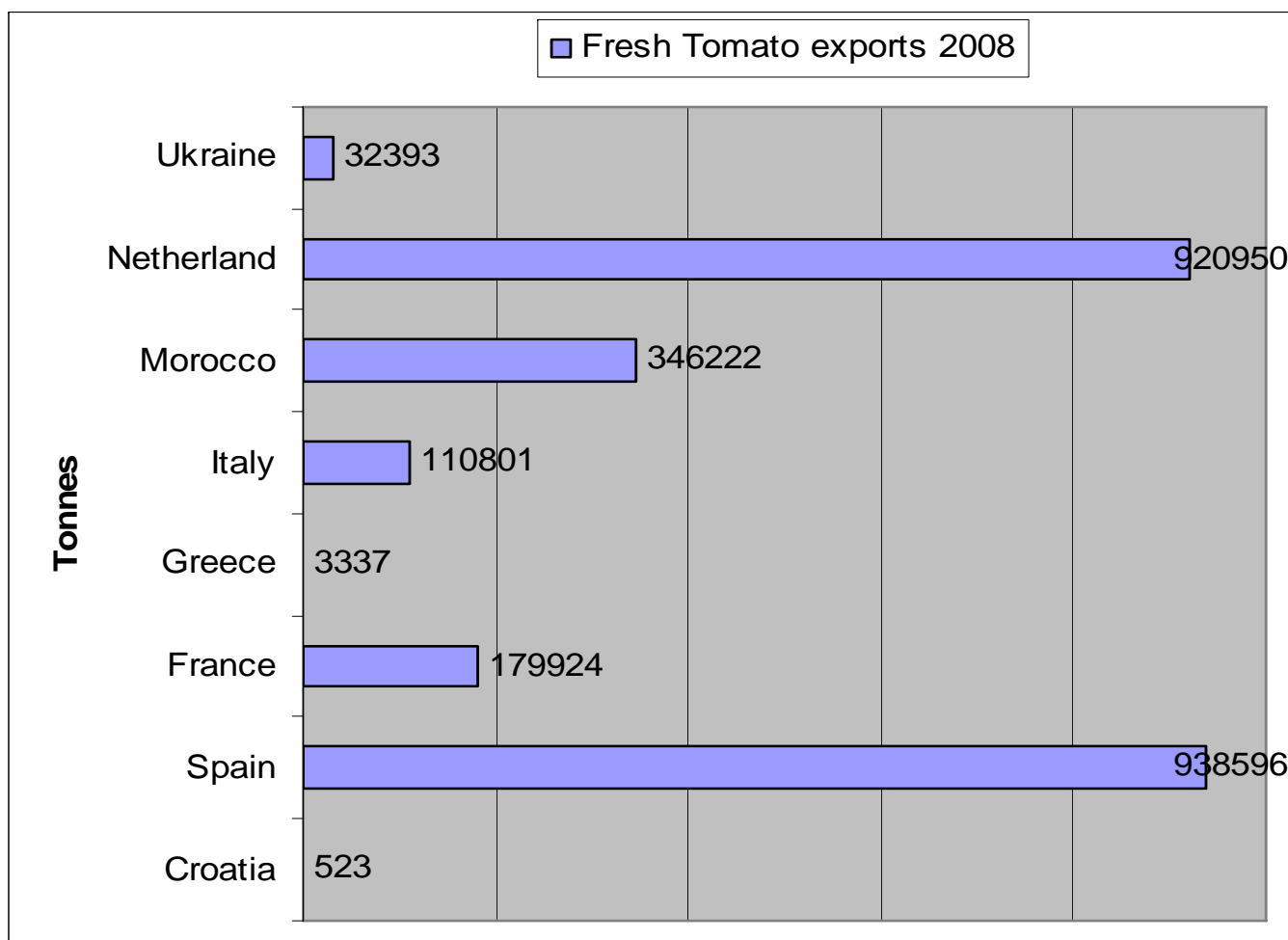
European Tomato Production 2005 - 2009



Production winners and losers 2009



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Source: FAOSTAT

- *¿How Fruit and Vegetable UNECE Standards work?*



UNECE Standard

Target: **Uniformity, Transparency**

- I **Definition of produce**
- II **Quality**
 - Requirements (Minimum, Maturity,..)
 - Clasification
- III **Sizing**
 - Minimum size, Uniformity
- IV **Tolerances**
 - Quality tolerance, Size Tolerances
- V **Presentation**
 - Uniformity, Packaging
- VI **Marking**
(Identification, Nature and origen of product, commercial specifications, official control mark)



QUALITY EVALUATION

REQUIREMENTS	DEFECTS	Categories	
Minimum requirements Intac, sound, fresh Free of damage, pest, abnormal external moisture, foreign smell or taste,	Progressive Defects	Out of grade	
	Fresh or unhealed cracks, not fresh appearance, damages by insect or diseases, rotting, internal browning, treatment residues, foreign matters		
	Non progressive	Out of grade	
Quality Requirements	Generic	Characteristic Very Slight	Extra
Appearance	Fresh, Bruises, scratching, cracks, healed injuries, cracks, hail,		
Shape			
Development			
Couloring	Specific	Slight	I
Flesh	According to produce and variety		
Skin	Ribbed tomatoes: Healed Cracks, Protuberances, Umbilicus,	Defects allowed	II
Others	Suberization, Elongated Blossom scar		
Maturity			



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EU Specific Standard for tomatoes
Regulation EU 543/2011



UNECE Standard FFV-36. TOMATOES

I. Definition of produce

This standard applies to tomatoes of varieties (cultivars) grown from *Solanum lycopersicum* L. to be supplied fresh to the consumer, tomatoes for industrial processing being excluded.

Tomatoes may be classified into four commercial types:

- “round”
- “ribbed”
- “oblong” or “elongated”
- “cherry” tomatoes (including “cocktail” tomatoes).



A. Minimum requirements

In all classes, subject to the special provisions for each class and the tolerances allowed, the tomatoes must be:

- intact
- sound, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded
- clean, practically free of any visible foreign matter
- fresh in appearance
- practically free from pests
- free from damage caused by pests affecting the flesh
- free of abnormal external moisture
- free of any foreign smell and/or taste.

In the case of trusses of tomatoes, the stalks must be fresh, healthy, clean and free from all leaves and any visible foreign matter.

The development and condition of the tomatoes must be such as to enable them:

- to withstand transportation and handling
- to arrive in satisfactory condition at the place of destination.

Fresh cracks and damages (na)



photo 4 : Damaged tomato - Not allowed



photo 6 : Fresh cracks - Not allowed

Bruising (not allowed)



photo 5 : Marked bruising - Not allowed

Unhealed cracks (na)



photo 7 : Unhealed cracks - Not allowed



photo 10 : *Alternaria* - Not allowed

Diseases (not allowed)



photo 9 : *Pseudomonas* - Not allowed

Blossom-end rot (na)



photo 12 : Blossom-end rot - Not allowed

Rotting (na)



photo 11 : Signs of rotting - Not allowed



photo 13 : Internal browning - External appearance - Not allowed

Internal Browning (na)



photo 14 : Internal brownig - Internal appearance - Not allowed

Chilling injury (na)



photo 16 : Chilling injury - Not allowed

Watercore (na)



photo 15 : Watercore - Not allowed

Treatment residues (na)



photo 17 : Treatment residues - Not all

Not fresh appearance (na)



photo 19 : Not fresh in appearance - Not allowed



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Quality Class...
Where is the limit?

Shape defects (*Round*)

(Limit Class I)



(Limit Class II)



Shape defects (*Ribbed*)

Limit Class I



Limit Class II



Shape defects (*Oblong*)

Limit Class I



Limit Class II



Skin defect (Limit Extra Class)



photo 26 : Very slight superficial defect - Limit allowed



Skin defects. Superficial blemishes

Limit Class I



Limit Class II



Skin defects. Ghost spots.

Class I Limit



Class II Limit



Healed cracks

Limit Class I (no more than 1 cm)



Limit Class II (no more than 3 cm)



Small umbilicus

Limit Class I



Limit Class II



Suberization

Limit Class I (up to 1 cm²)



Limit Class II (up to 2 cm²)



Blossom Scar

Limit Class I



photo 36 : Fine blossom scar - Class I - Limit allowed

Limit Class II



Greenback . Limit Class II



Yellowback . Limit Class II



SIZING

Size is determined by maximum diameter of the equatorial section, by weight or by count.

The following provisions are not applied to trusses of tomatoes and to cherry tomatoes, and are optional for Class II

To assure uniformity in size, the range in size between produce in the same package shall not exceed

Diameter (marked on the package)	Range (mm.)
< 50	10
50 < 70	15
70 > 100	20

For tomatoes sized by weight or by count the differences should be consistent with the differences above mentioned

Tomatoes Sizing Scale

<i>Size code</i>	<i>Diameter (mm)</i>
0	≤ 20
1	$> 20 \leq 25$
2	$> 25 \leq 30$
3	$> 30 \leq 35$
4	$> 35 \leq 40$
5	$> 40 \leq 47$
6	$> 47 \leq 57$
7	$> 57 \leq 67$
8	$> 67 \leq 82$
9	$> 82 \leq 102$
10	> 102



TOLERANCES

	Extra	Class I	Class II
Quality	5% (number or weight) Not satisfying requirements but meeting those of Class I	10% (number or weight) Not satisfying requirements but meeting those of Class II	10% (number or weight) Not satisfying requirements but meeting those of Class II
	< 0.5% Satisfying requirements Class II	< 1 % Unsatisfying requirements Class II nor minimum requirements	< 2 % Produce affected by decay
Sizing	10% (number or weight) produce not satisfying the requirements as regards sizing is allowed		



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V. Provisions concerning presentation

A. Uniformity

The contents of each Packaged must be uniform and contain only tomatoes of the same origin, variety or commercial type, quality and size (if sized)

The ripeness and **colouring** of tomatoes in “Extra” Class and Class I must be practically uniform.

Mixtures of tomatoes of different varieties are allowed provided they are uniform in quality, commercial type and colour concerned.

The visible part of the contents of the package **must be representative** of the entire contents.

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B. Packaging

Tomatoes must be packed to protect the produce properly.

The materials used inside the package must be clean and of a quality such as to avoid any external or internal damage.

The use of paper of stamp bearing trade specification is allowed, provided the **printing or labelling has been done with non-toxic ink or glue.**

Stickers affixed to the produce shall be such that, **when removed, they neither leave visible traces of glue nor lead to skin defects**

Packages must be free of all foreign matter



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VI. Marking

A. Identification.

Packer/or dispatcher/shipper: Name and physical address or a code mark officially recognized by the national authority.

B. Nature of produce.

- “Tomatoes” or “Trusses of tomatoes” mention and commercial type must appear if the contents are not visible from outside.
(These details must always be provided for “cherry” tomatoes).

- Name of variety (optional)

C. Origin.

Country of origin. (optionally regional o local place)

Mixture of tomatoes: Nature o produce, commercial types and origins must appear.

D. Commercial specifications.

- Class.

- Size expressed as minimum and maximum diameters
(Sizing is optional for class II and cherry tomatoes and trusses)

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Thank you for your attention

Dubrovnik, october 2011