



TWV/41/10 Rev.

ORIGINAL: English

DATE: June 8, 2007

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

TECHNICAL WORKING PARTY FOR VEGETABLES

Forty-First Session
Nairobi, June 11 to 15, 2007

REVISED
EXERCISE ON SHAPE

Document prepared by the Office of the Union

Background

1. At its fortieth session held in Guanajuato, Mexico, from June 12 to 16, 2006, the TWV discussed document TGP/14.2.1 (& 2) Draft 5 and "... expressed concern at the replacement of single overall shape characteristics by a number of characteristics describing the individual components of shape. In particular, it was agreed that a characteristic describing the overall shape was important for variety description purposes. Therefore, it proposed that both approaches should be acceptable. However, it considered that, where an overall shape characteristic was included in the Test Guidelines, it would be worthwhile considering the inclusion of charts such as that in section 2.2, Examples 4 and 5 in the explanations in Chapter 8. In order to consider the matter further, it was agreed that an exercise should be undertaken. Experts from Germany and France would provide photographs of up to 50 onion varieties and experts from France, the Netherlands and South Africa would provide photographs of up to 50 varieties of *Cucurbita maxima* Duch. to the Office. Selected photographs would then be circulated to the TWV, who would be invited to classify the varieties according to characteristics for overall shape, as contained in the Test Guidelines, and according to components of shape according to the proposals in TGP/14..." (see paragraph 37 of document TWV/40/11).

2. Experts from France and Germany provided photographs of onion and experts from France and the Netherlands provided photographs of *Cucurbita maxima* Duch.

Organization of the Exercises

3. The exercises were organized as follows:

Exercise on Onion

Step 1

On May 1, 2007, Circular E_478 was sent to all TWV experts to explain the organization of the exercise. Photographs of 30 varieties of onion were placed on the TWV/41 area of the UPOV Website. The photographs had reference numbers but the variety names were not provided.

Exercise 1: All TWV experts were invited to describe the overall shape of the varieties according to characteristic 18 “Bulb/Bulblet: general shape in longitudinal section” of document TG/46/6.

Exercise 2: All TWV experts were invited to describe the varieties according to two components of shape, which had been developed on the basis of document TGP/14 and which were included in the draft revised Test Guidelines (see document TG/46(proj.3): characteristics 15 and 16).

Step 2

A separate circular (Circular E_506) was sent on May 21, 2007, listing the varieties used for the exercises. The TWV experts were invited to send to the Office of the Union their official descriptions of the listed varieties with respect to Characteristic 18 of TG/46/6.

Exercise on *Cucurbita maxima* Duch.

Step 1

On May 1, 2007, Circular E_478 was sent to all TWV experts to explain the organization of the exercise. Photographs of 50 varieties of *Cucurbita maxima* Duch. were placed on the TWV/41 area of the UPOV Website. The Photographs had reference numbers but the variety names were not provided.

Exercise 1: All TWV experts were invited to describe the overall shape of the varieties according to characteristic 19 “Fruit: shape in longitudinal section” of document TG/155/3 and according to characteristic 15 “Fruit: shape in longitudinal section” of draft revised Test Guidelines (document TG/155/4(proj.3)).

Exercise 2: All TWV experts were invited to describe the varieties according to three components of shape, which had been developed on the basis of document TGP/14 and two of which were included in the draft revised Test Guidelines (see document TG/155/4(proj.3): characteristics 14 and 16).

Step 2

A separate circular (Circular E_506) was sent on May 21, 2007, listing the varieties used for the exercises. The TWV experts will be invited to send to the Office of the Union their official descriptions of the listed varieties with respect to Characteristic 19 of TG/155/3.

Participation in Exercise

Exercise on Onion

4. Bulgaria, the Czech Republic, France, Germany, Israel, the Netherlands, Slovakia, Spain and the United Kingdom sent replies to Step 1 (Bulgaria participated only in Exercise 1). For Step 2, official descriptions according to Characteristic 18 of document TG/46/6 were provided by Germany (3 varieties), France (24 varieties), the Netherlands (20 varieties), Slovakia (4 varieties), Spain (6 varieties) and the United Kingdom (4 varieties). France and the United Kingdom sent additional comments.

Exercise on *Cucurbita maxima*

5. Bulgaria, the Czech Republic, France, Germany, the Netherlands, the Republic of Korea, Spain and the United Kingdom sent replies to Step 1 (Bulgaria participated only in Exercise 1). For Step 2, official descriptions according to characteristic 19 of document TG/155/3 were provided by Germany (1 variety), France (18 varieties), the Netherlands (13 varieties) and by Spain (1 variety). France and the United Kingdom sent additional comments.

Result of the Exercises

6. The results are reproduced as follows:

- Annex I: Onion: Summary of Step 1 Exercise 1
- Annex II: Onion: Summary of Step 1 Exercise 2
- Annex III: Onion: Summary of Step 2
- Annex IV: Onion: Comments sent by participants
- Annex V: *Cucurbita maxima*: Summary of Step 1 Exercise 1
- Annex VI: *Cucurbita maxima*: Summary of Step 1 Exercise 2
- Annex VII: *Cucurbita maxima*: Summary of Step 2
- Annex VIII: *Cucurbita maxima*: Comments sent by participants

7. Each number in the summary tables indicates the number of country experts having chosen that state of expression. In many cases experts have chosen only one state of expression. There are some cases where experts have chosen more than one state of expression. In those cases, the score "1" attributed to that expert is divided evenly to the states of expression chosen; for example, if an expert has chosen five states of expression, each state of expression receives "0.2".


8. The photographs of the varieties used in the exercises are included in Annex IX (onion) and in Annex X (*Cucurbita maxima* Duch.).

[Annex I follows]

ANNEX I

ONION: SUMMARY OF STEP 1 EXERCISE 1

Onion Step 1 Exercise 1		Description according to characteristic 18 of document TG/46/6								
Description of overall shape		elliptic	ovate	broad elliptic	circular	broad ovate	broad obovate	rhombic	transverse elliptic	transverse narrow elliptic
Variety Name	reference	1	2	3	4	5	6	7	8	9
Limbo	O-1-1				8					
Victory	O-1-2								9	
Vares	O-1-3			1	3.5	1	2.5			
Sabroso	O-1-4				4.5		4.5			
Gunnison	O-1-5					1	7			
Dacapo	O-1-6				7	1				
Canto	O-1-7				7				2	
Solution	O-1-8	1			2.5	5.5				
Collito	O-1-9					0.5		1	6.5	
Vento	O-1-10				2.75		3.75	1.25	0.25	
Quattro	O-1-11			0.5	6.5		2			
Birnförmige	O-1-12	2	4	2				1		
Stuttgarter Riesen	O-1-13								1	8
Tamara	O-1-14						8			
Staccato	O-1-15			1	6	1				
Festival	O-1-16						8			
Houcadere	O-1-17	7	1					1		
Barona	O-1-18								1	8
Campillo	O-1-19				9					
Corito	O-1-20				7	2				
De Toulouges	O-1-21							2.5	3	3.5
De la reine	O-1-22								1	8
Elad	O-1-23			1			8			
Globruna	O-1-24								8	1
Piroska	O-1-25			1	5.5	2.5				
Premier (1740)	O-1-26								1	7
Red Express	O-1-27				8		1			
Redfort	O-1-28	1		4.5	1.5	1				
Ribosa	O-1-29				5		4			
Robin	O-1-30	0.5		1			5.5	1		

 notes appearing in official description (see Annex III)

[Annex II follows]

ANNEX II

ONION: SUMMARY OF STEP 1 EXERCISE 2

Onion Step 1 Exercise 2		Bulb: position of broadest part			Bulb: ratio height/diameter								
Description of varieties according to two components of shape		towards top	at middle	towards base	very small		small		medium		large		very large
Variety Name	reference	1	2	3	1	2	3	4	5	6	7	8	9
Limbo	O-2-16	1	7					2	5	1			
Victory	O-2-15		8			1	1	6					
Vares	O-2-14	2	6				1	2	3.5	1.5			
Sabroso	O-2-13	4	4		1		1	1	4	1			
Gunnison	O-2-12	7		1				1	5	1	1		
Dacapo	O-2-11		8			1		2	5				
Canto	O-2-10	1	7				1	3	4				
Solution	O-2-09		5.5	2.5		1		1	4	2			
Collito	O-2-08	1	6	1		1	2	4		1			
Vento	O-2-07	2	6			1		1	6				
Quattro	O-2-06	1.5	6.5				1	1	5.5	0.5			
Birnförmige	O-2-05	1	1	6						2	5	1	
Stuttgarter Riesen	O-2-04		8		2		5		1				
Tamara	O-2-03	6	2					3	4	1			
Staccato	O-2-02		8		1		1		6				
Festival	O-2-01	6	1			1			4	3			
Houcadere	O-2-30	1	7								1		7
Barona	O-2-29		8		2		5		1				
Campillo	O-2-28		8			1			6	1			
Corito	O-2-27		7	1			1		5	2			
De Toulouges	O-2-26	0.5	7.5		1	2	4	2					
De la reine	O-2-25		7	1	2		5		1				
Elad	O-2-24	7	1			1			4	2	1		
Globruna	O-2-23	2	6			2	2	2	1	1			
Piroska	O-2-22		7	1	1			2	4	1			
Premier (1740)	O-2-21		8		3	1	5						
Red Express	O-2-20	2	6				1	1	5		1		
Redfort	O-2-19		7	1			1		3	3	1		
Ribosa	O-2-18	3	5		1		1		3.5	2.5			
Robin	O-2-17	4.5	3.5						1	4	1	1	1

[Annex III follows]

ANNEX III

ONION: SUMMARY OF STEP 2

Onion Step 2	Description according to characteristic 18 of document TG/46/6								
Official description of varieties	elliptic	ovate	broad elliptic	circular	broad ovate	broad obovate	rhombic	transverse elliptic	transverse narrow elliptic
Variety Name	1	2	3	4	5	6	7	8	9
Limbo				1.5				0.5	
Victory				2					
Vares				2					
Sabroso				0.5		0.5	1		
Gunnison						2			
Dacapo				4					
Canto				0.5				0.5	
Solution				1	1				
Collito						1			
Vento				0.5	0.5				
Quattro				0.5		0.5			
Birnförmige		1							
Stuttgarter Riesen									3
Tamara				2.5	0.5				
Staccato				4					
Festival			2			1			
Houcadere	1								
Barona									2
Campillo			0.5	3.5					
Corito				1.5				0.5	
De Toulouges								1	
De la reine									2
Elad				1		1			
Globruna								1	
Piroska				1				2	
Premier (1740)									1
Red Express				1					
Redfort				1		1			
Ribosa				1					
Robin			1	1		2			

[Annex IV follows]

ANNEX IV

ONION: COMMENTS SENT BY PARTICIPANTS

Comments sent by France

Exercise 1

Below are the pictures for which we observed a non-uniformity on shapes. We cannot give a common note for the sample.

- O-1-1*: we observe shape 3, shape 4 and shape between (7-4).
- O-1-3*: we observe shape 4 and shape between (4-8).
- O-1-5*: we observe shape 6 and shape between (6-4).
- O-1-6*: we observe shape between (4-8).
- O-1-7*: we observe shape between (4-7).
- O-1-9*: we observe shape between (6-8).
- O-1-10*: we observe shape between (4-6).
- O-1-14*: we observe shape between (6-4).
- O-1-15*: we observe shape between 6-4).
- O-1-16*: we observe shape between 6-4).
- O-1-26*: we observe shape between (9-8).
- O-1-28*: we observe shape between (4-3).
- O-1-30*: we observe shape between (3-4).

Exercise 2

- O-2-1*: Bulb “position of broadest part”, it corresponds to state 1 (towards top) and state 2 (at middle).

Comments sent by the United Kingdom

An overall score was difficult to assess where samples were made up of only 2 bulbs, especially if both bulbs different significantly in shape. In these instances two scores were entered (one for each bulb). This occurred in exercise 1, ref 0-1-21 and ref 0-1-29 and in exercise 2, ref. 0-2-18 and ref. 0-2-26.

[Annex V follows]

ANNEX V

CUCURBITA MAXIMA: SUMMARY OF STEP 1 EXERCISE 1

Cucurbita maxima Step 1 Exercise 1	
Description of overall shape	
Variety Name	reference
Atlantic Giant	C-1-1
Big Max	C-1-2
Black Forest	C-1-3
Blue Banana	C-1-4
Blue Hungarian Squash	C-1-5
Bonbon	C-1-6
Confection	C-1-7
Crown Prince	C-1-8
Dulce de Horno	C-1-9
Evergreen	C-1-10
Gigily	C-1-11
Golden Debut	C-1-12
Grand Luck	C-1-13
Greenwich	C-1-14
Hokkaido	C-1-15
Hundred Weight	C-1-16
Jaune Gros de Paris	C-1-17
Jumbo	C-1-18
Kokken	C-1-19
Mini Green Hubbard	C-1-20
New England Blue Hubbard	C-1-21
North Georgia	C-1-22
Olive	C-1-23
Pacifica	C-1-24
Prince Regent	C-1-25
Prizewinner	C-1-26
Queensland Blue	C-1-27
Regal	C-1-28
Rouge vif d'Etampes	C-1-29
Valenciano	C-1-30
Wart pumpkin	C-1-31
Warted Hubbard	C-1-32
Aladdin's Turban	C-1-33
Blanche Plat White Boer	C-1-34
Bleu de Hongrie	C-1-35
Buttercup	C-1-36
Chestnut Bush	C-1-37
Courge du Perou	C-1-38
Courge olive	C-1-39
Giraumon turban turc	C-1-40
Golden Delicious	C-1-41
Golden Hubbard	C-1-42
Green Hokkaido	C-1-43
Kizombori	C-1-44
Marina di Chioggia	C-1-45
Pink Jumbo Banana	C-1-46
Potiron Rouge vif d'Etampes	C-1-47
Tristar	C-1-48
Vert Olive	C-1-49
Zapallo grande de Guarda	C-1-50

Description according to characteristic 19 of document TG/155/3							
capped	transverse elliptic	circular	quadrangular	obovate	elliptic	narrow elliptic	rectangular
1	2	3	4	5	6	7	8
	1	6					
	1	6					
	6		1				
					2	5	
	7						
7							
	7						
	6		1				
	7						
							7
	7						
1	1	2		2			
	7						
	7						
	7						
	7						
	7						
		6	1				
						1	6
	1			6			
				4	1		
						7	
					7		
	7						
	7						
	7						
		7					
			7				
	3.5	3.5					
	7						
	4		1				
1	6						
1				2.5	1.5		
7							
	7						
	7						
	5		1				
1			1	1	1		1
1	3.5	0.5			1		
6							
1				1	2		
1				4	2		
1	1	5					
	1	1			5		
3.5	3.5						
						7	
	7						
1	2	0.5	3.5				
		3.5			1.5		
2	1			2			

Description according to characteristic 15 of document TG/155/4										
heart shaped	capped	transverse medium elliptic	transverse broad elliptic	circular	narrow elliptic	medium elliptic	rectangular	trapezoid	broad pear shaped	narrow pear shaped
1	2	3	4	5	6	7	8	9	10	11
			2	5						
			1	6						
		1	6							
					6	1				
		2	5							
	6		1							
		3	4							
		6	1							
		1	6							
						1	6			
		2	5							
			1	3				1	1	
			7							
			7							
			7							
		5	2							
		5	2							
			1	5					1	
							7			
			1	1				0.5	4.5	
					1	1			3	
					7					
		1	6							
		1	6							
					7					
1			2				2	2		
1			5	1						
		6	1							
			5							
1		1	5							
				1		1			3	
	7									
		3	4							
		6	1							
			2						5	
			4						3	
7										
1			3	1		1				
1	5									
7										
			1	6						6
				1	1	5				
	4.5	2.5								
				6	1					
		7								
2			2	1			1			
1				4.5	0.5					
1	1		1	1					1	

notes appearing in official descriptions (see Annex VII)

ANNEX VII

CUCURBITA MAXIMA: SUMMARY OF STEP 2

<i>Cucurbita maxima</i> Step 2	Description according to characteristic 19 of document TG/155/3							
Official description of varieties	capped	transverse elliptic	circular	quadrangular	obovate	elliptic	narrow elliptic	rectangular
Variety Name	1	2	3	4	5	6	7	8
Atlantic Giant		1.5	0.5					
Big Max		0.5	0.5	1				
Black Forest			1					
Blue Banana							1	
Blue Hungarian Squash								
Bonbon	1							
Confection		1						
Crown Prince		2						
Dulce de Horno		1						
Evergreen							1	
Gigily		1						
Golden Debut		1						
Grand Luck								
Greenwich		1						
Hokkaido								
Hundred Weight								
Jaune Gros de Paris		1						
Jumbo			1					
Kokken								
Mini Green Hubbard					1			
New England Blue Hubbard								
North Georgia							1	
Olive								
Pacifica		1						
Prince Regent		1						
Prizewinner			1					
Queensland Blue								
Regal								
Rouge vif d'Etampes		2						
Valenciano								
Wart pumpkin								
Warted Hubbard								
Aladdin's Turban	1							
Blanche Plat White Boer		1						
Bleu de Hongrie		1						
Buttercup				1				
Chestnut Bush		1						
Courge du Perou						1		
Courge olive								
Giraumon turban turc	1							
Golden Delicious								
Golden Hubbard								
Green Hokkaido								
Kizombori								
Marina di Chioggia								
Pink Jumbo Banana							1	
Potiron Rouge vif d'Etampes		1						
Tristar								
Vert Olive								
Zapallo grande de Guarda								

ANNEX VIII

CUCURBITA MAXIMA: COMMENTS SENT BY PARTICIPANTS

Comments sent by France

Exercise 1

Ad 15: hard to differentiate “transverse medium elliptic” and “transverse broad elliptic”

Ad 19: shape “trapezoid” and “narrow pear shaped” not used in this exercise

C-1-1: we hesitated between transverse elliptic and circular

C-1-12 and C-1-39: two different shapes on the picture

C-1-21, C-1-32 and C-1-42: no shape which corresponds. New shape to add?

C-1-27 and C-1-50: no shape which corresponds. New shape to add?

C-1-30: no view from the side

C-1-38, C-1-40: no shape which corresponds to *Ad.19*

Exercise 2

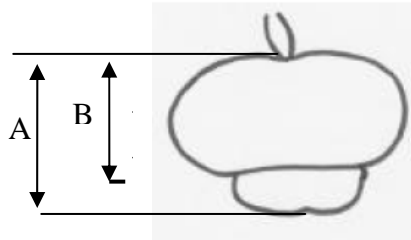
C-2-1: “Fruit: position of broadest part”: it could be 1, 2 or 3 because the fruit is rectangular and quadrangular

C-2-19 and C-2-32: two different shapes on the picture

C-2-21: no view from the side

C-2-43: “Fruit: lateral outline”: add the shape which looks like this fruit in the state 2 - rounded

Fruit: ratio height/diameter: for all the fruit “capped”, do we take measure of the cap for the height (A)? or is it only (B)?



“*Fruit: lateral outline*”: state 4- flat taper not used in this exercise

“*Fruit: ratio height/diameter*”: We do not think that it is important to have the intermediate state as 2, 4, 6 and 8 for this characteristic.

Comments sent by the United Kingdom

Exercise 1

C-1-27: left blank for characteristic 15. Perhaps reverse trapezoid?

C-1-39: assessed on left hand pumpkin as difficult to make out the orientation of right hand pumpkin. It is difficult to make a judgement on a sample of two especially where there is a difference in shape.

C-1-48: left blank for characteristic 15 as does not fit easily into the categories depicted.

Exercise 2

- C-2-24: left blank for lateral outline as does not fit easily into the categories depicted.
It is almost a reverse of the flat taper.
- C-2-32: assessed on left hand pumpkin as difficult to make out the orientation of right hand pumpkin. It is difficult to make a judgement on a sample of two especially where there is a difference in shape.
- C-2-43: left blank for lateral outline as does not fit easily into the categories depicted.

[Annex IX follows]

ANNEX IX

PHOTOGRAPHS OF VARIETIES OF *ONION*

O-1-1
Limbo



O-1-2
Victory



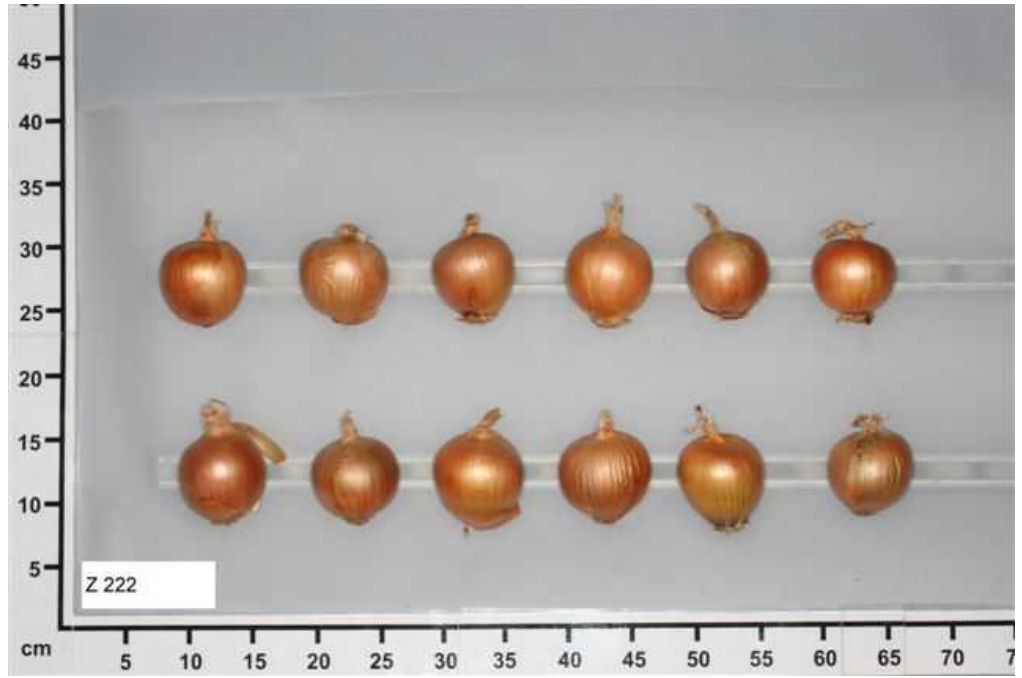
O-1-3
Vares



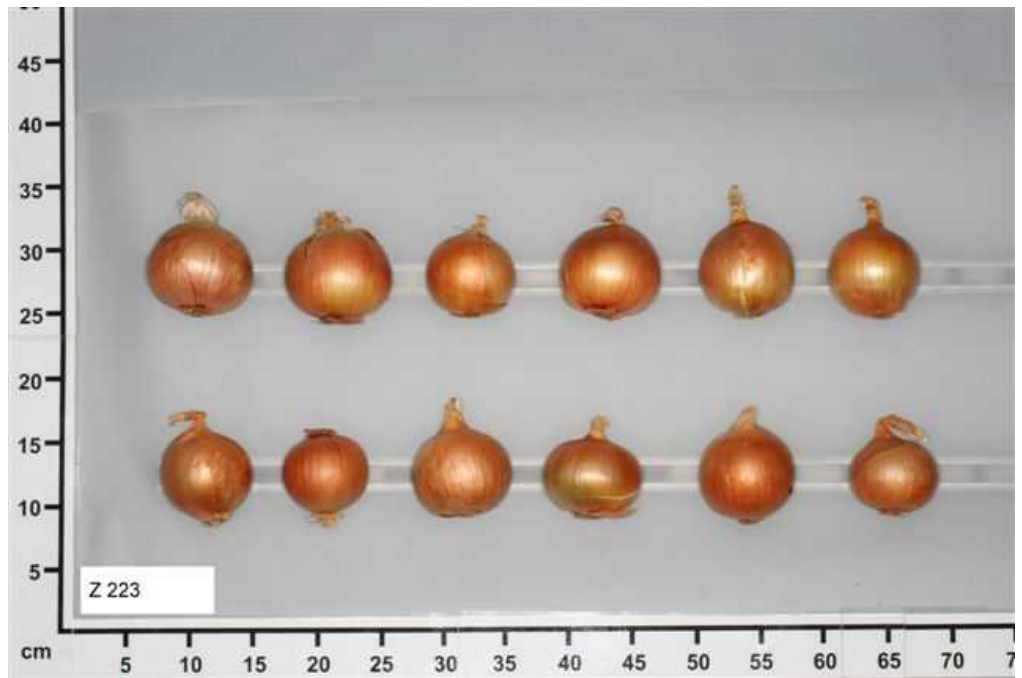
O-1-4
Sabroso



O-1-5
Gunnison



O-1-6
Dacapo



O-1-7
Canto



O-1-8
Solution



O-1-9
Collito



O-1-10
Vento



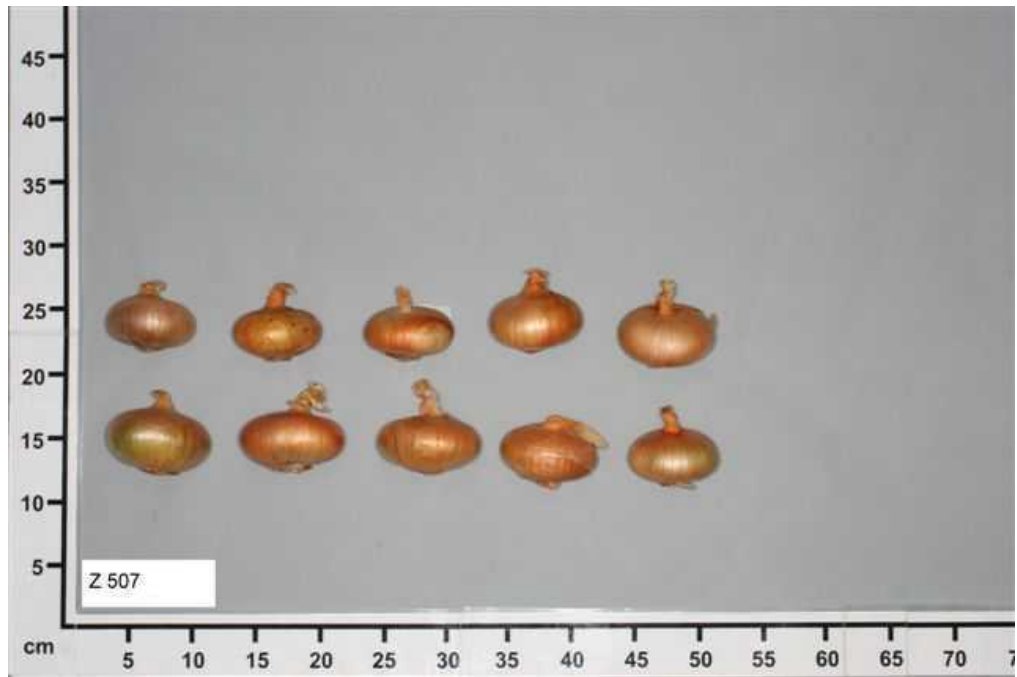
O-1-11
Quattro



O-1-12
Birnförmige



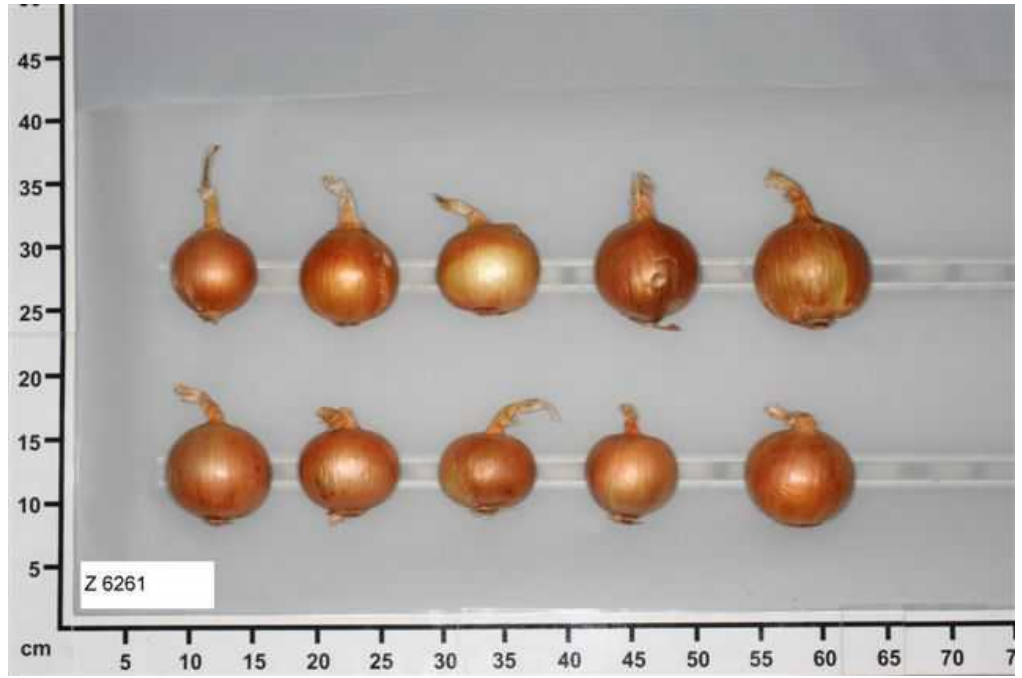
O-1-13
Stuttgarter
Riesen



O-1-14
Tamara



O-1-15
Staccato



O-1-16
Festival



O-1-17
Houcadere



O-1-18
Barona



O-1-19
Campillo



O-1-20
Corito



O-1-21
De Toulouges



O-1-22
De la reine



O-1-23
Elad



O-1-24
Globruna



O-1-25
Piroska



O-1-26
Premier (1740)



O-1-27
Red Express



O-1-28
Redfort



O-1-29
Ribosa



O-1-30
Robin



[Annex X follows]

ANNEX X

PHOTOGRAPHS OF VARIETIES OF *CUCURBITA MAXIMA* DUCH.

C-1-1
Atlantic Giant



C-1-2
Big Max



C-1-3
Black Forest



C-1-4
Blue Banana



C-1-5
Blue Hungarian Squash



C-1-6
Bonbon



C-1-7
Confection



C-1-8
Crown Prince



C-1-9
Dulce de Horno



C-1-10
Evergreen



C-1-11
Gigily



C-1-12
Golden Debut



C-1-13
Grand Luck



C-1-14
Greenwich



C-1-15
Hokkaido



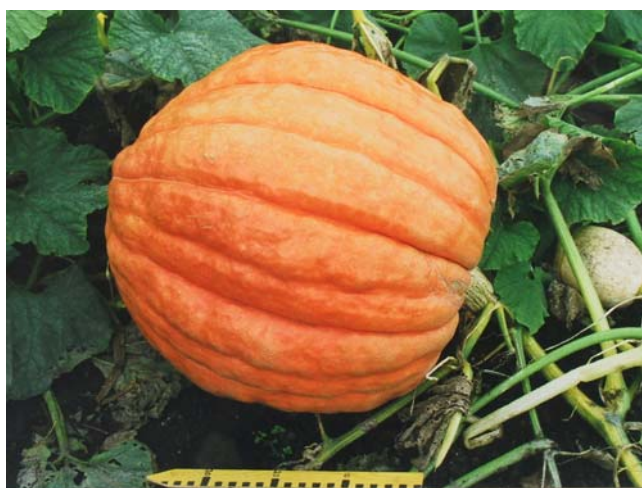
C-1-16
Hundred Weight



C-1-17
Jaune Gros de Paris



C-1-18
Jumbo



C-1-19
Kokken



C-1-20
Mini Green Hubbard



C-1-21
New England Blue Hubbard



C-1-22
North Georgia



C-1-23
Olive



C-1-24
Pacifica



C-1-25
Prince Regent



C-1-26
Prizewinner



C-1-27
Queensland Blue



C-1-28
Regal



C-1-29
Rouge vif d'Etampes



C-1-30
Valenciano



C-1-31
Wart pumpkin



C-1-32
Warted Hubbard



C-1-33
Aladdin's Turban



C-1-34
Blanche Plat White Boer



C-1-35
Bleu de Hongrie



C-1-36
Buttercup



C-1-37
Chestnut Bush



C-1-38
Courge du Perou



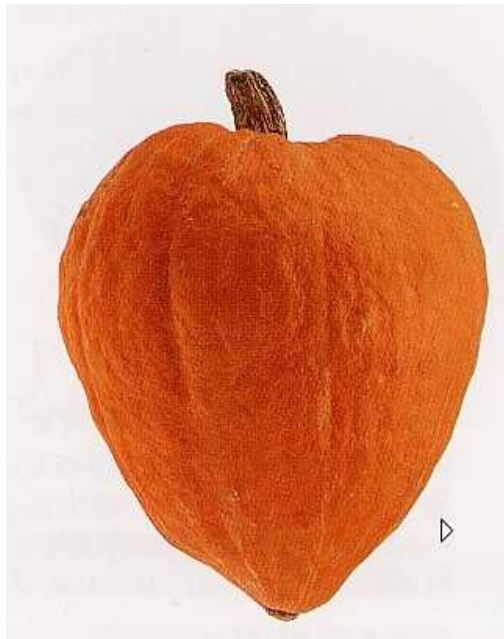
C-1-39
Courge olive



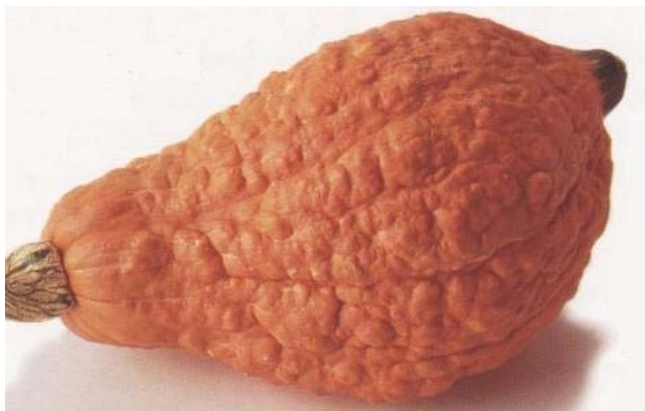
C-1-40
Giraumon turban turc



C-1-41
Golden Delicious



C-1-42
Golden Hubbard



C-1-43
Green Hokkaïdo



C-1-44
Kizombori



C-1-45
Marina di Chioggia



C-1-46
Pink Jumbo Banana



C-1-47
Potiron Rouge vif d'Etampes



C-1-48
Tristar



C-1-49
Vert Olive



C-1-50
Zapallo grande de Guarda



[End of Annex X and of document]