

ONION (*Allium cepa* L.) DESCRIPTORS

III CHARACTERIZATION AND EVALUATION DESCRIPTORS

Onion genetic resources evaluation methodology:

For all quantitative descriptors (metric traits), record the average of at least five measurements per individual accession, unless otherwise specified. 50 plants per accession are desired for complete evaluation of the accession.

Characterization descriptors should be evaluated in three year period. Each accession has to be characterized separately. Observations should be made on fully developed plants at the beginning of flowering, unless otherwise indicated.

Characterization of testing location:

- a. Country of characterization
- b. Institute name and address
- c. Institute site (latitude, longitude, elevation)
- d. Planting date
- e. Harvest date
- f. Plot size
- g. Number of plants per plot
- h. Number of evaluated plants
- i. Place of evaluation – field, greenhouse u.s.w.
- j. Number of replications
- k. Fertilizer (types, doses)
- l. Plant protection

ENVIRONMENT CHARACTERISTIC

- m. Soil type
- n. Relief
- o. Soil pH
- p. Soil organic matter content
- q. Soil texture
- r. Temperature range (growing period mean, maximum, minimum)
- s. Precipitation (sum in growing period)
- t. Frost (date and lowest temperature of most recent frost)

Descriptor code	Number of trait in other descriptors	Descriptor Scale (score)	Reference values	Remarks
III Characterization and evaluation descriptors				
III/1	Foliage colour			
	¹ IPGRI 7.1.1. ² UPOV 3	1 Light green 2 Yellow green 3 Green 4 Grey-green 5 Dark green 6 Bluish green 7 Purplish-green		Recorded on fully developed plants, at flowering stage
III/2	Number of leaves per pseudostem			
	UPOV 1		Record the average number of leaves, of 5–10 fully developed plants.	
III/3	Leaf length			
	UPOV 6.2.		Record the average length of longest leaf, cm, of 5–10 fully developed plants.	

III/4	Leaf width			
	IPGRI 7.1.3. UPOV 6	3 Narrow 5 Medium 7 Broad		Record the maximum width of the longest leaf of 5–10 fully developed plants.
III/5	Foliage attitude			
	IPGRI 7.1.5. UPOV 2	3 Prostrate (or spreading) 5 Intermediate 7 Erect		FOTO
III/6	Foliage cracking			
	IPGRI 7.1.6. UPOV 5	3 Weak 5 Medium 7 Strong	Figure 1, Appendix	FOTO
III/7	Degree of leaf waxiness			
	IPGRI 7.1.8. UPOV 4	3 Weak 5 Medium 7 Strong		FOTO
III/8	Pseudostem diameter			
	IPGRI 7.1.10. UPOV 9	3 Narrow 5 Intermediate 7 Broad		Measured on the base of mature plants
III/9	Pseudostem length			
	IPGRI 7.1.9. UPOV 8	3 Short 5 Intermediate 7 Long	<8 cm >18 cm Figure 2, Appendix	cm (Pseudostem). Measured on plants in the maximum vegetative development stage, from soil level to highest green leave FOTO
III/10	Shape of mature dry bulbs			
	IPGRI 7.1.11. UPOV 18	1 Flat 2 Flat globe 3 Rhomboid 4 Broad oval 5 Globe 6 Broad elliptic 7 Ovate (elongated oval) 8 Spindle 9 High top	Figure 3, Appendix	FOTO
III/11	Shape of bulb top			
	UPOV 19	1 depressed 2 flat 3 slightly raised 4 rounded 5 slightly sloping 6 strongly sloping	Figure 4, Appendix	FOTO
III/12	Shape of bulb base			

	UPOV 20	1 recessed 2 flat 3 round 4 weakly tapered 5 strongly tapered	Figure 5, Appendix	FOTO
III/13	Outer skin ground colour of bulb			
	IPGRI 7.1.16.1. UPOV 23	1 White 2 Yellow 3 Yellow and light brown 4 Light brown 5 Brown 6 Dark brown 7 Green (chartreuse) 8 Light violet 9 Dark violet		FOTO
III/14	Bulb flesh colour			
	IPGRI 7.1.18.	1 White 2 Cream 3 Green/white 4 Violet/white		FOTO
III/15	Coloration of epidermis of fleshy scales			
		1 absent 2 greenish 3 reddish		FOTO
III/16	Average number of bulbs per cluster			
	IPGRI 7.1.25. UPOV 11		Average taken from bulbs with dry skin around each bulblet from at least 10 clusters	
III/17	Average weight of whole cluster			
			Average taken from at least 10 clusters, g	
III/18	Bulb hearting			
	IPGRI 7.1.27. UPOV 27	1 Single heart 2 2–3 hearts 3 More than 3 hearts		FOTO
III/19	Thickness of dry external scales			
	UPOV 22	3 thin 5 medium 7 thick		Detected on mature bulbs
III/20	Ability to flower			
	IPGRI 7.2.1. UPOV 31	0 No 1 Yes		
III/21	Number of days to maturity			
			Recorded when 50% have fallen tops	
III/22	Sprouting during storage			
	UPOV 35	0 no 1 yes		
III/23	Resistance to Downy mildew (<i>Peronospora destructor</i>)			
	UPOV	0 absent	Detected by inoculation according to	

	IPGRI	1 present	UPOV and IPGRI guidelines
III/24	Resistance to Rust (<i>Puccinia (porri) allii</i>)		
	UPOV	0 absent	Detected by inoculation according to
	IPGRI	1 present	UPOV and IPGRI guidelines
III/25	Resistance to Black mould (<i>Botrytis allii</i> (<i>B. aclada</i>))		
	UPOV	0 absent	Detected by inoculation according to
	IPGRI	1 present	UPOV and IPGRI guidelines
III/26	Resistance to Leaf blight (<i>Botrytis squamosa</i>)		
	UPOV	0 absent	Detected by inoculation according to
	IPGRI	1 present	UPOV and IPGRI guidelines
III/27	Resistance to Bulb mite (<i>Rhizoglyphus echinopus</i>)		
	UPOV	0 absent	Detected by inoculation according to
	IPGRI	1 present	UPOV and IPGRI guidelines
III/28	Resistance to Onion fly (<i>Delia (Hylemya) antiqua</i>)		
	UPOV	0 absent	
	IPGRI	1 present	
III/29	Resistance to Onion yellow dwarf virus OYDV		
	UPOV	0 absent	Detected by inoculation according to
	IPGRI	1 present	UPOV and IPGRI guidelines
III/30	Resistance to Garlic latent virus GarLV		
	UPOV	0 absent	Detected by inoculation according to
	IPGRI	1 present	UPOV and IPGRI guidelines
III/31	Resistance to Garlic common latent virus GarCLV		
	UPOV	0 absent	Detected by inoculation according to
	IPGRI	1 present	UPOV and IPGRI guidelines
III/32	Notes		
			Any other additional information
III/33	Cytological characteristics and identified genes		
			If available
III/34	Biochemical composition		
			If available
III/35	Molecular passport data		
			If available
III/36	Pictures		
			If available

Explanations

¹IPGRI *Allium*

²UPOV TG/46/6

Appendix

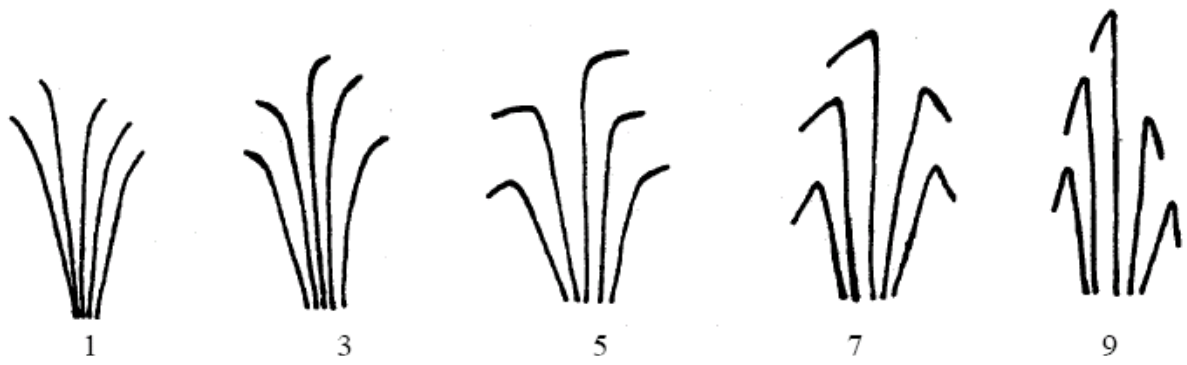


Figure 1. Foliage cracking

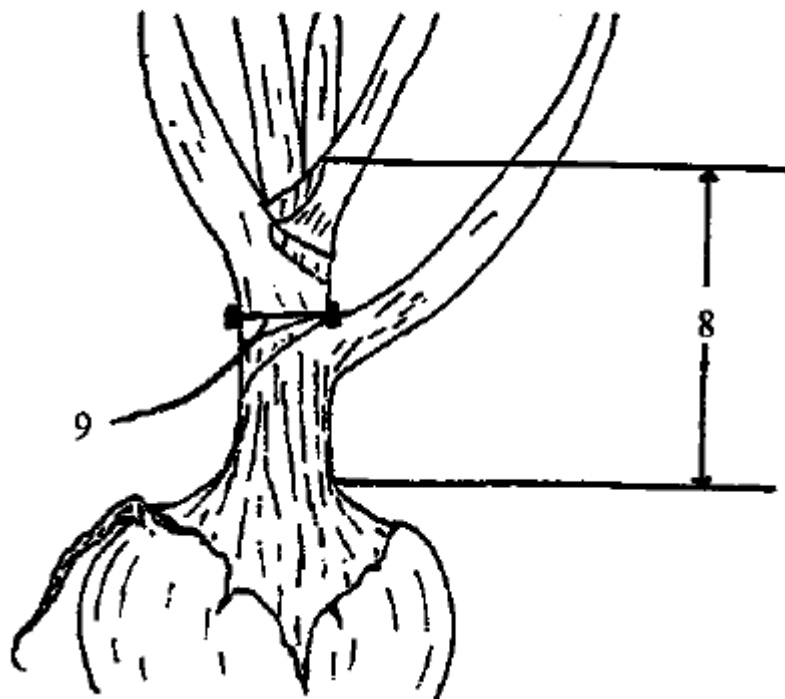


Figure 2 . Pseudostem length (8) and diameter (9)

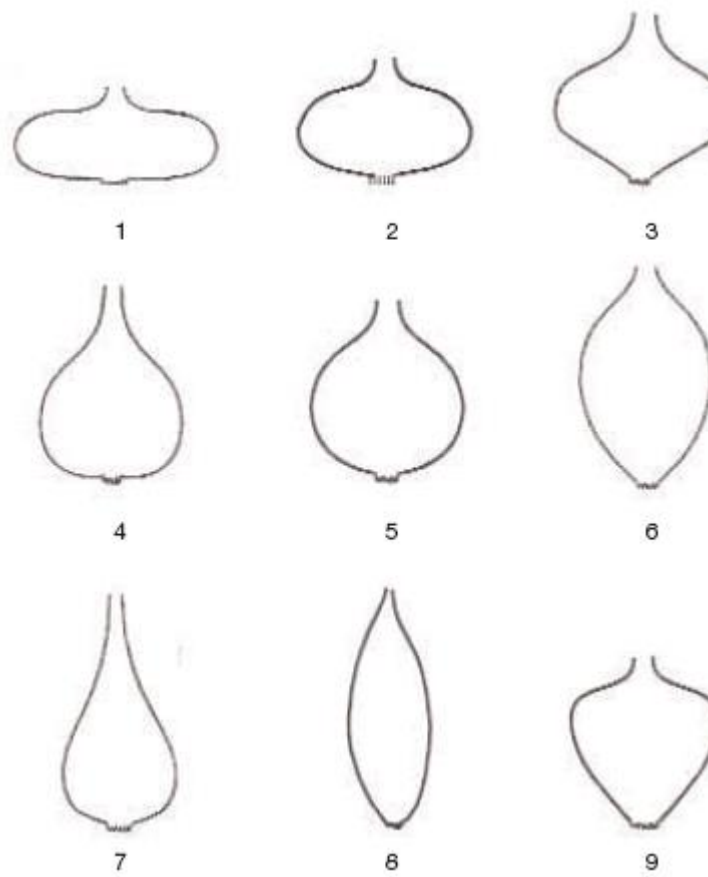


Figure 3. **Bulb shape**

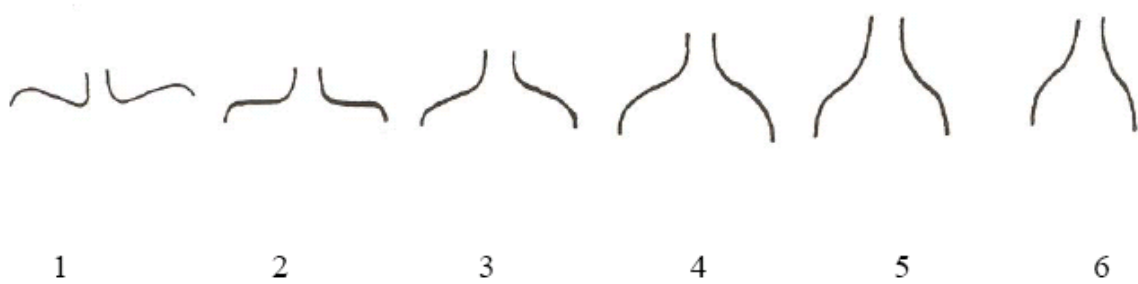


Figure 3. **Shape of bulb top**

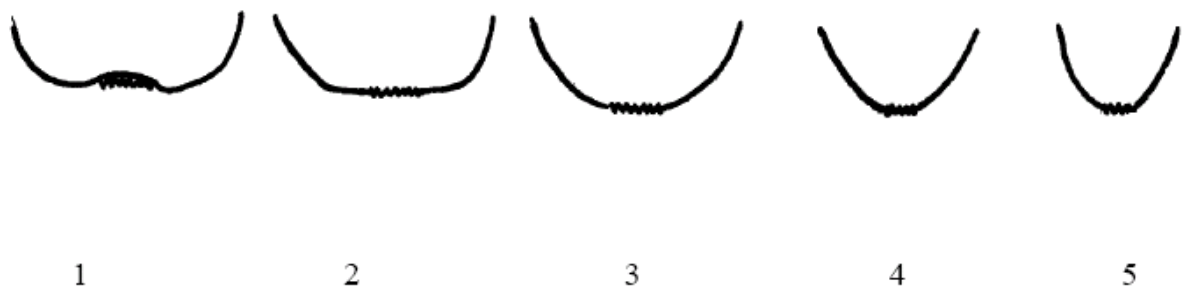


Figure 4. **Shape of bulb base**