

Draft Descriptor List *Carum* spp.

Highly discriminating descriptors in this descriptor list are marked with an asterisk [★].

Characterization *ex situ* should be made on an average of minimum 10 plants randomly chosen per accession from the population.

Recommended spacing of plants is 40 x 15 cm, plot area 5m², sowing in the spring (up to mid-April).

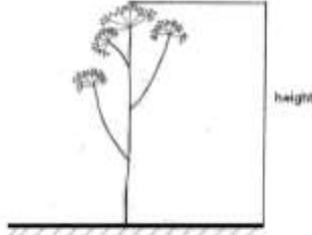
Locality: Country, GPS

Date [YYYYMMDD]:

Specimen No. (In case of *in situ* characterization):

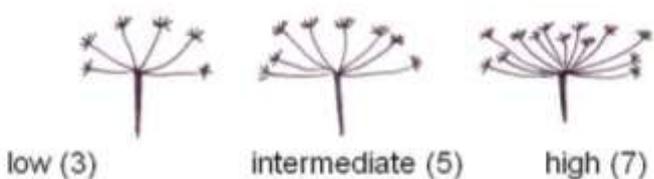
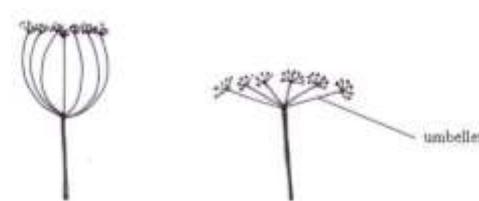
Accession No. (In case of *ex situ* characterization/evaluation):

		<i>In situ</i>	<i>Ex situ</i>
CHARACTERIZATION			
7. Plant descriptors			
7.1 Plant (vegetative)			
★	7.1.1 Life cycle	√	√
	1 Annual		
	2 Biennial		
★	7.1.2. Plant growth habit	√	√
	Observed at full flowering of main primary umbels.		
	3 Prostrate		
	5 Semi-erect		
	7 Erect		

		<i>In situ</i>	<i>Ex situ</i>
*	<p>7.1.3. Plant height [cm] Measured at flowering from soil surface to terminal branch, including umbel (See figure 1). 3 Low (<70) 5 Intermediate (70-90) 7 High (>90)</p>	√	√
	 <p>Figure 1. Plant height</p>		
	<p>7.2. Stem</p>		
*	<p>7.2.1 Stem branching density Observed at full flowering of main primary umbel. 3 Sparse 5 Intermediate 7 Dense</p>	√	√
*	<p>7.2.2 Main stem diameter [mm] Measured in the middle third of the terminal shoot.</p>	√	√
	<p>7.2.3 Foliage density Observed at full flowering of main primary umbel. 3 Sparse 5 Intermediate 7 Dense</p>	√	√
	<p>7.3. Leaf Measured on 20 leaves in growth.</p>		
*	<p>7.3.1 Leaf rosette position (attitude) Observed in the sowing year on fully developed leaf rosette. 3 Prostrate 5 Semi-erect 7 Erect</p>	√	√

		<i>In situ</i>	<i>Ex situ</i>
*	<p>7.3.2 Leaf length [cm] (See figure 2) 3 Short (<20) 5 Intermediate (20-30) 7 Long (>30)</p>	√	√
			
<p>Figure 2. Leaf : length (a) and width (b) Petiole: length (c) and thickness (d)</p>			
*	<p>7.3.3 Leaf width [cm] (See figure 2) 3 Narrow (<10) 5 Intermediate (10-15) 7 Wide (>15)</p>	√	√
*	<p>7.3.4 Petiole length [cm] (See figure 2) 3 Short (<5) 5 Intermediate (5-10) 7 Long (>10)</p>	√	√
*	<p>7.3.5 Petiole thickness [mm] Measured closely below the splitting of the first feathering. (See figure 2) 3 Narrow (<2) 5 Intermediate (2-3) 7 Broad (>3)</p>	√	√

			<i>In situ</i>	<i>Ex situ</i>
*	7.3.6. Leaf dissection (See figure 3)		√	√
	3 Slightly dissected			
	5 Intermediate			
	7 Highly dissected			
	 <p>Figure 3. Leaf dissection</p>			
*	7.3.7 Mature leaf colour	(RHS colour chart code)	√	√
	1 Yellow green	(144A – 154D)		
	2 Green	(131A – 143D)		
	3 Dark green	(136B)		
	7.4. Inflorescence			
*	7.4.1 Width of open primary umbel [cm]		√	√
	Average value of the 10 measured terminal umbels.			
	3 Small (<5)			
	5 Intermediate (5-7)			
	7 Large (>7)			

		<i>In situ</i>	<i>Ex situ</i>
	<p>7.4.2 Number of umbellets in primary umbel (See figure 4)</p> <p>3 Low (<7) 5 Intermediate (8-10) 7 High (>10)</p>	√	√
			
<p>Figure 4. Number of umbellets</p>			
*	<p>7.4.3 Flower colour (RHS colour chart code)</p> <p>1 White (155A – 155D) 2 Green white (156A – 157D) 3 Red purple (62A – 69D)</p>	√	√
*	<p>7.4.4 Umbels position before harvest (See figure 5)</p> <p>3 Open 5 Intermediate 7 Constricted</p>	√	√
			
<p>Figure 5. Umbels position</p>			
*	<p>7.4.5 Heading time of primary umbel</p> <p>Number of days from sowing to appearance of the terminal umbel, compared to check cultivars considered as intermediate: for annuals: Karzo (1994, The Netherlands); for biennials: Rekord (1978, Czechoslovakia).</p> <p>3 Early 5 Intermediate 7 Late</p>	√	

		<i>In situ</i>	<i>Ex situ</i>
*	<p>7.4.6 Flowering time of primary umbel Number of days from sowing to when 25% of the terminal umbels start to flower, compared to check cultivars considered as intermediate: for annuals: Karzo (1994, The Netherlands); for biennials: Rekord (1978, Czechoslovakia). 3 Early 5 Intermediate 7 Late</p>	√	
*	<p>7.4.7 Full flowering time Number of days from sowing to full flowering, when terminal umbel ends flowering and majority of subsequent umbels keep flowering, compared to check cultivars considered as intermediate: for annuals: Karzo (1994, The Netherlands); for biennials: Rekord (1978, Czechoslovakia). 3 Early 5 Intermediate 7 Late</p>	√	
*	<p>7.4.8 Maturity time of primary umbel Number of days from sowing to technical maturity of the terminal umbel, compared to check cultivars considered as intermediate: for annuals: Karzo (1994, The Netherlands); for biennials: Rekord (1978, Czechoslovakia). 3 Early 5 Intermediate 7 Late</p>	√	
*	<p>7.4.9 Full maturity time Number of days from sowing to when 90% of plants are ready for seed harvest, compared to check cultivars considered as intermediate: for annuals: Karzo (1994, The Netherlands); for biennials: Rekord (1978, Czechoslovakia). 3 Early 5 Intermediate 7 Late</p>	√	
	7.5. Fruit (achene)		
*	<p>7.5.1 Fruit shape 1 Straight 2 Falcate (lunate)</p>	√	√
*	<p>7.5.2 Fruit length [mm] Average value calculated from 50 measured seeds. 3 Short (<4) 5 Intermediate (4-6) 7 Long (>6)</p>	√	√
*	<p>7.5.3 Fruit thickness (diameter) [mm] 1 Narrow (<1) 2 Broad (>1)</p>	√	√

			<i>In situ</i>	<i>Ex situ</i>
*	7.5.4 Fruit colour at maturity	(RHS colour chart code) 1 Greyed green (191A – 198D) 2 Grey brown (199A – N199D) 3 Brown (200A – N200D) 99 Other (remarks)	√	√
*	7.5.5 1000-seed weight [g]	According to ISTA (International Seed Testing Association) rules: 5-6% moisture content 3 Low (<2.4) 5 Intermediate (2.4–2.8) 7 High (>2.8)	√	√
	7.5.6 Seed yield [g per plant]	3 Low (<80) 5 Intermediate (80–120) 7 High (>120)	√	√
*	7.5.7 Seed shattering [%]	Percentage of fallen seeds after slight hit against a firm table (measured on 20 primary umbels harvested at technological maturity) 3 Low (<25) 5 Intermediate (25-50) 7 High (>50)	√	
	7.3 Remarks	Any additional information, especially in the category “99 = Other” above, may be specified here.		√

EVALUATION

8. Plant descriptors

8.1 Chemical composition

*	8.1.1 Essential oil content in the seed dry matter	[ml/kg DW] According to ISTA (International Seed Testing Association) rules: 5-6% moisture content 3 Low (<20) 5 Intermediate (20-35) 7 High (>35)	√	√
*	8.1.2 Carvon rate in essential oil [%]	3 Low (<50) 5 Intermediate (50) 7 High (>50)	√	√

			<i>In situ</i>	<i>Ex situ</i>
*	8.1.3	Limonene rate in essential oil [%]		
		3 Low (<47)	√	√
		5 Intermediate (47)		
		7 High (>47)		
	8.2	Cytological characters	√	√
*	8.2.1	Chromosome number		

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