

Draft Descriptor List *Hypericum perforatum* L.

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

Remark

Measurements of morphological descriptors should be made on 10 plants.

Locality: Country, GPS

Date [YYYYMMDD]:

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

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

In situ *Ex situ*

CHARACTERIZATION

7. Plant descriptors

7.1 Plant

7.1.1 Age		√
3 Second year		
5 Third year		
7 Older		
7.1.2 Plant growth habit	√	√
1 Prostate		
2 Compact		
7.1.3 Plant height [mm]	√	√
7.1.4 Variability of accession/population	√	√
Plant variation in growth habit, height		
3 Low (homogeneous)		
5 Intermediate (relatively homogeneous)		
7 High (very heterogeneous)		

		<i>In situ</i>	<i>Ex situ</i>
7.2 Stem			
Measurements should be made on 10 stems per plant.			
	7.2.1 Shoot density	√	√
	3 Sparse		
	5 Intermediate		
	7 Dense		
	7.2.2 Branching density	√	√
	3 Sparse		
	5 Intermediate		
	7 Dense		
	7.2.3 Shoot length [mm]	√	√
	7.2.4 Number of internodes	√	√
	From the root collum to the first inflorescence node.		
*	7.2.5 Stem colour	√	√
	(as below or using RHS Colour Chart)		
	1 Green		
	2 Brown green		
	3 Reddish green		
	99 Other (remarks)		
7.3 Leaf			
Measurements should be made on the leaves of middle internode base, if possible on 10 leaves per plant.			
	7.3.1 Leaf density	√	√
	3 Sparse		
	5 Intermediate		
	7 Dense		
*	7.3.2 Leaf length [mm]	√	√
*	7.3.3 Leaf width [mm]	√	√
*	7.3.4 Leaf type (ratio of leaf length/width)		
	3 Broad (<2:1)		
	5 Intermediate (3:1)		
	7 Narrow (>4:1)		
	7.3.5 Colour of upper side of leaf	√	√
	(as below or using RHS Colour Chart)		
	1 Green		
	2 Yellow green		
	3 Blue green		
	99 Other (remarks)		

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		<i>In situ</i>	<i>Ex situ</i>
	7.3.6 Leaf shape	√	√
	1 Ovate-elliptic		
	2 Elliptic		
	3 Ovate		
	4 Oblong-ovate		
	99 Other (remarks)		
*	7.3.7 Leaf (folding) surface	√	√
	1 Flat		
	2 Margin rolled		
*	7.3.8 Black glands density	√	√
	3 Sparse		
	5 Intermediate		
	7 Dense		
*	7.3.9 Translucent glands density	√	√
	3 Sparse		
	5 Intermediate		
	7 Dense		
*	7.3.10 Black glands position	√	√
	1 Marginal (along the margin line)		
	2 Intramarginal (inside the margin line)		
7.4 Bracts			
	7.4.1 Bracts shape	√	√
	1 Lanceolate		
	2 Linear-lanceolate		
	3 Elliptic		
	99 Other (remarks)		
	7.4.2 Bracts colour	√	√
	1 Green		
	2 Purple		
7.5 Inflorescence			
	7.5.1 Height of flowering horizon [cm] (from the lowest flowering node to the top of inflorescence)	√	√
	7.5.2 Width of inflorescence [cm]	√	√
	7.5.3 Ratio length/width of inflorescence	√	√
*	7.5.4 Date of flowering [YYYYMMDD] Recorded when 50% of flowers are completely open.	√	√

	<i>In situ</i>	<i>Ex situ</i>
7.5.5 Number of flowering shoots (on single stem)		
7.5.6 Number of flowers in single shoot		
3 Few (<69)		
5 Medium (70-80)		
7 Many (>81)		
7.6 Flower		
7.6.1 Petal colour	√	√
(as below or using RHS Colour Chart)		
3 Yellow		
5 Bright yellow		
7 Dark yellow		
9 Purple yellow outside		
7.6.2 Petal length [mm]	√	√
7.6.3 Petal width [mm]	√	√
* 7.6.4 Ratio length/width of petal	√	√
* 7.6.5 Petal shape	√	√
1 Lanceolate		
2 Oblong-elliptic		
* 7.6.6 Petal black glands	√	√
0 Absent		
1 Present		
* 7.6.7 Arrangement of petal black glands (on upper side)	√	√
1 Dots and lines		
2 Lines and streaks		
* 7.6.8 Position of petal black glands	√	√
1 Marginal (on the margin line)		
2 Intramarginal (inside the margin line)		
7.6.9 Sepal shape	√	√
3 Lanceolate		
5 Ovate-oblong		
7 Linear		
7.6.10 Sepal length [mm]	√	√
7.6.11 Sepal width [mm]	√	√
7.6.12 Ratio length/width of sepal	√	√

		<i>In situ</i>	<i>Ex situ</i>
	7.6.13 Sepal apex shape	√	√
	3 Acute		
	5 Acuminate		
	7 Aristate		
	7.6.14 Sepal margin	√	√
	1 Smooth		
	2 Toothed		
*	7.6.15 Sepal black glands	√	√
	0 Absent		
	1 Present		
*	7.6.16 Sepal black glands density	√	√
	1 Sparse		
	2 Dense		
*	7.6.17 Pistil black glands	√	√
	0 Absent		
	1 Present		
*	7.6.18 Morphotype of flower	√	√
	The morphotype of the flower can be easily determined as follows: Petals are investigated if the long black glands occur on the margin of petals. Pistils can be investigated for the dark glands using a magnifying glass and nipping off upper part of pistil with nails to see cross-section in the middle of the pistil.		
	1 Petal dark glands present; pistil glands absent		
	2 Petal dark glands absent; pistil glands present		
	3 Both petal and pistil glands are present		
	4 Both petal and pistil glands are absent		
7.7	Fruit		
	7.7.1 Capsule length [mm]	√	√
	7.7.2 Capsule width [mm]	√	√
	7.7.3 Ratio length/width of capsule	√	√
7.8	Seed		
	7.8.1 Number of seeds in seed case	√	√
	3 Few (<79)		
	5 Medium (80-100)		
	7 Many (>101)		

	<i>In situ</i>	<i>Ex situ</i>
7.8.2 1000-seed weight [g] Average from 3 samples. 3 Small (<0.09) 5 High (>0.09)	√	√
7.8.3 Opening of seed case at ripe stage 1 Easy 2 Difficult	√	√
7.8.4 Seed germination [%]	√	√
7.9 Remarks Any additional information, especially in the category “99 = Other” under various descriptors above, may be specified here.		√

EVALUATION

8. Plant descriptors

8.1 Plant fresh biomass [g]	√	√
8.2 Plant dry biomass [g]	√	√
8.3 Inflorescences fresh mass per plant [g]	√	√
8.4 Inflorescences dry mass per plant [g]	√	√
8.5 Flower fresh mass [g] Average of 5 shoots per plant.	√	√
8.6 Leaves fresh mass [g] Average of 5 shoots per plant.	√	√
8.7 Ratio flower/leaves production	√	√
8.8 Beginning of flowering (compared to standard cultivar) 3 Early 5 Medium 7 Late		√
8.9 Time from beginning to full flowering (compared to standard cultivar) 3 Short 5 Medium 7 Long		√

	<i>In situ</i>	<i>Ex situ</i>
8.10 Length of flowering period		
From the beginning of flowering to the time when 50% of plants are beginning the fruit maturation, per accession, compared to standard cultivar.		√
3 Short		
5 Medium		
7 Long		
8.11 Chemical composition	√	√
Separately in air-dried flowers and leaves gathered at full blooming.		
* 8.11.1 Total flavonoids content [v/w]		
According to rutin; [mg/g] [%]		
8.11.2 Rutin content [mg/g] [%]		
8.11.3 Hyperozide content [mg/g] [%]		
8.11.4 Quercitrin content [mg/g] [%]		
8.11.5 Quercetin content [mg/g] [%]		
* 8.11.6 Hyperforin content [mg/g] [%]		
* 8.11.7 Hypericin content [mg/g] [%]		
8.12 Cytological characters		
8.12.1 Chromosome number (usually 2n=32)		√
8.12.2 Ploidy level		√
* 8.12.3 Breeding type (for cultivars)		√
1 Normal		
2 Apomict		
* 8.13 Biotic stress susceptibility (to diseases and pests, compared to standard cultivar; the phenophase and age of the tested plant are important)		√
1 Very low		
2 Low		
3 Intermediate		
4 High		
5 Very high		
8.14 Fungal diseases	√	√
1 Powdery mildew (<i>Erysiphe hyperici</i>)		
2 Root rot (<i>Fusarium</i> , <i>Rhizoctonia</i> , <i>Verticillium</i>)		
3 Wilt (<i>Colletotrichum gloeosporioides</i>)		
99 Other (remarks)		

	<i>In situ</i>	<i>Ex situ</i>
8.15 Pests	√	√
1 <i>Chrysolina hyperici</i>		
99 Other (remarks)		
8.16 Remarks		√
Any additional information, especially in the category "99 = Other" under various descriptors above, may be specified here.		

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