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CONTENTS

Introduction

This document aims to provide guidelines for the description of cherry accessions. It was elaborated within the project: "Collaborative action for updating, documenting and communicating the cherry patrimonial richness in EU (EU.CHERRY)", funded by the ECPGR Grant Scheme (see the Activity Proposal: link) and by the COST Action FA1104 on "Sustainable production of high-quality cherries for the European market".

References and categories of data

These descriptors were chosen during the EU.CHERRY kick-off meeting (6 April 2016, Naoussa, Greece), using several international reference documents. Data compiled will be uploaded in EURISCO and the European *Prunus* Database (EPDB).

Passport descriptors

Reference documents
- The AEGIS selection of Most Appropriate Accessions: List of minimum passport descriptors for all *Prunus* species (ECPGR *Prunus* Working Group, 2010) (link)
- The FAO/BIOVERSITY Multi-crop passport descriptors (MCPD) v2.1 (2015) (link)
- The list of minimum passport descriptors proposed by the PRUNDOC project (see the Minutes of the PRUNDOC meeting in Leuven, April 2015) (link)
- IBPGR/CEC Cherry Descriptors (IBPGR/CEC, 1985; link)

Two categories of passport descriptors:
- **Mandatory passport descriptors** = the minimum passport dataset required for each accession
- **Recommended passport descriptors**

Experiment data

Reference documents
- Data exchange standard for uploading characterisation and evaluation data from National Inventories to EURISCO v1.0 (2015) (link)
- The list of minimum passport descriptors proposed by the PRUNDOC project (see the Minutes of the PRUNDOC meeting in Leuven, April 2015) (link). This kind of data makes reference to metadata helping to interpret characterization and evaluation (C&E) data.

Characterization and Evaluation (C&E) descriptors

Reference documents
- ECPGR *Prunus* Database Descriptors (ECPGR, 2011; link)
- UPOV Guidelines for the conduct of tests for distinctness, uniformity and stability - Sweet Cherry TG/35/7 (UPOV, 2006; link)
- IBPGR/CEC Cherry Descriptors (IBPGR/CEC, 1985; link)
- NAP Descriptors (Szalatnay, 2006; link)
- BBCH scale (Meier, 2001; link)

At the kick-off meeting, Daniela Giovannini and Monika Höfer presented a draft list of descriptors to be potentially chosen for the C&E of the EU.CHERRY accessions, selected after consultation of the above-mentioned Reference documents and taking into account the preliminary results of a survey conducted into the framework of the COST Action FA1104. The survey consisted in asking COST members which descriptors they used for characterization and evaluation of their cherry genetic resources and was aimed to identify the

most used, hence those deemed most useful for the characterization of the cherry resources. The final results of this survey were recently published (Höfer and Giovannini, 2017) (link).

Each descriptor presented was briefly discussed, some were discarded, and finally EU.CHERRY partners agreed on 33 C&E descriptors, grouped in two categories:
-   **First Priority Descriptors (FPDs)** are the descriptors that should be prioritized as they are the most important and effective in describing and distinguishing different genotypes.
-   **Second Priority Descriptors (SPDs)** are those deemed useful to supplement the FPDs.

Pictures
Reference documents
-   NAP Descriptors (Szalatnay, 2006; link)

General format rules
The following format rules, as copied from the MCPD list, apply to all fields:
-   A field for which no value is available should be left empty (i.e. Elevation).
-   The preferred language for free text fields is English (i.e. Location of collecting site and Remarks).
-   Accents and diacritical marks should be omitted for the following descriptors:
    -   Accession name
    -   Location of collecting site
    -   Synonyms
    -   Remarks

PASSPORT DESCRIPTORS

For some passport descriptors, the tables below refer to Annex 1: Scales for passport descriptors.

When FAO WIEWS Institute code is needed, if necessary you can upload the WIEWS Institute table (link).

Mandatory passport descriptors

Short name	Reference	Description	Format	Expected values / examples /
ACCENUMB	MCPD	Accession number = the unique identifier for accessions within a genebank, assigned when a sample is entered into the genebank collection	30 characters max	Ex: *CGN00254*
ACCENAME	MCPD	Accession name (if existing)	First letter uppercase. No accent Multiple names are separated by a semicolon without space	Ex: *Bogatyr;Symphony*
INSTCODE	MCPD	Holding Institute FAO WIEWS code	7 characters max	see WIEWS Institute table Ex: *ITA045*
GENUS	MCPD	Genus name for taxon	First letter uppercase	Only one expected value: *Prunus*
SPECIES	MCPD	Specific epithet portion of the scientific name	Lowercase	Ex: *avium*
ORIGCTY	MCPD	Country of origin of the variety - the country in which the sample was originally collected (e.g. landrace, crop wild relative, farmers' variety), bred or selected (breeding lines, GMOs, segregating populations, hybrids, modern cultivars, etc.)	3-letter ISO 3166 country code	See Annex 1 Ex: *NLD* not to be confused with the country of the donor!
NICODE	MCPD	Code identifying the National Inventory	3-letter ISO 3166 country code	See Annex 1 Ex: *NLD*

Recommended passport descriptors

Short name	Reference	Description	Format	Expected values / Remarks / examples
DONORCODE	MCPD	FAO-WIEWS code of the institute which provided material of that accession, if any	7 characters max	see WIEWS Institute table Ex: *NGB1912*
DONORNAME	MCPD	Name of the donor which will be particularly useful to trace duplicates in the European Collection.	100 characters max	Ex: *University of California, Davis*
ACQDATE	MCPD	Acquisition date (i.e. date on which the accession entered the collection)	YYYYMMDD Missing data (MM or DD) should be indicated with hyphens or '00' [double zero]	Ex: *1968----* Ex: *20020620*
OTHERNUMB	MCPD	Other identification (numbers) associated with the accession	30 characters max	Ex: *NGB1912*
BREDCODE	MCPD	FAO code of the breeding institute	6 characters max	Ex : *FRA057*
BREDDESCR	MCPD	Information (name) about the breeding institute	100 characters max	Ex: *CFFR from Chile*
SAMPSTAT	MCPD	Biological status of accession	The coding scheme proposed can be used at 3 different levels of detail: either by using the general codes (in boldface) such as 100, 200, 300, 400, or by using the more specific codes such as 110, 120, etc.	See Annex 1 Example for traditional cultivar : *300*
STORAGE	MCPD	Type of germplasm storage	If germplasm is maintained under different types of storage, multiple choices are allowed, separated by a semicolon	See Annex 1 Example for field collection and In vitro collection : *20;30*
HEALTHSTATUS	ECPGR *Prunus* Database Descriptors	Pest and disease status	1, 2, 3, 4, 8 or 9	See Annex 1 Example for health status not yet controlled: *9*
IDENTIF2	ECPGR *Prunus* Database Descriptors	Identification of material	1, 2, 3, 4 or 9	See Annex 1 Example for verified, using molecular markers: *2*
FEMALE PARENT	IBPGR cherry descriptor	Female parent of the accession	100 characters max	Ex: *Van*
MALE PARENT	IBPGR cherry descriptor	Male parent of the accession	100 characters max	Ex: *Burlat*

EXPERIMENT DATA

This kind of data aims to help to interpret the C&E data. All these descriptors are EURISCO descriptors.

- EXPERIMENT_DESCRIPTION: Brief English description of the experiment. Information relevant for the interpretation of the scores in the experiment, such as experimental design, experimenter, weather, etc. (max. 2000 alphanumeric characters).

- EXPERIMENT_START_YEAR: The year the experiment was performed (started) (4 numeric characters).

- EXPERIMENT_END_YEAR: The year in which the experiment ended (4 numeric characters).

- EXPERIMENT_LONGITUDE: The longitude of the experimental site, provided it was an experiment in the open field (decimal number).

- EXPERIMENT_LATITUDE: The latitude of the experimental site, provided it was an experiment in the open field (decimal number).

- ROOTSTOCK: On which rootstock(s) is the accession maintained? This information describes the individual representing the accession in the collection.

C&E DESCRIPTORS

METHODS AND OBSERVATIONS

Tree
Unless otherwise stated, all observations on the tree should be made during winter, on trees that have fruited at least once (UPOV).

Fruit and Stone
Unless otherwise indicated, all observations should be made on 10 typical fruits or stones out of a minimum of 20 fruits (cf. NAP). If possible fruits have to be picked on at least two trees (IBPGR). The fruits should be examined at peak maturity.

Flower
Unless otherwise stated, all observations on the flower should be made on fully developed flowers at the beginning of anther dehiscence (UPOV).

SCALES, STATES OF EXPRESSION AND CORRESPONDING NOTES

Most of the descriptors are recorded on a 1-9 scale.

The following recommendations about scales are extracted from UPOV/DUS Descriptors for Prunus Rootstocks TG/187/2.

"In the case of **qualitative and pseudo-qualitative characteristics** all relevant states of expression are presented in the characteristic.

However, in the case of **quantitative characteristics** with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows:

State	Note
small	3
medium	5
large	7

However, it should be noted that all of the following 9 states of expression exist to describe varieties and should be used as appropriate:

State	Note
very small	1
very small to small	2
small	3
small to medium	4
medium	5
medium to large	6
large	7
large to very large	8
very large	9

"

Moreover, as explained in the IPGRI Cherry Descriptors when **the descriptor is inapplicable, '0' is used** as the descriptor value. For example, if an accession does not form flowers, a '0' would be scored.

At last, **for most of quantitative traits evaluated by a measurement:** in the Excel template file used to score the accession, there are one column for recording the scale and one column for recording the quantitative measurement. **Filling the "scale column" is obligatory** (for FPD); filling the 'measurement column' is facultative.

FIRST PRIORITY DESCRIPTORS

FPD1. Phenology: Time of beginning of flowering

Date recorded on a 1-9 scale. The scale presented is an abbreviated scale. All 9 states of expression could be used.

Time of beginning of flowering: BBCH code 61 = Beginning of flowering: about 10% of flowers open, according to Meier (2001)
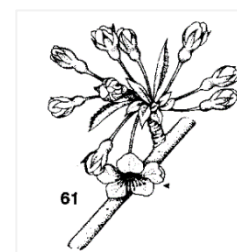

Figure 1. BBCH 61 (Meier 2001)

	Class	Reference cultivars (UPOV)
1	very early	Müncheberger Frühernte
3	early	Lapins, Marmotte, Sumtare
5	medium	Merton Glory, Napoléon, Sumele
7	late	Germersdofi 45, Reverchon
9	very late	Regina

FPD2. Phenology: Time of beginning of harvesting

Date recorded on a 1-9 scale. The scale presented is an abbreviated scale. All 9 states of expression could be used.

Season of maturity: BBCH code 89 = Fruit ripe for consumption: fruit has typical taste and firmness, according to Meier (2001).

	Class	Reference cultivars (EPDB)
1	extremely early	Münchenberger frühe
3	early	Bigarreau Burlat
5	mid-season	Merton Glory, Van
7	late	Sam, Hedelfingen
8	very late	Hudson, Regina
9	extremely late	later than Hudson and Regina

FPD3. Tree: vigour

Visual assessment of a quantitative trait recorded on a 1-9 scale. The scale presented is an abbreviated scale. All 9 states of expression could be used.

The tree vigour should be considered as the overall abundance of vegetative growth (UPOV).

	Class	Reference cultivars (UPOV)
1	very weak	Compact Stella, Compact Van
3	weak	Sumpaca, Szomolyai fekete
5	medium	Kordia, Stella, Sumtare
7	strong	Hedelfinger Riesenkirsche
9	very strong	Regina

FPD4. Tree: habit

Visual assessment of a pseudo-qualitative trait recorded on a 1-9 scale. All relevant states of expression are presented in the Table of characteristics.

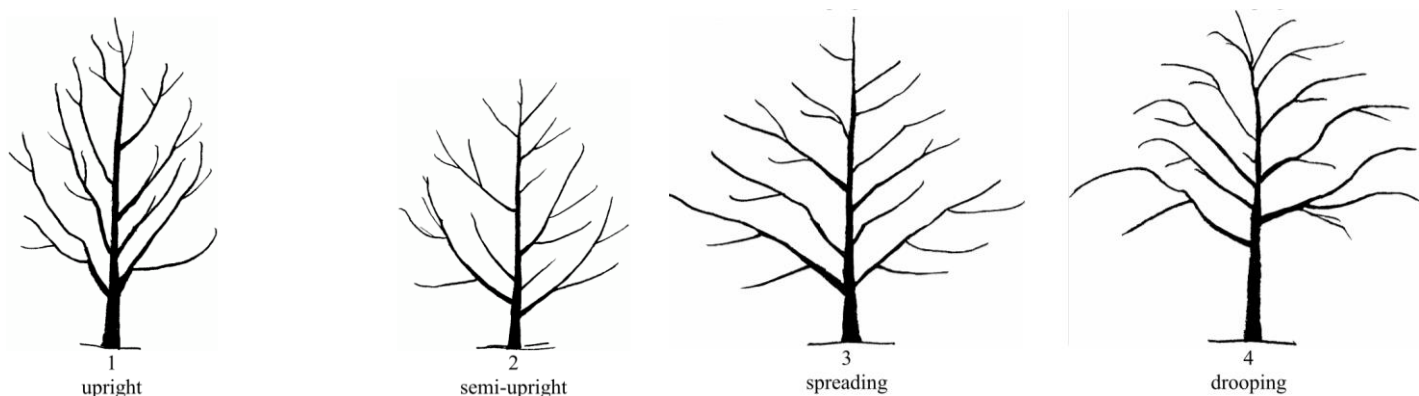|	Class	Reference cultivars (EPDB)
1	upright	Burlat
3	semi-upright	Hedelfingen
5	spreading	Guillaume, Stark Hardy Giant
7	drooping	
9	weeping	

Figure 2. Tree habit (UPOV)

FPD5. Fruit: size (g)

Quantitative measurement recorded on a 1-9 scale. The scale presented is an abbreviated scale. All 9 states of expression could be used.

Average weight of one fruit (over at least 20 fruits).
If score is also reported as quantitative measurement: in grams rounded to 1 decimal place

	Class	Reference cultivars (UPOV)
1	very small	Müncheberger Frühernte
3	small	Annonay, Szomolyai fekete
5	medium	Early Rivers, Schmidt
7	large	Burlat, Rainier
9	very large	Duroni 3, Sunburst

(<4g / <19mm)	(4-4.9g / 19-20mm)	(5-6.4g / 21-22mm)	(6.5-7.9g / 23-24mm)	(>8g / >24mm)
1=sehr klein	3=klein	5=mittel	7=gross	9=sehr gross
1=très petite	*3=petite*	*5=moyenne*	*7=grosse*	*9=très grosse*

Figure 3. Fruit size (NAP)

FPD6. Fruit: shape (lateral view)

Visual assessment of a pseudo-qualitative trait recorded on a 1-5 scale. All relevant states of expression are presented in the Table of characteristics.

	Class	Reference cultivars (UPOV)
1	cordate	Kordia, Summit
2	reniform	Van, Vera
3	oblate	Alex, Burlat,
4	circular	Germersdorfi 45, Reverchon
5	elliptic	Hedelfinger Riesenkirsche

Figure 4. Lateral view (NAP)

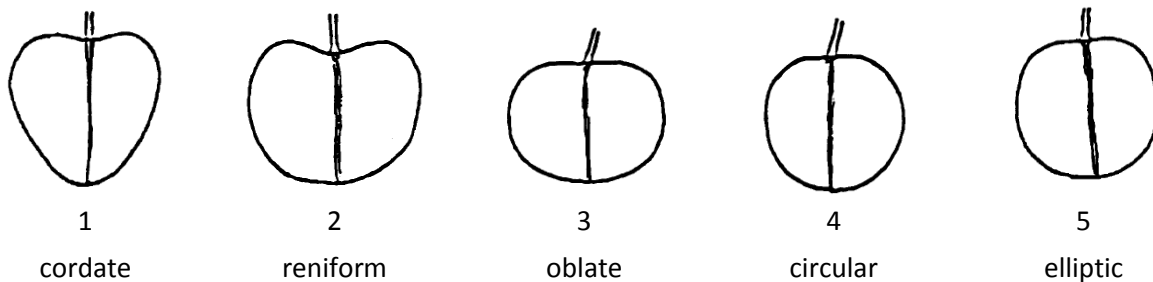| 1	2	3	4	5
cordate	reniform	oblate	circular	elliptic

Figure 5. Fruit shape (UPOV)

FPD7. Fruit: length of stalk (mm)

Measurement or Visual assessment of a quantitative trait recorded on a 1-9 scale. The scale presented is an abbreviated scale. All 9 states of expression could be used.

For quantitative measurement: Average length of one stalk (over at least 10 stalks) in mm rounded to 1 decimal place.

	Class	Reference cultivars (UPOV)
1	very short	Van
3	short	Burlat, Szomolyai fekete
5	medium	Hedelfinger Riesenkirsche, Sunburst
7	long	Kordia, Noire de Meched
9	very long	Delflash

1=sehr kurz
1=très court

3=kurz
3=court

5=mittel
5=moyen

7=lang
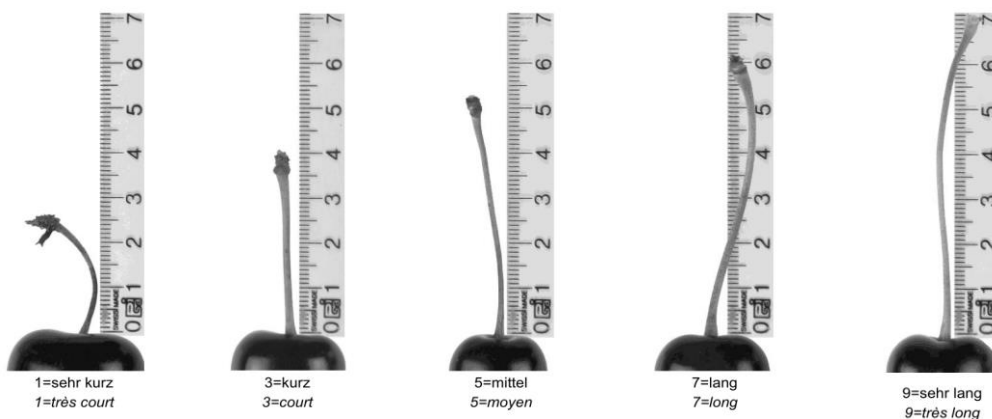7=long

9=sehr lang
9=très long

Figure 6. Length of stalk (NAP)

FPD8. Fruit: skin colour

Visual assessment of a pseudo-qualitative trait recorded on a 1-9 scale. All relevant states of expression are presented in the Table of characteristics.

Ground colour of the skin of fully mature fruits.

	Class	Reference cultivars sweet cherries (EPDB)
1	yellow	Dönissens Gelbe Knorpelkirsche, Yellow Drogan
3	vermilion on yellow ground	Napoléon, Vega,Büttners Rote Knorpelkirsche
4	light red	
5	red	Schneiders Späte Knorpelkirsche, Van
7	dark red	Hedelfingen, Sam
9	black	Knauffs Schwarze Herzkirsche

1=gelb 3=rot auf gelbem Grund 4=hellrot 5=rot 7=dunkelrot 9=schwarz
1=jaune 3=rouge sur fond jaune 4=rouge clair 5=rouge 7=rouge foncé 9=noir
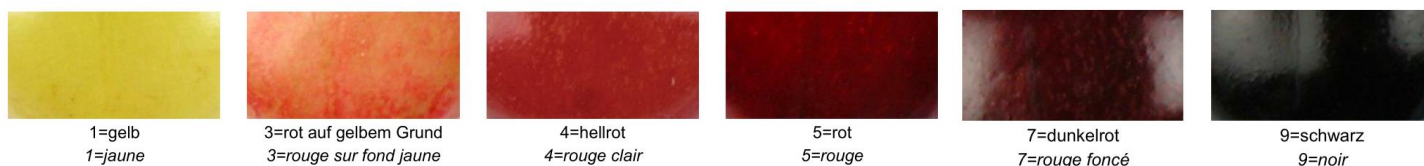
Figure 7. Skin colour (NAP)

FPD9. Fruit: colour of flesh

Visual assessment of a pseudo-qualitative trait recorded on a 1-9 scale. All relevant states of expression are presented in the Table of characteristics.

	Class	Reference cultivars sweet cherries (UPOV)
1	cream	Napoléon
2	yellow	Dönnissens Gelbe
3	pink	Reverchon, Sunburst
4	medium red	Germersdorfi 45, Hedelfinger Riesenkirsche
5	dark red	Rubin, Szomolyai fekete

1=cremeweiss 2=gelb 3=rosa 4=rot 5=dunkelrot
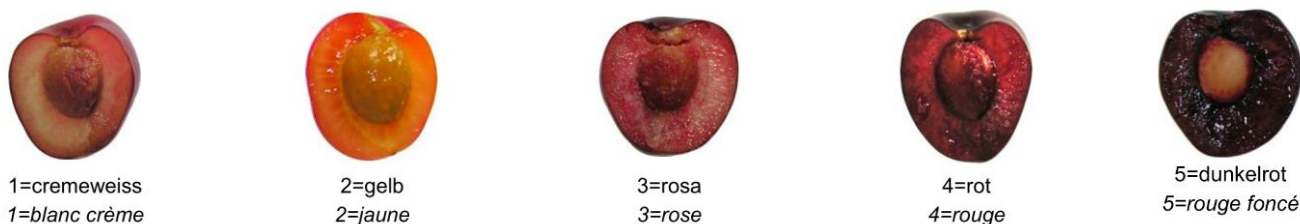1=blanc crème 2=jaune 3=rose 4=rouge 5=rouge foncé

Figure 8. Flesh colour (NAP)

FPD10. Fruit: colour of juice

Visual assessment of a pseudo-qualitative trait recorded on a 1-9 scale. All relevant states of expression are presented in the Table of characteristics.

	Class	Reference cultivars (EPDB)
1	colourless	Napoléon
3	pink	Reverchon
5	red	Sam, Van
7	purple	Hedelfingen
8	brown red	Schauenburger
9	black red	

1=farblos
1=incolore

3=rosa
3=rose

5=rot
5=rouge

7=purpur
7=pourpre

8=braunrot
8=brun rouge

9=schwarzrot
9=grenat

Figure 9. Colour of juice (NAP)

FPD11. Fruit: flesh firmness

Sensorial assessment (or measurement) of a quantitative trait recorded on a 1-9 scale. The scale presented is an abbreviated scale. All 9 states of expression could be used.

	Firmness	Reference cultivars sweet cherries (EPDB)
1	very soft	Kunzes Kirsche, Luciens Kirsche
3	soft	Early Rivers, Kasins Frühe, Knauffs Schwarze
5	medium	Burlat, Schauenburger
7	firm	Hedelfingen, Kordia, Van, Sam
9	very firm	Bing, Starking Hardy Giant, Schneiders Späte

FPD12. Fruit: soluble sugar content (SSC)

Quantitative measurement.
The sweetness of the fruit should be measured in degrees Brix.

FPD13. Fruit: titratable acidity (TA)

Quantitative measurement.
The acidity of the fruit should be measured as the titrable acidity, expressed in milliequivalent per 100 mL, is instrumentally assessed, by titrator, by neutralizing the total free acidity by a N/10 solution of NaOH.

Method: Dilute 10 ml of filtered homogenized juice (expressed by 5 to 25 ripe fruits sampled random) in distilled water, pour out, drop by drop, the NaOH solution until the pH reaches **8.4.**

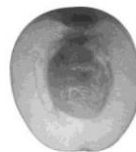*The correct 'order of magnitude' is 10.*

FPD14. Fruit: ratio stone size/fruit size

Visual assessment (or measurement) of a quantitative trait recorded on a 1-9 scale. The scale presented is an abbreviated scale. All 9 states of expression could be used.
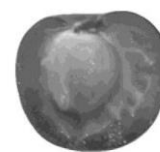
	Class (NAP)
3	small
5	medium
7	large
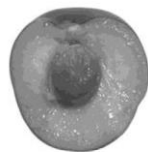
3=klein
3=petit

5=mittel
5=moyen

7=gross
7=grand

Figure 10. Ratio fruit/stone (NAP)

FPD15. Stone: shape (in ventral view)

Visual assessment of a pseudo-qualitative trait recorded on a 1-3 scale. All relevant states of expression are presented in the Table of characteristics.

	Class	Reference cultivars (UPOV)
1	medium elliptic	Kordia, Napoléon
2	broad elliptic	Knauffs, Rita
3	circular	Germersdorfi 45, Van

1   2   3

Figure 11. Stone shape in ventral view (UPOV)

FPD16. Fruit: flesh juiciness

Sensorial assessment of a quantitative trait recorded on a 1-9 scale. All relevant states of expression are presented in the Table of characteristics.

	Class	Reference cultivars (UPOV)
3	weak	Reverchon
5	medium	Early Rivers, Kordia
7	strong	Sándor, Szomolyai fekete

SECOND PRIORITY DESCRIPTORS

SPD1. Flower: diameter

Measurement or Visual assessment of a quantitative trait recorded on a 1-9 scale. The scale presented is an abbreviated scale. All 9 states of expression could be used.

Observations or measurements should be carried out on completely opened flowers with petals pressed into horizontal position.

For measurement: Average diameter of a flower (over at least 10 flowers), in mm rounded to 1 decimal place.

	Class	Reference cultivars (UPOV)
3	small	Anita, Szomolyai fekete
5	medium	Sylvia, Van
7	large	Aida, Burlat

SPD2. Flower: shape of petals

Visual assessment of a pseudo-qualitative trait recorded on a 1-3 scale. All relevant states of expression are presented in the Table of characteristics.

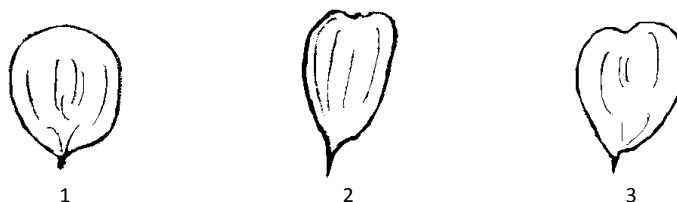|	Class	Reference cultivars (UPOV)
1	circular	Kordia, Schneiders spaete Knorpelkirsche
2	medium obovate	Burlat, Sunburst
3	broad obovate	Hedelfinger Riesenkirsche, Van

Figure 12. Shape of petals (UPOV)

SPD3. Flower: arrangement of petals

Visual assessment of a quantitative trait recorded on a 1-3 scale.

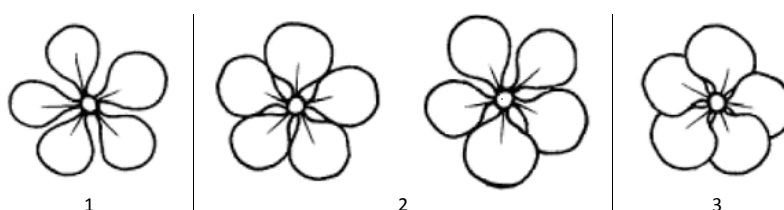|	Class	Reference cultivars (UPOV)
1	free	Burlat, Sunburst
2	intermediate	Germersdorfi 45, Van
3	overlapping	Hudson

Figure 13. Arrangement of petals (UPOV)

SPD4. Flower: self-fertility of flowers

Qualitative trait recorded on a 0-1 scale. All relevant states of expression are presented in the Table of characteristics.

	Class	Reference cultivars (IBPGR)
0	Self-incompatible	Burlat
1	Self-compatible	Stella

SPD5. Fruit: pistil end

Visual assessment of a quantitative trait recorded on a 1-3 scale.

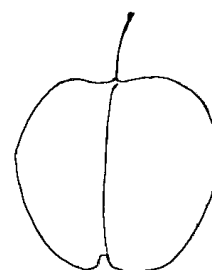|	Class	Reference cultivars (UPOV)
1	pointed	Guillaume, Kavics
2	flat	Hedelfinger Riesenkirsche, Van
3	depressed	Reverchon, Sunburst
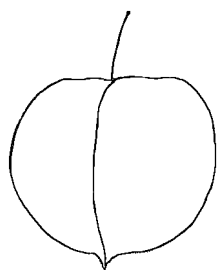
1
pointed
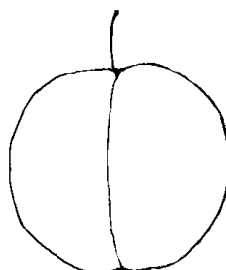
2
flat

3
depressed

Figure 14. Pistil end (UPOV)

SPD6. Fruit: suture

Visual assessment of a quantitative trait recorded on a 1-3 scale.

	Class	Reference cultivars (UPOV)
1	absent or very weakly conspicuous	Hedelfinger Riesenkirsche
2	weakly conspicuous	Germersdorfi 45
3	strongly conspicuous	Burlat, Rita

SPD7. Fruit: width of stalk

Visual assessment (or measurement) of a quantitative trait recorded on a 1-3 scale.

	Class	Reference cultivars (UPOV)
1	thin	Hedelfinger Riesenkirsche, Kordia
2	medium	Sunburst, Germersdorfi 45
3	thick	Van

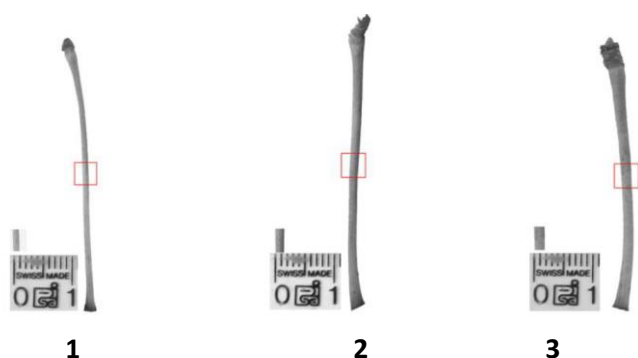**1**   **2**   **3**

Figure 15. Width of stalk (NAP)

SPD8. Fruit: skin cracking susceptibility

Quantitative trait recorded on a 1-9 scale. The scale presented is an abbreviated scale. All 9 states of expression could be used.

	Susceptibility	%	Reference cultivars (EPDB)
1	none	0	Early Rivers
2	very low	[1%]	
3	low	[5%]	Anabella
5	intermediate	[25%]	Hedelfingen, Stella
7	high	[50%]	Van
9	extremely high	[>60%]	Bing

SPD9. Fruit: depth of stalk cavity

Visual assessment (or measurement) of a quantitative trait recorded on a 1-9 scale. The scale presented is an abbreviated scale. All 9 states of expression could be used.

	Class (NAP)
1	none
3	small
5	medium
7	large

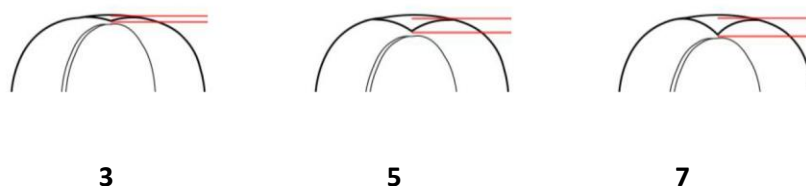**3**   **5**   **7**

Figure 16. Depth of stalk cavity (NAP)

SPD10. Fruit: Fruit removal force from the tree

Sensorial assessment of a quantitative trait recorded on a 1-9 scale. The scale presented is an abbreviated scale. All 9 states of expression could be used.

	Class
3	weak
5	medium
7	wide

SPD11. Fruit: Stalk removal force from the fruit

Sensorial assessment of a quantitative trait recorded on a 1-9 scale. The scale presented is an abbreviated scale. All 9 states of expression could be used.

	Class
3	weak
5	medium
7	wide

SPD12. Fruit: abscission layer between stalk and fruit

Qualitative trait recorded on a 1-9 scale. All relevant states of expression are presented in the Table of characteristics.

	Class	Reference cultivars (UPOV)
1	absent	Burlat, Sunburst
9	present	Alex, Vittoria

SPD13. Fruit: sensorial analysis of sugar/acid ratio

Sensorial assessment of a quantitative trait recorded on a 1-9 scale. All relevant states of expression are presented in the Table of characteristics.

	Class (IBPGR)
1	extremely acid
3	acid
5	good balance
7	sweet
9	extremely sweet

SPD14. Fruit: sensorial analysis of global taste

Qualitative trait recorded on a 1-9 scale. All relevant states of expression are presented in the Table of characteristics.

	Class (IBPGR)
1	extremely poor
3	poor
5	fair
7	good
9	extremely good

SPD15. Stone: size (weight)

Measurement of a quantitative trait recorded on a 1-9 scale. The scale presented is an abbreviated scale. All 9 states of expression could be used.

Average weight on one stone (over at least 10 stones), in grams rounded to 1 decimal place.

	Class	Reference cultivars (UPOV)
3	small	Hedelfinger Riesenkirsche, Van
5	medium	Burlat, Germersdofi 45
7	large	Guillaume, Merton Glory
9	very large	Valerij Chkalov, Carmen

SPD16. Stone: detachment of the flesh from the stone.

Sensorial assessment of a quantitative trait recorded on a 1-3 scale. All relevant states of expression are presented in the Table of characteristics.

	Class (NAP)
1	easy
2	medium
3	difficult

SPD17. Susceptibility: monilia

Quantitative trait recorded on a 1-9 scale. The scale presented is an abbreviated scale. All 9 states of expression could be used.

	Class (EPDB)
1	none
2	very low
3	low
5	intermediate
7	high
9	extremely high

Pictures

For each accession **one picture of fruits on tree**, and **one picture of fruits on light grey background** will be taken on a set-up according to NAP descriptors.
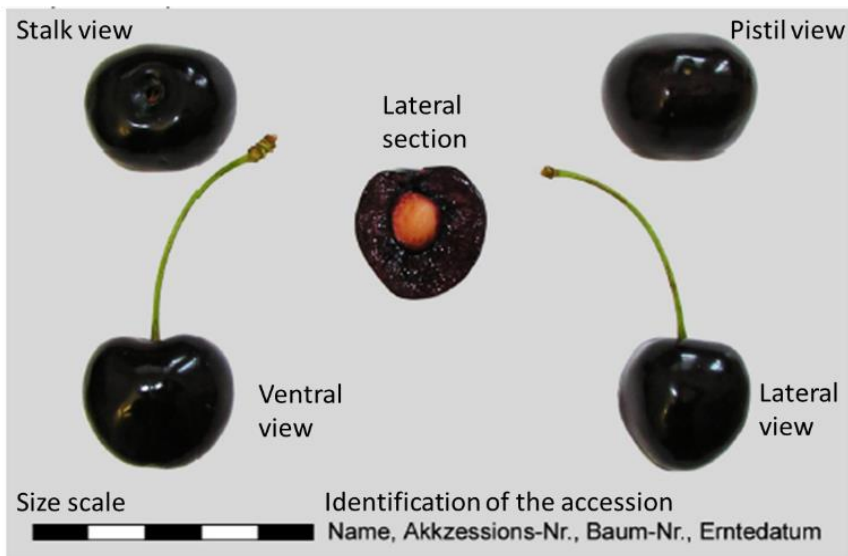

Figure 17. Picture set up according to NAP descriptors

Annex 1. Scales for passport descriptors

SAMPSTAT
100) Wild
200) Weedy
300) Traditional cultivar/landrace
400) Breeding/research material
500) Advanced/improved cultivar
999) Other (elaborate in Remarks field)

STORAGE
10) Seed collection
11) Short term
12) Medium term
13) Long term
20) Field collection
30) In vitro collection (Slow growth)
40) Cryopreserved collection
99) Other (elaborate in REMARKS field)

HEALTHSTATUS
10) Seed collection
11) Short term
12) Medium term
13) Long term
20) Field collection
30) In vitro collection (Slow growth)
40) Cryopreserved collection
99) Other (elaborate in REMARKS field)

IDENTIF2
1) Verified, comparing data from phenotypic observations and from pomology reference books
2) Verified, using molecular markers
3) Verified, using molecular markers and comparing data from phenotypic observations and from pomology reference books
4) Verified, using other identification methods (Elaborate in REMARKS field)
9) Not verified