UPOV

International Union for the Protection of New Varieties of Plants

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Technical Working Party for Vegetables
Fifty-Fourth Session
Brasilia, Brazil, May 11 to 15, 2020

Technical Working Party for Ornamental Plants and Forest Trees
Fifty-Second Session
Roelofarendsveen, Netherlands, June 8 to 12, 2020

Technical Working Party for Agricultural Crops
Forty-Ninth Session
Saskatoon, Canada, June 22 to 26, 2020

Technical Working Party for Fruit Crops
Fifty-First Session
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Technical Working Party on Automation and Computer Programs
Thirty-Eighth Session
Alexandria, United States of America, September 21 to 23, 2020

TWP/4/4

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UPOV INFORMATION DATABASES

Document prepared by the Office of the Union

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EXECUTIVE SUMMARY

1. The purpose of this document is to provide an update on developments concerning the GENIE database, UPOV Codes and the PLUTO database.

2. The TWPs are invited to:

(a) note that 208 new UPOV codes were created in 2019 and a total of 9,049 UPOV codes are included in the GENIE database;

(b) note that the TC, at its fifty-fifth session, agreed to postpone the amendment to the "Guide to the UPOV Code System" and to explore alternative solutions to enable UPOV Codes to provide useful information on variety groups or types for DUS testing purposes and to invite the Office of the Union to prepare a document with proposals, for consideration at its fifty sixth session;

(c) the developments concerning alternative solutions to enable UPOV Codes to provide useful information on variety groups or types for DUS testing purposes;

(d) note that the TC, at its fifty-fifth session, agreed to amend the UPOV codes for the genera and species set out in Annex IV this document;

(e) check the amendments, new UPOV codes or information, and UPOV codes used in the PLUTO database for the first time, as reproduced in Annex V to this document and submit comments to the Office of the Union by December 31, 2020;

(f) note that the "ISTA List of Stabilized Plant Names" with relevant UPOV codes was published on January 2020;

(g) note that the TC and the CAJ, at their sessions in 2019, approved the revision of the "Program for improvements to the PLUTO database" to reflect the change of the acceptable character set to accept accents and special characters in denominations in the PLUTO database (ISO/IEC Standard 8859 1: 1998); and

(h) note the summary of data contributions from members of the Union to the PLUTO database from 2016 to 2019, as presented in the Annex VI to this document.

3. The TWA and TWV are invited to consider amending the UPOV codes for *Beta vulgaris*, as set out in Annex II to this document.

4. The TWF is invited to consider amending the UPOV codes for *Citrus*, as set out in Annex III to this document.

5. The following abbreviations are used in this document:

CAJ:	Administrative and Legal Committee
GRIN:	Germplasm Resources Information Network
ISTA:	International Seed Testing Association
TC:	Technical Committee
TWA:	Technical Working Party for Agricultural Crops
TWC:	Technical Working Party on Automation and Computer Programs
TWF:	Technical Working Party for Fruit Crops
TWO:	Technical Working Party for Ornamental Plants and Forest Trees
TWP(s):	Technical Working Party(ies)
TWV:	Technical Working Party for Vegetables
WG-DEN:	Working Group on Variety Denominations

6. The structure of this document is as follows:

GENIE DATABASE

Background

7. The GENIE database (http://www.upov.int/genie/en/) has been developed to provide online information on the status of protection, cooperation in examination, experience in DUS testing and existence of UPOV Test Guidelines for different GENera and speclEs (hence GENIE). The GENIE database is used to generate the relevant Council and TC documents concerning that information[1].

8. The GENIE database is the repository of the UPOV codes and provides information concerning the principal and alternative botanical names and common names of plant taxa.

UPOV CODE SYSTEM

9. The "Guide to the UPOV Code System" is available on the UPOV website (see http://www.upov.int/genie/resources/pdfs/upov_code_system_en.pdf).

UPOV code developments

10. In 2019, 208 new UPOV codes were created. The total number of UPOV codes in the GENIE database as of December 31, 2019 was 9,049.

	Year									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
New UPOV codes	114	173	212	209	577	188	173	440	242	208
Amendments	6	12	5	47*	37	11	16	1	5	0
Total UPOV Codes	6,683	6,851	7,061	7,251	7,808	7,992	8,149	8,589	8,844	9,049

* including changes to UPOV codes resulting from the amendment of the "Guide to the UPOV Code System" concerning hybrids (see document TC/49/6).

11. The TWPs are invited to note that 208 new UPOV codes were created in 2019 and a total of 9,049 UPOV codes are included in the GENIE database.

Exceptions to UPOV codes in the "Guide to the UPOV Code System"

Brassica oleracea and Zea mays

12. The background to this matter is provided in document TWP/3/4 "UPOV information databases", paragraphs 13 to 16 and paragraphs 29 to 33. Specific proposals for updating the UPOV codes for *Brassica oleracea* and *Zea mays* are presented in Annex I to this document.

13. The Technical Committee (TC), at its fifty-fifth session, held in Geneva, on October 28 and 29, 2019, considered the proposed amendments to the "Guide to the UPOV Code System" to reflect the creation of exceptions for the UPOV Codes for popcorn, sweet corn and *Brassica oleracea* (see document TC/55/25 "Report", paragraphs 207 to 210).

14. The TC recalled that the main purpose of the UPOV Code System was to overcome the problem of synonyms for plant taxa and should be based on taxonomic criteria, also bearing in mind that the UPOV Code System was used by other international organizations, such as ISTA.

[1] See documents C/[session]/INF/6 "*List of the taxa protected by the members of the Union*"; C/[session]/INF/5 "*Cooperation in Examination*"; TC/[session]/INF/4 "*List of genera and species for which authorities have practical experience in the examination of distinctness, uniformity and stability*"; and TC/[session]/2 "*Test Guidelines*"

15. The TC agreed that the exceptions proposed to the "Guide to the UPOV Code System" diverged from the Germplasm Resources Information Network (GRIN). The TC agreed that UPOV Codes should continue following GRIN taxonomy as far as possible.

16. The TC agreed to postpone the amendment to the "Guide to the UPOV Code System" and to explore alternative solutions to enable UPOV Codes to provide useful information on variety groups or types for DUS testing purposes. The TC agreed to invite the Office of the Union to prepare a document with proposals, for consideration at its fifty-sixth session.

17. The Office of the Union contacted members of the Union that expressed a need for solutions to enable UPOV Codes to provide useful information on variety groups or types for DUS testing purposes, to clarify their requirements. That process is continuing but has not yet provided sufficient clarity to enable the Office of the Union to propose alternative solutions to enable UPOV Codes to provide useful information on variety groups or types for DUS testing purposes.

18. From consultations with members of the Union and related discussions, it is anticipated that alternative solutions should include consideration of the following elements:

(a) group/type or other information for DUS purposes);
(b) analysis of variety denominations according to variety denomination class;
(c) use of UPOV code in other databases relevant for UPOV members
(d) use of UPOV code by other relevant organizations

19. The solutions would also need to be developed in a way that would enable relevant information to be included in UPOV tools, notably UPOV PRISMA, PLUTO database GENIE database, Test Guidelines and the Web-based TG Template.

20. The TWPs are invited to note

(a) that the TC, at its fifty-fifth session, agreed to postpone the amendment to the "Guide to the UPOV Code System" and to explore alternative solutions to enable UPOV Codes to provide useful information on variety groups or types for DUS testing purposes and to invite the Office of the Union to prepare a document with proposals, for consideration at its fifty-sixth session; and

(b) the developments concerning alternative solutions to enable UPOV Codes to provide useful information on variety groups or types for DUS testing purposes.

New proposals for updating UPOV codes

UPOV codes for Beta vulgaris

21. The Office of the Union was informed of the inconsistency between GENIE and GRIN with regard to the botanical names of *Beta vulgaris* L. subsp. *vulgaris*.

22. Annex II to this document provides the number of entries in the PLUTO database for *Beta vulgaris* L. subsp. *vulgaris* and its synonyms, as currently provided in the GENIE database. A proposal for updating UPOV codes in line with the taxa in GRIN is provided in Annex II to this document. All previously recognized taxonomical ranks lower than subspecies are added as synonyms to *Beta vulgaris* L. subsp. *vulgaris*.

23. The TWA and TWV are invited to consider amending the UPOV codes for Beta vulgaris, as set out in Annex II to this document.

UPOV codes for Citrus

24. The Office of the Union was informed of the inconsistency between GENIE and GRIN with regard to the botanical names *Citrus*.

25. Annex III to this document provides the number of entries in the PLUTO database for *Citrus* and its current synonyms, as provided in the GENIE database. Annex III also presents a proposal for updating UPOV codes in line with the taxa in GRIN.

26. The TWF is invited to consider amending the UPOV codes for Citrus in line with GRIN, as set out in Annex III to this document.

27. The TWF is invited to consider amending the UPOV codes for Citrus, as set out in Annex III to this document.

UPOV code amendments agreed by the TC at its fifty-fifth session

28. The background to this matter is provided in document TWP/3/4 "UPOV information databases", paragraphs 40 to 76.

29. The TC, at its fifty-fifth session, considered proposals to amend UPOV Codes concerning the following genera and species, as reproduced in Annex IV to this document (see document TC/55/25 "Report", paragraph 211):

- *Ascocentrum* and *Neofinetia*, hybrids between *Ascocentrum* and *Neofinetia* and *Neofinetia falcata*
- *Citrus limettioides*
- *Digitalis*, *Isoplexis* and hybrids between *Digitalis* and *Isoplexis*
- inter-generic hybrids between *Echeveria* and *Sedum*
- *Haworthia* species
- hybrids between *Helleborus foetidus* and *Helleborus niger*
- *Homalocladium* species
- *Lavandula ×heterophylla*
- *Lobivia* and *Echinopsis chamaecereus*
- *Mahonia* species
- *Neotyphodium lolii*
- *Platostoma* and *Platostoma calcaratum*
- *Senecio* species
- *Wasabia* species

Implementation of UPOV code amendments

30. On January 13, 2020, the Office of the Union issued Circular E-19/213 to the designated persons of the members of the Union in the Administrative and Legal Committee (CAJ), TC, TWPs and contributors to the Plant Variety Database (PLUTO), informing that the above UPOV code amendments would take effect on April 1, 2020, and requesting PLUTO contributors to use the amended UPOV codes when submitting their plant variety data to the PLUTO database.

31. The TWPs are invited to note that the TC, at its fifty-fifth session, agreed to amend the UPOV codes for the genera and species set out in Annex IV to this document.

TWP checking

32. Section 3.3 of the "Guide to the UPOV Code System" provides the following:

> "Amendments to UPOV codes will be handled by the same procedure as the introduction of new UPOV codes […]. However, in addition, all members of the Union and contributors of data to the Plant Variety Database will be informed of any amendments".

33. In accordance with the procedure set out in Section 3.3 of the Guide to the UPOV Code System, the Office of the Union prepares tables of UPOV code additions and amendments, for checking by the relevant authorities, for each of the Technical Working Party (TWP) sessions in 2020.

34. The Excel files in Annex V to this document provide information on new UPOV codes added to the GENIE database and UPOV code amendments that have not yet been checked by the relevant authorities, as follows:

> "Part A, 'UPOV codes amendments to be checked':
>
> for each change, the old entry is highlighted in the row in red and the changes to the entry are found in the line immediately below that highlighted row (they have the same number in the first column). All Technical Working Parties and Authority(ies) are requested to check the amendments whether the amendments follow UPOV code system, reflects authentic botanical names and/or common names (see "Guide to the UPOV Code System" http://www.upov.int/export/sites/upov/genie/en/pdf/upov_code_system.pdf).
>
> "Part B 'New UPOV codes or new information':
>
> contains the new UPOV codes or new information added for existing UPOV codes. Highlighting in grey indicates that the UPOV code or name has not been changed. In this spreadsheet, the column headers highlighted in yellow indicate the relevant Technical Working Party (TWP) and Authority(ies) of interest which are requested to check the correctness of the information."
>
> "Part C 'Crop type(s) of UPOV codes used in the PLUTO database for the first time':
>
> contains the new crop type allocation or amended allocation for new and existing UPOV codes. In this spreadsheet, the column headers highlighted in yellow indicate the relevant crop type(s) which are requested to check the correctness of the information."

35. Annex V to this document contain parts A "UPOV codes amendments to be checked", B "New UPOV codes or new information", and C "Crop type(s) of UPOV codes used in the PLUTO database for the first time". The Excel format files are available on the TWV/54, TWO/52, TWA/49, TWF/51 and TWC/38 websites.

36. The TWPs are invited to check the amendments, new UPOV codes or information, and UPOV codes used in the PLUTO database for the first time, as reproduced in Annex V to this document and submit comments to the Office of the Union by December 31, 2020.

ISTA Nomenclature Committee

37. On June 30, 2019, the Office of the Union received a request from the International Seed Testing Association (ISTA) Nomenclature Committee to provide UPOV codes for all botanical names listed in the "ISTA List of Stabilized Plant Names". On October 3, 2019, the Office of the Union provided the list of UPOV codes covering all botanical names in the "ISTA List of Stabilized Plant Names". On January 2020, ISTA published the Seventh Edition of the "ISTA List of Stabilized Plant Names" with relevant UPOV codes (available at: https://www.seedtest.org/upload/cms/user/ISTAListofStabilizedPlantNamesed.75.pdf).

38. The TWPs are invited to note that the "ISTA List of Stabilized Plant Names" with relevant UPOV codes was published on January 2020.

PLUTO DATABASE

Program for improvements to the PLUTO database

39. The TC, at its fifty-fifth session, and the CAJ, at its seventy-sixth session, held in Geneva on October 30, 2019, agreed with the proposal to revise Section 3.1.3 of the "Program for improvements to the PLUTO database" to reflect the change of the acceptable character set to ISO/IEC Standard 8859 1: 1998, as follows (see documents TC/55/25 "Report", paragraph 214, and CAJ/76/9 "Report", paragraph 46):

> "3.1.3 Subject to Section 3.1.4, the character set for data shall be the Extended ASCII [American Standard Code for Information Interchange] representation, as defined in ISO [International Standards Organization]/IEC [International Electrotechnical Commission] Standard 8859 1: 1998."

40. The TWPs are invited to note that the TC and the CAJ, at their sessions in 2019, approved the revision of the "Program for improvements to the PLUTO database" to reflect the change of the acceptable character set to accept accents and special characters in denominations in the PLUTO database (ISO/IEC Standard 8859 1: 1998);

Summary of contributions to the PLUTO database from 2016 to 2019

41. Annex VI to this document provides a summary of data contributions from members of the Union to the PLUTO database from 2016 to 2019.

42. The TWPs are invited to note the summary of data contributions from members of the Union to the PLUTO database from 2016 to 2019, as presented in the Annex VI to this document.

[Annexes follow]

ANNEX I

EXTRACT FROM DOCUMENT TWP/2/4 "UPOV INFORMATION DATABASES"
(See document TWP/2/4, paragraphs 20 to 22 and 30 to 36)

UPOV code "ZEAAA_MAY_SAC", "ZEAAA_MAY_EVE" and "ZEAAA_MAY_MIC"

Background

20 The TWA, at its forty-sixth session, held in Hanover, Germany, from June 19 to 23, 2017, agreed that the UPOV Code ZEAAA_MAY_SAC should be combined with the UPOV Code ZEAAA_MAY_MAY under a single UPOV Code ZEAAA_MAY following the reclassification of Sweet Corn (*Zea mays* var. *saccharata*) as a subspecies of *Zea mays* subsp. *mays*.

21 The current entries in the GENIE database for "*Zea mays* L." and its subspecies, the taxa in the Germplasm Resources Information Network (GRIN) and the numbers of entries in the PLUTO database, are as follows:

UPOV code	Principal botanical name in GENIE	Botanical name(s) in GRIN	Common name(s) in GENIE	Numbers of Entries in PLUTO
ZEAAA_MAY	*Zea mays* L.	*Zea mays* L.	Corn; Maize	118,048
ZEAAA_MAY_SAC	*Zea mays* L. *saccharata* Koern.	*Zea mays* L. var. *saccharata* (Sturtev.) L. H. Bailey (as a synonym of *Zea mays* L. subsp. *Mays*)	Sweet Corn	757
ZEAAA_MAY_MAY	*Zea mays* L. subsp. *mays*	*Zea mays* L. subsp. *mays*	corn; maize; sweet corn etc.	803,853
ZEAAA_MAY_EVE	*Zea mays* L. var. *everta* (Praecox) Sturt.	[*Zea mays* L. var. *everta* (Praecox) Sturt. (as a synonym of *Zea mays* L. subsp. *Mays*)] [not recognized in GRIN]	Popcorn	56
ZEAAA_MAY_MEX	*Zea mays* L. subsp. *mexicana* (Schrad.) H. H. Iltis	*Zea mays* L. subsp. *mexicana* (Schrad.) H. H. Iltis	Durango teosinte; Mexican teosinte; Rayana grass	0
ZEAAA_MAY_MIC	*Zea mays* L. convar. *microsperma* Koern.	[*Zea mays* L. convar. *microsperma* Koern. (as a synonym of *Zea mays* L. subsp. *Mays*)] [not recognized in GRIN]	Popcorn	79

22 *Zea mays* L. and its subspecies, including *Zea mays* L. var. *saccharata*, are covered by the UPOV Test Guidelines for Maize (document TG/2/7).

Proposal

23 In accordance with the reclassification of *Zea mays* L. var. *saccharata* (sweet corn), *Zea mays* L. var. *everta* (Praecox) Sturt. and *Zea mays* L. convar. *microsperma* Koern (Popcorn) as synonyms of *Zea mays* L.subsp. *mays* in GRIN, the TWA might wish to consider deletion of the UPOV Codes ZEAAA_MAY_SAC, ZEAAA_MAY_EVE and ZEAAA_MAY_MIC. *Zea mays* L. var. *saccharata*, *Zea mays* L. var. *everta* (Praecox) Sturt. and *Zea mays* L. convar. *microsperma* Koern would be covered by the UPOV Code ZEAAA_MAY_MAY following the reclassification of *Zea mays* L. var. *saccharata* (sweet corn), *Zea mays* L. var. *everta* (Praecox) Sturt. and *Zea mays* L. convar. *microsperma* Koern (Popcorn) as synonyms of *Zea mays* L. subsp. *mays*, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
ZEAAA_MAY_SAC	*Zea mays* L. *saccharata* Koern.	n.a.	[to delete]	n.a.	n.a.
ZEAAA_MAY_EVE	*Zea mays* L. var. *everta* (Praecox) Sturt.	n.a.	[to delete]	n.a.	n.a.
ZEAAA_MAY_MIC	*Zea mays* L. convar. *microsperma* Koern.	n.a.	[to delete]	n.a.	n.a.
ZEAAA_MAY_MAY	*Zea mays* L. subsp. *mays*	*Zea mays* var *ceratina* L.; *Zea mays* var. *indentata* (Sturtev.) L. H. Bailey; *Zea mays* var. *indurata* (Sturtev.) L. H. Bailey; *Zea mays* var. *saccharata* (Sturtev.) L. H. Bailey	ZEAAA_MAY_MAY	*Zea mays* L. subsp. *mays*	*Zea mays* var *ceratina* L.; *Zea mays* var. *indentata* (Sturtev.) L. H. Bailey; *Zea mays* var. *indurata* (Sturtev.) L. H. Bailey; *Zea mays* var. *saccharata* (Sturtev.) L. H. Bailey; *Zea mays* L. *saccharata* Koern.; *Zea mays* L. var. *everta* (Praecox) Sturt.; *Zea mays* L. convar. *microsperma* Koern.

Brassica oleracea

Background

43. The Office of the Union was informed of the inconsistency between GENIE and GRIN with regard to the botanical names of *Brassica oleracea*.

44. The botanical names in GENIE are specified in the Section 2.3 of the "Guide to the UPOV Code System", which is reproduced as follows:

> "A grouping classification is used for UPOV codes within *Beta vulgaris* and part of *Brassica oleracea*. To indicate that a grouping classification is being used for those two species, the first letter of the third element of the UPOV code starts with "G". A summary of the structuring of the species is presented below:

UPOV code	*Botanical name*	*Common name*
BRASS_OLE_GA	**Brassica oleracea L. convar. acephala (DC.) Alef.**	**Kale**
BRASS_OLE_GAM	**Brassica oleracea L. convar. acephala (DC.) Alef. var. medullosa Thell.**	**Marrow-stem**
BRASS_OLE_GAR	**Brassica oleracea L. var. ramosa DC.**	**Catjang**
BRASS_OLE_GAS	**Brassica oleracea L. convar. acephala (DC.) Alef. var. sabellica L.**	**Curly kale**
BRASS_OLE_GAV	**Brassica oleracea L. convar. acephala (DC.) Alef. var. viridis L.**	**Fodder kale**
BRASS_OLE_GB	**Brassica oleracea L. convar. botrytis (L.) Alef.**	
BRASS_OLE_GBB	**Brassica oleracea L. convar. botrytis (L.) Alef. var. botrytis**	**Cauliflower**
BRASS_OLE_GBC	**Brassica oleracea L. convar. botrytis (L.) Alef. var. cymosa Duch.**	**Broccoli**
BRASS_OLE_GC	**Brassica oleracea L. convar. capitata (L.) Alef. var. capitata (L.) Alef.**	**Cabbage**
BRASS_OLE_GCA	**Brassica oleracea L. convar. capitata (L.) Alef. var. capitata L. f. alba DC.**	**White cabbage**
BRASS_OLE_GCR	**Brassica oleracea L. convar. capitata (L.) Alef. var. capitata L. f. rubra (L.)**	**Red cabbage**
BRASS_OLE_GCS	**Brassica oleracea L. convar. capitata (L.) Alef. var. sabauda L.**	**Savoy cabbage**
BRASS_OLE_GGM	**Brassica oleracea L. convar. oleracea var. gemmifera DC.**	**Brussels sprout**
BRASS_OLE_GGO	**Brassica oleracea L. convar. acephala (DC.) Alef. var. gongylodes L.**	**Kohlrabi**

45. Appendix I to this Annex provides the current entries in the GENIE database for *Brassica oleracea* except hybrids, the taxa in GRIN and the numbers of entries in the PLUTO database.

46. There are differences between botanical names in GRIN and those in GENIE, which suggest that the groupings within *Brassica oleracea* group are not recognized within GRIN classification:

47. *Brassica oleracea* L. convar. *capitata* (L.) Alef. var. *alba* DC. (BRASS_OLE_GCA) and *Brassica oleracea* L. convar. *capitata* (L.) Alef. var. *rubra* (L.) Thell . (BRASS_OLE_GCR) are not recognized in GRIN.

Proposal

48. The TWV might wish to consider amending the botanical names of *Brassica oleracea* in accordance with GRIN, with the consequent changes to the UPOV codes in relation to groups, as provided in Appendix II to this Annex, and the proposal on the revision of the Section 2.3 of the "Guide to the UPOV Code System", as provided in Appendix III to this document.

[…]

[Appendices follow]

ANNEX I, APPENDIX I

CURRENT SITUATION FOR BRASSICA OLERACEA

UPOV code	Principal botanical name in GENIE	Botanical name(s) in GRIN	Common name(s) in GENIE	Numbers of Entries in PLUTO
BRASS_OLE	*Brassica oleracea* L.	*Brassica oleracea* L.	n.a.	3,794
BRASS_OLE_GA	*Brassica oleracea* L. *convar. acephala* (DC.) Alef.	n.a.	Kale	156
BRASS_OLE_GAM	*Brassica oleracea* L. *convar. acephala* (DC.) Alef. *var. medullosa* Thell.	*Brassica oleracea* L. var. *medullosa* Thell.	Marrow-stem Kale	28
BRASS_OLE_GAR	*Brassica oleracea* L.var. *ramosa* DC.	*Brassica oleracea* L. var. *ramosa* DC.	branching bush kale; branching cabbage; perennial kale; perpetual kale; thousand-head kale	0
BRASS_OLE_GAS	*Brassica oleracea* L. *convar. acephala (DC.)* Alef. var. *sabellica* L.	*Brassica oleracea* L. var. *sabellica* L.	Borecole; Curly Kale; Dwarf Siberian kale; Kitchen kale; Scotch kale	415
BRASS_OLE_GAV	*Brassica oleracea* L. *convar. acephala* (DC.) Alef. var. *viridis* L.	*Brassica oleracea* L. var. *viridis* L.	Collards; Cow cabbage; Fodder Kale; Kale; Spring-heading cabbage; Tall kale; Tree kale	160
BRASS_OLE_GB	*Brassica oleracea* L. convar. *botrytis* (L.) Alef.	n.a.	n.a.	298
BRASS_OLE_GBB	*Brassica oleracea* L. *convar. botrytis* (L.) Alef. var. *botrytis*	*Brassica oleracea* L. var. *botrytis* L.	Cauliflower	3,522
BRASS_OLE_GBC	*Brassica oleracea* L. var. *italica* Plenck	*Brassica oleracea* L. var. *italic* Plenck	Calabrese; Cape broccoli; Sprouting Broccoli; Winter broccoli; asparagus broccoli; broccoli; heading broccoli; purple cauliflower	1,043
BRASS_OLE_GC	*Brassica oleracea* L. convar. *capitata* (L.) Alef.	*Brassica oleracea* L. var. *capitata* L.	Cabbage	292
BRASS_OLE_GCA	*Brassica oleracea L. convar. capitata* (L.) Alef. var. *alba* DC.	n.a.	White Cabbage	3,747
BRASS_OLE_GCR	*Brassica oleracea* L. *convar. capitata* (L.) Alef. var. *rubra* (L.) Thell.	n.a.	Red Cabbage	619
BRASS_OLE_GCS	*Brassica oleracea* L. convar. *capitata* (L.) Alef. var. *sabauda* L.	*Brassica oleracea* L. var. *sabauda* L.	Savoy Cabbage	533
BRASS_OLE_GGM	*Brassica oleracea* L. var. *gemmifera* Zenker	*Brassica oleracea* L. var. *gemmifera* DC.	Brussels Sprouts	950
BRASS_OLE_GGO	*Brassica oleracea* L. var. *gongylodes* L.	*Brassica oleracea* L. var. *gongylodes* L.	Kohlrabi; Stem turnip	543
BRASS_OLE_ALB	*Brassica oleracea* L. var. *alboglabra* (L. H. Bailey) Musil	*Brassica oleracea* L. var. *alboglabra* (L. H. Bailey) Musil	Chinese broccoli; Chinese kale	0
BRASS_OLE_COS	*Brassica oleracea* L. var. *costata* DC.	*Brassica oleracea* L. var. *costata* DC.	Bedford cabbage; Braganza; Portugese cole; Portuguese kale; Seakale cabbage; Tronchuda cabbage; Tronchuda kale	16

[Appendix II to Annex I follows]

ANNEX I, APPENDIX II

PROPOSAL ON CHANGES TO THE UPOV CODES FOR BRASSICA OLERACEA

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
BRASS_OLE	*Brassica oleracea* L.	n.a.	BRASS_OLE	*Brassica oleracea* L.	*Brassica oleracea* L. *convar. acephala* (DC.) Alef.; *Brassica oleracea* L. convar. *botrytis* (L.) Alef.
BRASS_OLE_GA	*Brassica oleracea* L. *convar. acephala* (DC.) Alef.	n.a.	[to delete]	n.a.	n.a.
BRASS_OLE_GAM	*Brassica oleracea* L. *convar. acephala* (DC.) Alef. *var. medullosa* Thell.	*Brassica oleracea* L. var. *medullosa* Thell.	BRASS_OLE_GAM	*Brassica oleracea* L. var. *medullosa* Thell.	*Brassica oleracea* L. *convar. acephala* (DC.) Alef. *var. medullosa* Thell.
BRASS_OLE_GAS	*Brassica oleracea* L. *convar. acephala (DC.)* Alef. var. *sabellica* L.	*Brassica oleracea* L. var. *sabellica* L.	BRASS_OLE_GAS	*Brassica oleracea* L. var. *sabellica* L.	*Brassica oleracea* L. *convar. acephala (DC.)* Alef. var. *sabellica* L.
BRASS_OLE_GAV	*Brassica oleracea* L. *convar. acephala* (DC.) Alef. var. *viridis* L.	*Brassica oleracea* L. var. *viridis* L.	BRASS_OLE_GAV	*Brassica oleracea* L. var. *viridis* L.	*Brassica oleracea* L. *convar. acephala* (DC.) Alef. var. *viridis* L.
BRASS_OLE_GB	*Brassica oleracea* L. convar. *botrytis* (L.) Alef.	n.a.	[to delete]	n.a.	n.a.
BRASS_OLE_GBB	*Brassica oleracea* L. *convar. botrytis* (L.) Alef. var. *botrytis*	*Brassica cauliflora* lizg	BRASS_OLE_GBB	*Brassica oleracea* L. var. *botrytis* L.	*Brassica oleracea* L. *convar. botrytis* (L.) Alef. var. *botrytis;* *Brassica cauliflora lizg*
BRASS_OLE_GC	*Brassica oleracea* L. convar. *capitata* (L.) Alef.	*Brassica oleracea* L. var. *capitata* L.	BRASS_OLE_GCC	*Brassica oleracea* L. var. *capitata* L.	*Brassica oleracea* L. convar. *capitata* (L.) Alef.; *Brassica oleracea* L. convar. *capitata* (L.) Alef. var. *capitata* (L.) Alef.*;* *Brassica oleracea L. convar. capitata* (L.) Alef. var. *alba* DC.; *Brassica oleracea* L. convar. *capitata* (L.) Alef. var. *capitata* L. f. *alba* DC. *Brassica oleracea* L. *convar. capitata* (L.) Alef. var. *rubra* (L.) Thell.; Brassica oleracea L. convar. capitata (L.) Alef. var. capitata L. f. rubra (L.) Thell.; *Brassica oleracea* L. convar. *capitata* (L.) Alef. var. *alba* DC. x *Brassica oleracea L. convar. capitata* (L.) Alef. var. *rubra* (L.) Thell
BRASS_OLE_GCA	*Brassica oleracea L. convar. capitata* (L.) Alef. var. *alba* DC.	*Brassica oleracea* L. convar. *capitata* (L.) Alef. var. *capitata* L. f. *alba* DC.	[to delete]	n.a.	n.a.
BRASS_OLE_GCR	*Brassica oleracea* L. *convar. capitata* (L.) Alef. var. *rubra* (L.) Thell	Brassica oleracea L. convar. capitata (L.) Alef. var. capitata L. f. rubra (L.) Thell.	[to delete]	n.a.	n.a.
BRASS_OLE_GCS	*Brassica oleracea* L. convar. *capitata* (L.) Alef. var. *sabauda* L.	*Brassica oleracea* L. convar. *capitata (L.)* Alef. var. *bullata* DC.	BRASS_OLE_GCS	*Brassica oleracea* L. var. *sabauda* L.	*Brassica oleracea* L. convar. *capitata* (L.) Alef. var. *sabauda* L. ; *Brassica oleracea* L. convar. *capitata (L.)* Alef. var. *bullata* DC.

[Appendix III follows]

ANNEX I, APPENDIX III

PROPOSAL ON THE REVISION OF THE SECTION 2.3 OF THE "GUIDE TO THE UPOV CODE SYSTEM"

Note for Draft revision

~~**Strikethrough**~~ **(highlighted in grey)** indicates deletion from the text of the "Guide to the UPOV Code System".

Underlining (highlighted in grey) indicates insertion to the text of the "Guide to the UPOV Code System".

2.3 Grouping classification: ~~*Brassica* and~~ *Beta*

A grouping classification is used for UPOV codes within *Beta vulgaris* ~~and part of *Brassica oleracea*~~. To indicate that a grouping classification is being used for ~~those two~~ *Beta vulgaris* species, the first letter of the third element of the UPOV code starts with "G". A summary of the structuring of the species is presented below:

UPOV code	*Botanical name*	*Common name*
BETAA_VUL	**Beta vulgaris L.**	
BETAA_VUL_GV	**Beta vulgaris L. ssp. vulgaris**	**Beet**
BETAA_VUL_**G**VA	Beta vulgaris L. ssp. vulgaris var. alba DC.	Fodder beet
BETAA_VUL_**G**VC	Beta vulgaris L. ssp. vulgaris var. conditiva Alef.	Beetroot
BETAA_VUL_**G**VF	Beta vulgaris L. ssp. vulgaris var. flavescens DC.	Leaf beet
BETAA_VUL_**G**VS	Beta vulgaris L. ssp. vulgaris var. saccharifera Alef.	Sugar beet
~~**BRASS_OLE_GA**~~	~~**Brassica oleracea L. convar. acephala (DC.) Alef.**~~	~~**Kale**~~
~~BRASS_OLE_**G**AM~~	~~Brassica oleracea L. convar. acephala (DC.) Alef. var. medullosa Thell.~~	~~Marrow-stem kale~~
~~BRASS_OLE_**G**AR~~	~~Brassica oleracea L. var. ramosa DC.~~	~~Catjang~~
~~BRASS_OLE_**G**AS~~	~~Brassica oleracea L. convar. acephala (DC.) Alef. var. sabellica L.~~	~~Curly kale~~
~~BRASS_OLE_**G**AV~~	~~Brassica oleracea L. convar. acephala (DC.) Alef. var. viridis L.~~	~~Fodder kale~~
~~**BRASS_OLE_GB**~~	~~**Brassica oleracea L. convar. botrytis (L.) Alef.**~~	
~~BRASS_OLE_**G**BB~~	~~Brassica oleracea L. convar. botrytis (L.) Alef. var. botrytis~~	~~Cauliflower~~
~~BRASS_OLE_**G**BC~~	~~Brassica oleracea L. convar. botrytis (L.) Alef. var. cymosa Duch.~~	~~Broccoli~~
~~**BRASS_OLE_GC**~~	~~**Brassica oleracea L. convar. capitata (L.) Alef. var. capitata (L.) Alef.**~~	~~**Cabbage**~~
~~BRASS_OLE_**G**CA~~	~~Brassica oleracea L. convar. capitata (L.) Alef. var. capitata L. f. alba DC.~~	~~White cabbage~~
~~BRASS_OLE_**G**CR~~	~~Brassica oleracea L. convar. capitata (L.) Alef. var. capitata L. f. rubra (L.) Thell.~~	~~Red cabbage~~
~~BRASS_OLE_**G**CS~~	~~Brassica oleracea L. convar. capitata (L.) Alef. var. sabauda L.~~	~~Savoy cabbage~~
~~**BRASS_OLE_GGM**~~	~~**Brassica oleracea L. convar. oleracea var. gemmifera DC.**~~	~~**Brussels sprout**~~
~~**BRASS_OLE_GGO**~~	~~**Brassica oleracea L. convar. acephala (DC.) Alef. var. gongylodes L.**~~	~~**Kohlrabi**~~

[Annex II follows]

ANNEX II

INCONSISTENCIES BETWEEN UPOV CODES AND GRIN FOR *BETA VULGARIS* SUBSP. *VULGARIS*
Current situation and proposed UPOV code amendments

Currrent					Proposal		
Entries in PLUTO	TG	UPOV Code	Principal botanical name	Other botanical name(s)	UPOV Code	Principal botanical name	Other botanical name(s)
5	/	**BETAA_VUL_GV**	**Beta vulgaris L. subsp. vulgaris**	n.a.	**BETAA_VUL_VUL**	**Beta vulgaris L. subsp. vulgaris**	Beta altissima Steud.; Beta brasiliensis hort. ex Voss, nom. inval.; Beta chilensis hort.; Beta cicla (L.) L.; vulgaris f. rhodopleura (Alef.) Helm; vulgaris f. vulgaris L.; vulgaris subsp. cicla (L.) Schübl. & G. Martens; Beta vulgaris subvar. flavescens DC.; Beta vulgaris var. altissima Döll; Beta vulgaris var. cicla L.; Beta vulgaris var. conditiva Alef.; Beta vulgaris var. flavescens (DC.) Mansf.; Beta vulgaris var. rapacea W. D. J. Koch; Beta vulgaris var. rubra DC.; Beta vulgaris var. saccharifera Alef.; Beta vulgaris var. vulgaris L.; Beta vulgaris var.-gr. crassa Alef.
1298	TG/150	BETAA_VUL_**G**VA	Beta vulgaris L. ssp. vulgaris var. alba DC.	Beta vulgaris L. ssp. vulgaris var. crassa Alef.; Beta vulgaris L. ssp. vulgaris var. crassa Mansf.; Beta vulgaris L. ssp. vulgaris var. rapacea K. Koch			
811	TG/60	BETAA_VUL_**G**VC	Beta vulgaris L. ssp. vulgaris var. conditiva Alef.	Beta vulgaris L. ssp. vulgaris var. esculenta L.; Beta vulgaris L. ssp. vulgaris var. hortensis			
195	TG/106	BETAA_VUL_**G**VF	Beta vulgaris L. ssp. vulgaris var. flavescens DC.	Beta vulgaris L. ssp. vulgaris var. cicla (L.) Ulrich; Beta vulgaris L. ssp. vulgaris var. vulgaris			
21799	/	BETAA_VUL_**G**VS	Beta vulgaris L. ssp. vulgaris var. saccharifera Alef.	Beta vulgaris L. ssp. vulgaris var. altissima Doell			

[Annex III follows]

ANNEX III

INCONSISTENCIES BETWEEN UPOV CODES AND GRIN FOR *CITRUS*
Current situation and proposed UPOV code amendments

Currrent					Proposal		
Entries in PLUTO	TG	UPOV Code	Principal botanical name	Other botanical name(s)	UPOV Code	Principal botanical name	Other botanical name(s)
10	TG/202	CITRU_AUM	Citrus aurantium L.	n.a.	CITRU_AUM	Citrus ×aurantium L.	Citrus amara Link; Citrus bigarradia Loisel.; Citrus intermedia hort. ex Tanaka; Citrus taitensis Risso; Citrus vulgaris Risso; Citrus ×aurantium subsp. aurantium L.; Citrus ×aurantium subsp. jambiri Engl.; Citrus ×aurantium subsp. keonla Engl.; Citrus ×aurantium subsp. suntara Engl.; Citrus ×aurantium var. aurantium L.; Citrus ×aurantium var. citrina Lush.; Citrus ×bigarradia var. volkameriana Risso; Citrus ×clementina hort. ex Tanaka; Citrus ×crenatifolia Lush.; Citrus reticulata × C. maxima"
115	TG/201	CITRU_CLE	Citrus clementina hort. ex Tanaka	n.a.			
1	/	CITRU_MRE	Citrus maxima X Citrus reticulata	n.a.			
0	TG/201	CITRU_CRE	Citrus crenatifolia Lush.	n.a.			
0	TG/204	CITRU_INT	Citrus intermedia hort. ex Tanaka	n.a.			
12	TG/203	CITRU_AUR	Citrus aurantiifolia (Christm.) Swingle	Citrus ×javanica Blume	CITRU_AUR	Citrus ×aurantiifolia (Christm.) Swingle	Citrus acida Roxb.; Citrus acida var. acida Roxb.; Citrus aurata Risso; Citrus excelsa var. davaoensis Wester; Citrus grandis Hassk.; Citrus grandis var. grandis Hassk.; Citrus grandis var. oblonga Hassk.; Citrus grandis var. sphaerocarpos Hassk.; Citrus hystrix subsp. acida (Roxb.) Engl.; Citrus lima Lunan; Citrus limetta var. aromatica Wester; Citrus limonellus Hassk.; Citrus limonellus var. limonellus Hassk.; Citrus limonellus var. oxycarpus Hassk.; Citrus medica var. acida (Roxb.) Hook. f.; Citrus ×aurantiifolia var. aurantiifolia (Christm.) Swingle; Citrus ×davaoensis (Wester) Tanaka; Citrus ×excelsa Wester; Citrus ×javanica Blume; Limonia aurantiifolia Christm., Citrus medica × C. micrantha"
0	TG/203	CITRU_AUA	Citrus aurata Risso	n.a.			
0	TG/203	CITRU_DAV	Citrus davaoensis (Wester) Tanaka	n.a.			
0	TG/203	CITRU_EXC	Citrus excelsa Wester	n.a.			
0	/	CITRU_HYS	Citrus hystrix DC.	n.a.	CITRU_HYS	Citrus hystrix DC.	Citrus auraria Michel; Citrus balincolong (Tanaka) Tanaka; Citrus boholensis (Wester) Tanaka; Citrus celebica Koord.; Citrus celebica var. celebica Koord.; Citrus combara Raf.; Citrus echinata St.-Lag.; Citrus hyalopulpa Tanaka; Citrus hystrix subsp. hystrix DC.; Citrus hystrix var. balincolong Tanaka; Citrus hystrix var. boholensis Wester; Citrus hystrix var. hystrix DC.; Citrus kerrii (Swingle) Tanaka; Citrus latipes Hook. f. & Thomson; Citrus macroptera var. annamensis Tanaka; Citrus macroptera var. kerrii Swingle; Citrus papeda Miq.; Citrus papuana F. M. Bailey; Citrus torosa Blanco; Citrus vitiensis Tanaka; Fortunella sagittifolia K. M. Feng & P. I Mao; Papeda rumphii Hassk.
0	TG/203	CITRU_KER	Citrus kerrii (Swingle) Tanaka	Citrus hyalopulpa Tanaka			
149	TG/203	CITRU_LIM	Citrus ×limon (L.) Osbeck	Citrus limon (L.) Burm. f.; Citrus medica var. limon L.; Citrus rissoi Risso; Citrus ×limonia Osbeck; Citrus ×mellarosa Risso; Citrus ×volkameriana (Risso) V. Ten. & Pasq.	CITRU_LIM	Citrus ×limon (L.) Osbeck	Citrus balotina Poit. & Turpin; Citrus bergamota Raf.; Citrus karna Raf.; Citrus limonum Risso; Citrus medica var. limon L.; Citrus rissoi Risso; Citrus ×limon (L.) Burm. f.; Citrus ×limonia Osbeck; Citrus ×mellarosa Risso; Citrus ×volkameriana (Risso) V. Ten. & Pasq.; a hybrid of Citrus × aurantium (C. maxima × C. reticulata) × C. medica
0	TG/203	CITRU_BAL	Citrus balotina Poit. & Turpin	n.a.			
0	TG/203	CITRU_KAR	Citrus karna Raf.	n.a.			
355	TG/201	CITRU_RET	Citrus reticulata Blanco	n.a.	CITRU_RET	Citrus reticulata Blanco	Citrus benikoji hort. ex Tanaka; Citrus daoxianensis S. W. He & G. F. Liu; Citrus depressa var. vangasay (Bojer) H. Perrier; Citrus nobilis Andrews; Citrus vangasay Bojer
0	TG/201	CITRU_BEN	Citrus benikoji hort. ex Tanaka	n.a.			

[Annex IV follows]

ANNEX IV

UPOV CODE AMENDMENTS AGREED BY THE TC AT ITS FIFTY-FIFTH SESSION

The following amendments to UPOV codes were agreed by the TC, at its fifty-fifth session:

UPOV code for Citrus limettioides

The Office of the Union was informed of a duplication of UPOV codes for *Citrus limettioides*. The UPOV Code CITRU_LIT was deleted.

UPOV code for inter-generic hybrids between Echeveria and Sedum

The Office of the Union was informed of the duplication of UPOV codes for inter-generic hybrids between *Echeveria* and *Sedum*.

The TC agreed to delete the UPOV Codes ECSED and ECSED_EMO. Echeveria elegans Rose. × Sedum morganianum E. Walther would be covered by the new UPOV Code SEDEV_EMO, which the Office of the Union would create. The principal botanical name of the UPOV Code SEDEV would include the wording "(*Echeveria* DC. × and *Sedum* L.)" after "×*Sedeveria* E. Walther". *Echeveria lilacina* Kimnach & R. C. Moran x *Sedum suaveolens* Kimnach would be covered by the new UPOV Code SEDEV_LSU, which the Office of the Union would create, as follows:

Current			Agreed amendments		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
ECSED	*Echeveria* DC. × *Sedum* L.	n.a.	[to delete]	n.a.	n.a.
ECSED_EMO	*Echeveria elegans* Rose. × *Sedum morganianum* E. Walther	n.a.	SEDEV _EMO	*Echeveria elegans* Rose. × *Sedum morganianum* E. Walther	n.a.
SEDEV	×*Sedeveria spp.*	*Echeveria lilacina* Kimnach & R. C. Moran × *Sedum suaveolens* Kimnach; Sedeveria	SEDEV	×*Sedeveria* E. Walther (*Echeveria* DC. × *Sedum* L.)	n.a.
n.a.	n.a.	n.a.	SEDEV_LSU	*Echeveria lilacina* Kimnach & R. C. Moran × *Sedum suaveolens* Kimnach	n.a.

UPOV codes for Platostoma and Platostoma calcaratum

The Office of the Union was informed of the duplication of UPOV codes for *Platostoma* and *Platostoma calcaratum*.

The TC agreed to delete the UPOV Codes CRTNT and CRTNT_CAL. *Ceratanthus* F. Muell. ex G. Taylor would be covered by the UPOV Code PLATO and *Ceratanthus calcaratus* (Hemsl.) G. Taylor would be covered by the UPOV Code PLATO_CAL, as follows:

Current			Agreed amendments		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
CRTNT	*Ceratanthus*	n.a.	[to delete]	n.a.	n.a.
PLATO	*Platostoma* P. Beauv.	*Ceratanthus*	PLATO	*Platostoma* P. Beauv.	*Ceratanthus* F. Muell. ex G. Taylor
CRTNT_CAL	*Ceratanthus calcaratus* (Hemsl.) G. Taylor	n.a.	[to delete]	n.a.	n.a.
PLATO_CAL	*Platostoma calcaratum* (Hemsl.) A. J. Paton	Ceratanthus calcaratus (Hemsl.) G. Taylor	PLATO_CAL	*Platostoma calcaratum* (Hemsl.) A. J. Paton	*Ceratanthus calcaratus* (Hemsl.) G. Taylor

UPOV codes for Digitalis, Isoplexis and hybrids between Digitalis and Isoplexis

The Office of the Union was informed of the duplication of UPOV codes for *Digitalis*, *Isoplexis* and hybrids between *Digitalis* and *Isoplexis*.

The TC agreed to delete the UPOV Codes ISOPL, DGISO, ISOPL_CAN and DGISO_PCA. *Isoplexis* would be covered by the UPOV Code DGTLS as a synonym of *Digitalis* and *Isoplexis canariensis* would be covered by the new UPOV Code DGTLS_CAN, which the Office of the Union would create. *Digitalis purpurea* × *Isoplexis canariensis* would be covered by the UPOV Code DGTLS_VAL, as follows:

Current			Agreed amendments		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
DGTLS	*Digitalis* L.	*Digiplexis* ined.; *Isoplexis* (Lindl.) Loudon	DGTLS	*Digitalis* L.	×*Digiplexis* ined.; *Isoplexis* (Lindl.) Loudon ; *Digitalis* L. × *Isoplexis* (Lindl.) Loudon
ISOPL	*Isoplexis* (Lindl.) Loudon	n.a.			
DGISO	*Digitalis* L. × *Isoplexis* (Lindl.) Loudon	n.a.			
ISOPL_CAN	*Isoplexis canariensis* (L.) Lindl.	n.a.	DGTLS _CAN	*Digitalis canariensis* L.	*Isoplexis canariensis* (L.) Lindl
DGTLS_VAL	*Digitalis* ×*valinii* J. D. Arm.	*Digitalis canariensis* × *Digitalis purpurea*	DGTLS_VAL	*Digitalis* ×*valinii* J. D. Arm.	*Digitalis canariensis* × *Digitalis purpurea*; *Digitalis purpurea* L. × *Isoplexis canariensis* (L.) Lindl.
DGISO_PCA	*Digitalis purpurea* L. × *Isoplexis canariensis (L.) Lindl.*	n.a.			

UPOV codes for Lobivia and Echinopsis chamaecereus

The Office of the Union was informed of the reclassification of *Lobivia* to *Echinopsis*, and a misallocation of the UPOV code for *Echinopsis chamaecereus*.

In accordance with the reclassification of *Lobivia* to *Echinopsis*, the TC agreed to delete the UPOV Codes LOBIV and LOBIV_SIL. The *Lobivia* genus would be covered by the UPOV Code ECHIN and *Echinopsis chamaecereus* would be covered by a new UPOV Code ECHIN_CHA, which the Office of the Union would create, as follows:

Current			Agreed amendments		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
ECHIN	*Echinopsis* Zucc.	*Acanthocalycium* Backeb.; *Acantholobivia* Backeb.; *Acanthopetalus* Y. Itô; etc.	ECHIN	*Echinopsis* Zucc.	*Lobivia* Britton & Rose; *Acanthocalycium* Backeb.; *Acantholobivia* Backeb.; *Acanthopetalus* Y. Itô etc.
LOBIV	*Lobivia*	n.a.			
LOBIV_SIL	*Echinopsis chamaecereus* H. Friedrich & Glaetzle	*Chamaecereus silvestrii* (speg.) Britton et Rose; *Lobivia silvestrii* (speg.) G.D. Rowley	ECHIN_CHA	*Echinopsis chamaecereus* H. Friedrich & Glaetzle	*Cereus silvestrii* Speg.; *Chamaecereus silvestrii* (Speg.) Britton & Rose; *Lobivia silvestrii* (Speg.) G. D. Rowley

UPOV codes for Ascocentrum and Neofinetia, hybrids between Ascocentrum and Neofinetia and Neofinetia falcata

The Office of the Union was informed of the reclassification of *Ascocentrum* and *Neofinetia* to *Vanda*.

In accordance with the reclassification of *Ascocentrum* and *Neofinetia* to *Vanda*, the TC agreed to delete the UPOV codes ASCOC, ASNEO, NEOFI and NEOFI_FAL. The *Ascocentrum* and *Neofinetia* genera would be covered as synonyms of *Vanda* genus under the UPOV Code VANDA. *Neofinetia falcata* would be covered as a synonym of *Vanda falcata* under a new UPOV code VANDA_FAL, which the Office of the Union would create, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
VANDA	*Vanda* Jones	n.a.	VANDA	*Vanda Jones* ex R. Br.	*Ascocentrum* Schltr. ex J. J. Sm.; *Neofinetia* Hu; *Ascocentrum x Neofinetia; Ascofinetia; Ascocentropsis* Senghas & Schildh.; *Christensonia* Haager; *Eparmatostigma* Garay; *Euanthe* Schltr.; *Seidenfadenia* Garay; *Trudelia* Garay
ASCOC	*Ascocentrum* Schltr. ex J. J. Sm.	n.a.			
NEOFI	*Neofinetia* Hu	n.a.			
ASNEO	*Ascocentrum x Neofinetia*	*Ascofinetia*			
NEOFI_FAL	*Neofinetia falcata* (Thunb.) Hu	n.a.	VANDA_FAL	*Vanda falcata* (Thunb.) Beer	*Neofinetia falcata* (Thunb.) Hu; *Orchis falcata* Thunb.

UPOV codes for Haworthia species

The Office of the Union was informed of the reclassification of certain *Haworthia* species *to Haworthiopsis* species.

In accordance with the reclassification of certain *Haworthia* species to *Haworthiopsis* species, the TC agreed to delete the UPOV codes HAWOR_FAS, HAWOR_LIM, HAWOR_LFA and HAWOR_MAR. *Haworthia fasciata* would be covered as synonym of *Haworthiopsis fasciata* under a new UPOV code HAWOT_FAS. *Haworthia limifolia* would be covered as synonym of *Haworthiopsis limifolia* under a new UPOV code HAWOT_LIM. *Haworthia limifolia* × *Haworthia fasciata* would be covered as synonym of hybrids between *Haworthiopsis limifolia* and *Haworthia fasciata* under a new UPOV code HAWOT_LFA. Those new codes above would be created by the Office of the Union. *Haworthia margaritifera* would be covered as synonym of *Haworthia maxima* under the UPOV code HAWOR_MAX, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
HAWOR_FAS	*Haworthia fasciata* (Willd.) Haw.	n.a.	HAWOT_FAS	*Haworthiopsis fasciata* (Willd.) G. D. Rowley	*Apicra fasciata* Willd.; *Haworthia fasciata* (Willd.) Haw.; *Haworthia fasciata f. major (*Salm-Dyck) Poelln.*; Haworthia fasciata f. ovato-lanceolata* Poelln.; *Haworthia fasciata f. sparsa* Poelln.; *Haworthia fasciata f. subconfluens* (Poelln.) Poelln.; *Haworthia fasciata f. vanstaedensis* Poelln.; *Haworthia fasciata f. variabilis* Poelln.; *Haworthia fasciata var. subconfluens* Poelln.
HAWOR_LFA	*Haworthia limifolia* × *Haworthia fasciata*	n.a.	HAWOT_LFA	hybrids between *Haworthiopsis limifolia* (Marloth) G. D. Rowley *and Haworthiopsis fasciata* (Willd.) Haw.	*Haworthia limifolia* × *Haworthia fasciata*
HAWOR_LIM	*Haworthia limifolia* Marloth	n.a.	HAWOT_LIM	*Haworthiopsis limifolia* (Marloth) G. D. Rowley	*Haworthia limifolia* Marloth
HAWOR_MAX	*Haworthia maxima (*Haw.) Duval	n.a.	HAWOR_MAX	*Haworthia maxima* (Haw.) Duval	*Haworthia margaritifera (L.) Haw.; Aloe pumila var. margaritifera* L.*; Aloe semimargaritifera* Salm-Dyck; *Haworthia margaritifera var. semimargaritifera* (Salm-Dyck) Baker; *Haworthia papillosa var. semipapillosa* Haw.; *Haworthia semiglabrata* Haw.
HAWOR_MAR	*Haworthia margaritifera* (L.) Haw.	n.a.			

UPOV codes for Mahonia and its species

The Office of the Union was informed of reclassification of *Mahonia* to *Berberis.*

In accordance with the reclassification of *Mahonia* to *Berberis*, the TC agreed to amend the UPOV codes MAHON, MAHON_ACA, MAHON_AQU, MAHON_BEA, MAHON_JAP, MAHON_LOM, MAHON_PUM and MAHON_REP. *Mahonia* would be covered as synonym of *Berberis* under UPOV code BERBE. *Mahonia acanthifolia* would be covered as a synonym of *Berberis napaulensis* under a new UPOV code BERBE_NAP.

Mahonia aquifolium would be covered as a synonym of *Berberis aquifolium* under a new UPOV code BERBE_AQU. *Mahonia bealei* would be covered as a synonym of *Berberis bealei* under a new UPOV code BERBE_BEA. *Mahonia japonica* would be covered as a synonym of *Berberis japonica* under a new UPOV code BERBE_JAP. *Mahonia lomariifolia* would be covered as a synonym of *Berberis oiwakensis* under a new UPOV code BERBE_OIW. *Mahonia pumila* would be covered as a synonym of *Berberis pumila* under a new UPOV code BERBE_PUM. *Mahonia repens* would be covered as a synonym of *Berberis repens* under a new UPOV code BERBE_REP. Above new codes would be created by the Office of the Union, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
BERBE	*Berberis* L.	n.a.	BERBE	*Berberis* L.	*Mahonia* Nutt.; *Odostemon* Raf.
MAHON	*Mahonia* Nutt.	n.a.			
MAHON_ACA	*Mahonia acanthifolia* G. Don	n.a.	BERBE _NAP	*Berberis napaulensis* (DC.) Spreng.	*Mahonia acanthifolia* G. Don
MAHON_AQU	*Mahonia aquifolium* (Pursh) Nutt.	n.a.	BERBE _AQU	*Berberis aquifolium* Pursh	*Mahonia aquifolium* (Pursh) Nutt.; *Berberis diversifolia* (Sweet) Steud.; *Mahonia aquifolium subsp. aquifolium* (Pursh) Nutt.; *Mahonia diversifolia* Sweet
MAHON_BEA	*Mahonia bealei* (Fortune) Carrière	*Mahonia bealei* (Fort.) Carr	BERBE _BEA	*Berberis bealei* Fortune	*Mahonia bealei* (Fortune) Carrière; *Berberis japonica var. bealei* (Fortune) Skeels;
MAHON_JAP	*Mahonia japonica* (Thunb.) DC.	n.a.	BERBE _JAP	*Berberis japonica* (Thunb.) Spreng.	*Mahonia japonica* (Thunb.) DC.; *Ilex japonica* Thunb.
MAHON_LOM	*Mahonia lomariifolia* Takeda	n.a.	BERBE _OIW	*Berberis oiwakensis* (Hayata) Laferr.	*Mahonia lomariifolia* Takeda; *Berberis lomariifolia* (Takeda) Laferr.; *Mahonia oiwakensis* Hayata
MAHON_PUM	*Mahonia pumila* (Greene) Fedde	n.a.	BERBE _PUM	*Berberis pumila* Greene	*Mahonia pumila* (Greene) Fedde
MAHON_REP	*Mahonia repens* (Lindl.) G. Don	n.a.	BERBE _REP	*Berberis repens* Lindl.	*Mahonia repens* (Lindl.) G. Don; *Berberis sonnei* (Abrams) McMinn; *Mahonia repens var. repens* (Lindl.) G. Don; *Mahonia repens var. rotundifolia* (May) Fedde ; *Mahonia sonnei* Abrams

UPOV codes for Homalocladium and its species

The Office of the Union was informed of reclassification of *Homalocladium* to *Muehlenbeckia.*

In accordance with the reclassification of *Homalocladium* to *Muehlenbeckia*, the TC agreed to amend the UPOV codes HOMLC and HOMLC_PLA. *Homalocladium* would be covered as a synonym of *Muehlenbeckia* under UPOV code MUEHL. *Homalocladium platycladum* would be covered as a synonym of *Muehlenbeckia platyclada* under a new UPOV code MUEHL_PLA which the Office of the Union would create, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
MUEHL	*Muehlenbeckia* Meisn.	n.a.	MUEHL	*Muehlenbeckia* Meisn.	*Homalocladium* (F. Muell.) L. H. Bailey
HOMLC	*Homalocladium* (F. v. Muell.) L.H. Bailey	n.a.			
HOMLC_PLA	*Homalocladium platycladum* (F. Muell.) L. H. Bailey	n.a.	MUEHL_PLA	*Muehlenbeckia platyclada* (F. Muell.) Meisn.	*Homalocladium platycladum* (F. Muell.) L. H. Bailey; *Polygonum platycladum* F. Muell.

UPOV codes for Wasabia genus and its species

The Office of the Union was informed of the reclassification of *Wasabia* to *Eutrema.*

In accordance with the reclassification of *Wasabia* to *Eutrema*, the TC agreed to delete the UPOV codes WASAB and WASAB_JAP. *Wasabia* would be covered as a synonym of *Eutrema* under a new UPOV code EUTRE, which the Office of the Union would create. *Wasabia japonica* would be covered as a synonym of

Eutrema japonicum under a new UPOV code EUTRE_JAP, which the Office of the Union would create, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
WASAB	*Wasabia*	n.a.	EUTRE	*Eutrema* R. Br.	*Esquiroliella* H. Lév.; *Glaribraya* H. Hara; *Martinella* H. Lév.; *Neomartinella* Pilg.; *Platycraspedum* O. E. Schulz; *Taphrospermum* C. A. Mey.; *Thellungiella* O. E. Schulz; *Wasabia* Matsum.
WASAB_JAP	*Eutrema japonicum* (Miq.) Koidz.	*Cochlearia wasabi* Siebold, nom. nud.; *Eutrema koreanum* auct. nonn.; *Eutrema wasabi* Maxim.; *Lunaria japonica* Miq.; *Wasabia japonica* (Miq.) Matsum.; *Wasabia pungens* Matsum.; *Wasabia wasabi* (Maxim.) Makino	EUTRE_JAP	*Eutrema japonicum* (Miq.) Koidz.	*Cochlearia wasabi* Siebold, nom. nud.; *Eutrema koreanum* auct. nonn.; *Eutrema wasabi* Maxim.; *Lunaria japonica* Miq.; *Wasabia japonica* (Miq.) Matsum.; *Wasabia pungens* Matsum.; *Wasabia wasabi* (Maxim.) Makino

UPOV code for Neotyphodium lolii

The Office of the Union was informed of the reclassification of *Neotyphodium lolii* to *Epichloe festucae.*

In accordance with the reclassification of *Neotyphodium lolii to Epichloe festucae*, the TC agreed to delete the UPOV code NEOTY_LOL. *Neotyphodium lolii* would be covered as a synonym of *Epichloe festucae* under UPOV code EPICH_FES, as follows:

Current			Proposal		
UPOV code	Principal scientific name	Other scientific name(s)	UPOV code	Principal scientific name	Other scientific name(s)
NEOTY_LOL	*Neotyphodium lolii*	n.a.	EPICH_FES	*Epichloe festucae* Leuchtm., Schardl & M.R. Siegel	*Acremonium lolii* Latch, M.J. Chr. & Samuels; *Epichloe festucae var. lolii* (Latch, M.J. Chr. & Samuels) C.W. Bacon & Schardl; *Neotyphodium lolii* (Latch, M.J. Chr. & Samuels) Glenn, C.W. Bacon & Hanlin

UPOV codes for Senecio species

The Office of the Union was informed of the reclassification of certain *Senecio* species *to Brachyglottis, Curio, Jacobaea, Pericallis and Tephroseris* species.

The current entries in the GENIE database for certain *Senecio* species, the taxa in GRIN and the numbers of entries in the PLUTO database, are as follows:

UPOV code	Principal botanical name in GENIE	Botanical name(s) in GRIN	Common name(s) in GENIE	Numbers of Entries in PLUTO
SENEC_BIC	*Senecio bicolor* (Willd.) Tod., non Vis.	*Jacobaea maritima* (L.) Pelser & Meijden (synonym: *Senecio bicolor* (Willd.) Tod.; *Senecio cineraria* DC.)	n.a.	1
SENEC_CIN	*Senecio cineraria* DC.		n.a.	0
SENEC_CHE	*Senecio cruentus* × *S. heritierii DC.*	*Pericallis cruenta* (Masson ex L'Hér.) Bolle × *Pericallis lanata* (L'Hér.) B. Nord. (synonym: *Senecio cruentus* × *S. heritieri DC.*)	n.a.	32
SENEC_CON	*Senecio congestus* (R. Br.) DC.	*Tephroseris palustris* (L.) Rchb. (synonym: *Senecio congestus* (R. Br.) DC.)	n.a.	0
SENEC_CRU	*Senecio cruentus* (Masson ex L'Hér.) DC.	*Pericallis cruenta* (Masson ex L'Hér.) Bolle (synonym: *Senecio cruentus* (Masson ex L'Hér.) DC.)	cineraria	156
SENEC_FIC	*Senecio ficoides* (L.) Sch. Bip.	*Curio ficoides* (L.) P. V. Heath (synonym: *Senecio ficoides* (L.) Sch. Bip.)	n.a.	2

UPOV code	Principal botanical name in GENIE	Botanical name(s) in GRIN	Common name(s) in GENIE	Numbers of Entries in PLUTO
SENEC_HER	*Senecio heritieri* DC.	*Pericallis lanata* (L'Hér.) B. Nord. (synonym: *Senecio heritieri* DC.)	n.a.	0
SENEC_JAC	*Senecio jacobaea* L.	*Jacobaea vulgaris* Gaertn. (synonym: *Senecio jacobaea* L.)	n.a.	0
SENEC_LAX	*Senecio laxifolius* Buchanan	*Brachyglottis laxifolia* (Buchanan) B. Nord. (synonym: *Senecio laxifolius* Buchanan)	n.a.	0
SENEC_TAL	*Curio talinoides* (DC.) P. V. Heath	*Curio talinoides* (DC.) P. V. Heath	n.a.	1

In accordance with the reclassification of certain *Senecio* species *to Brachyglottis, Curio, Jacobaea, Pericallis and Tephroseris* species, the TC agreed to delete the UPOV codes SENEC_BIC, SENEC_CIN, SENEC_CHE, SENEC_CON, SENEC_CRU, SENEC_FIC, SENEC_HER, SENEC_JAC, SENEC_LAX and SENEC_TAL. *Senecio bicolor* and *Senecio cineraria* would be covered as synonym of *Jacobaea maritima* under a new UPOV code JACOB_MAR. Hybrids between *Senecio cruentus* and *S. heritieri* would be covered as synonym of hybrids between *Pericallis cruenta* and *P. lanata* under a new UPOV code PERIC_CLA. *Senecio congestus* would be covered as synonym of *Tephroseris palustris* under a new UPOV code TEPHO_PAL. *Senecio cruentus* would be covered as synonym of *Pericallis cruenta* under a new UPOV code PERIC_CRU. *Senecio ficoides* would be covered as synonym of *Curio ficoides* under a new UPOV code CURIO_FIC. *Senecio heritieri* would be covered as synonym of *Pericallis lanata* under a new UPOV code PERIC_LAN. *Senecio jacobaea* would be covered as synonym of *Jacobaea vulgaris* under a new UPOV code JACOB_VUL. *Senecio laxifolius* would be covered as synonym of *Brachyglottis laxifolia* under a new UPOV code BRCHG_LAX. *Senecio talinoides* would be covered as synonym of *Curio talinoides* under a new UPOV code CURIO_TAL. Those new codes above would be created by the Office of the Union, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
SENEC_BIC	*Senecio bicolor* (Willd.) Tod., non Vis.	*Cineraria bicolor* Willd.; *Senecio cineraria* DC. subsp. *bicolor* (Willd.) Arcang.	JACOB_MAR	*Jacobaea maritima* (L.) Pelser & Meijden	*Senecio bicolor* (Willd.) Tod.; *Senecio cineraria* DC.; *Cineraria bicolor* Willd.; *Othonna maritima* L.; *Senecio bicolor* subsp. *cineraria* (DC.) Chater; *Senecio cineraria* subsp. *bicolor* (Willd.) Arcang.
SENEC_CIN	*Senecio cineraria* DC.	n.a.			
SENEC_CHE	*Senecio cruentus* × *S. heritierii DC.*	n.a.	PERIC_CLA	Hybrids between *Pericallis cruenta* and *P. lanata*	Hybrids between *Senecio cruentus* and *S. heritieri*
SENEC_CON	*Senecio congestus* (R. Br.) DC.	n.a.	TEPHO_PAL	*Tephroseris palustris* (L.) Rchb.	*Senecio congestus* (R. Br.) DC.; *Cineraria congesta* R. Br.; Othonna palustris L.; *Senecio palustris* (L.) Hook.; *Senecio tubicaulis* Mansf.
SENEC_CRU	*Senecio cruentus* (Masson ex L'Hér.) DC.	*Cineraria cruenta* Masson ex L'Hér.; *Pericallis cruenta* (Masson ex L'Hér.) Bolle	PERIC_CRU	*Pericallis cruenta* (Masson ex L'Hér.) Bolle	*Senecio cruentus* (Masson ex L'Hér.) DC. ; *Cineraria cruenta* Masson ex L'Hér.
SENEC_FIC	*Senecio ficoides* (L.) Sch. Bip.	*Curio ficoides* (L.) P. V. Heath	CURIO_FIC	*Curio ficoides* (L.) P. V. Heath	*Senecio ficoides* (L.) Sch. Bip.; *Cacalia ficoides* L.; *Kleinia ficoides* (L.) Haw.
SENEC_HER	*Senecio heritieri* DC.	n.a.	PERIC_LAN	*Pericallis lanata* (L'Hér.) B. Nord.	*Senecio heritieri* DC. ; *Cineraria lanata* L'Hér.
SENEC_JAC	*Senecio jacobaea* L.	n.a.	JACOB_VUL	*Jacobaea vulgaris* Gaertn.	*Senecio jacobaea* L.
SENEC_LAX	*Senecio laxifolius* Buchanan	*Brachyglottis laxifolia* (Buchanan) B. Nord.	BRCHG_LAX	*Brachyglottis laxifolia* (Buchanan) B. Nord.	*Senecio laxifolius* Buchanan
SENEC_TAL	*Curio talinoides* (DC.) P. V. Heath	*Senecio talinoides* Andes	CURIO_TAL	*Curio talinoides* (DC.) P. V. Heath	*Senecio talinoides* Andes

UPOV code for hybrid between Helleborus foetidus and Helleborus niger

The Office of the Union was informed of a duplication of UPOV codes for hybrid between *Helleborus foetidus* and *Helleborus niger*.

The current entries in the GENIE database for hybrid between *Helleborus foetidus* and *H. niger*, the taxa in GRIN and the numbers of entries in the PLUTO database, are as follows:

UPOV code	Principal botanical name in GENIE	Botanical name(s) in GRIN	Common name(s) in GENIE	Numbers of entries in PLUTO
HELLE_FNI	*Helleborus foetidus* L. x *H. niger* L.	*Helleborus* ×*sahinii* Grimshaw (with a comment "= *Helleborus niger* × *H. foetidus*")	n.a.	1
HELLE_SAH	*Helleborus* ×*sahinii* Grimshaw	*Helleborus* ×*sahinii* Grimshaw	n.a.	1

The TC agreed to delete the UPOV Code HELLE_FNI.

UPOV code for Lavandula ×heterophylla

The Office of the Union was informed of a duplication of UPOV codes for *Lavandula* ×*heterophylla*.

The current entries in the GENIE database for *Lavandula* ×*heterophylla*, the taxa in GRIN and the numbers of entries in the PLUTO database, are as follows:

UPOV code	Principal botanical name in GENIE	Botanical name(s) in GRIN	Common name(s) in GENIE	Numbers of entries in PLUTO
LAVAN_HET	*Lavandula* ×*heterophylla* Viv.	*Lavandula* ×*heterophylla* Viv.	n.a.	3
LAVAN_XAL	*Lavandula* ×*allardii*	*Lavandula* ×*heterophylla* Viv. (synonym: *Lavandula* ×*allardii* Hy)	n.a.	3

The TC agreed to delete the UPOV Code LAVAN_XAL. *Lavandula* ×*allardii* Hy would be covered by the UPOV Code LAVAN_HET, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
LAVAN_XAL	*Lavandula* ×*allardii*	n.a.	[to delete]	n.a.	n.a.
LAVAN_HET	*Lavandula* ×*heterophylla* Viv.	n.a.	LAVAN_HET	*Lavandula* ×*heterophylla* Viv.	*Lavandula* ×*allardii*

[Annex V follows]

ANNEX V

[See Excel files]

[Annex VI follows]

ANNEX VI

REPORT ON DATA CONTRIBUTED TO THE PLANT VARIETY DATABASE BY MEMBERS OF THE UNION AND OTHER CONTRIBUTORS AND ASSISTANCE FOR DATA CONTRIBUTION

Contributor	Number of applications for PBR in 2018	Number of new data submissions to PLUTO in 2015	Number of new data submissions to PLUTO in 2016	Number of new data submissions to PLUTO in 2017	Number of new data submissions to PLUTO in 2018	Number of new data submissions to PLUTO in 2019
African Intellectual Property Organization	4 (2017)	0	0	0	0	0
Albania	n.a.	1	1	0	0	0
Argentina	329	0	1	0	0	2
Australia	384	5	7	5	22	20
*Austria	0	3	4	4	5	5
Azerbaijan	19 (2014)	0	0	0	0	0
Belarus	42	0	1	0	0	0
*Belgium	1	6	5	3	5	6
Bolivia (Plurinational State of)	5	0	1	1	0	0
Bosnia and Herzegovina	n.a.	n.a.	n.a.	0	0	0
Brazil	327	3	0	3	5	11
*Bulgaria	18	12	6	3	4	10
Canada	330	7	11	11	10	12
Chile	99	4	6	5	7	6
China	5,760	2	1	1	0	1
Colombia	168	0	0	2	0	1
Costa Rica	4	1	3	2	1	5
*Croatia	9	3	2	2	2	2
*Czech Republic	70	3	6	9	6	6
*Denmark	7	12	11	10	7	11
Dominican Republic	5 (2009)	0	0	0	0	0
Ecuador	85	0	0	1	1	0
Egypt	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
*Estonia	5	9	3	3	9	6
*European Union	3,554	10	13	7	11	8
*Finland	7	2	2	2	3	1
*France	98	13	11	8	8	12
Georgia	1	0	2	0	2	0
*Germany	57	11	12	8	9	11
*Hungary	6	16	19	14	11	16
*Iceland	n.a.	0	0	0	0	0
*Ireland	0 (2012)	2	2	1	2	2
Israel	68	1	1	1	0	8
*Italy	3	8	6	6	3	4
Japan	880	4	1	2	3	4
Jordan	3 (2016)	0	1	0	0	0
Kenya	0	0	1	0	0	0
Kyrgyzstan	1	0	0	0	0	0

* Data provided via the CPVO.

Contributor	Number of applications for PBR in 2018	Number of new data submissions to PLUTO in 2015	Number of new data submissions to PLUTO in 2016	Number of new data submissions to PLUTO in 2017	Number of new data submissions to PLUTO in 2018	Number of new data submissions to PLUTO in 2019
*Latvia	16	1	1	2	2	1
*Lithuania	7	3	4	4	3	4
Mexico	308	1	3	3	4	2
Montenegro	n.a.	0	0	0	0	0
Morocco	109	2	0	0	0	0
*Netherlands	792	10	11	8	9	11
New Zealand	112	6	5	6	6	6
Nicaragua	0	0	0	0	0	0
North Macedonia	n.a.	0	0	0	0	0
*Norway	14	4	3	4	7	6
Oman	n.a.	0	0	2	0	0
Panama	0	0	1	1	0	0
Paraguay	27	1	1	0	1	0
Peru	52	0	0	1	1	1
*Poland	103	3	5	7	3	3
*Portugal	0	0	2	1	2	1
Republic of Korea	765	0	1	0	1	4
Republic of Moldova	37	3	3	1	2	7
*Romania	32	4	4	4	4	5
Russian Federation	780	5	5	5	4	3
Serbia	30	3	4	2	4	1
Singapore	8	0	0	0	0	0
*Slovakia	8	4	5	6	4	4
*Slovenia	0 (2017)	5	5	3	4	4
South Africa	286	0	1	2	2	5
*Spain	113	5	5	5	4	4
*Sweden	2	11	12	11	9	9
*Switzerland	57	6	5	6	3	6
Trinidad and Tobago	n.a.	0	0	0	0	0
Tunisia	27	0	0	0	0	0
*Turkey	178	1	3	0	2	1
Ukraine	1,575	0	0	0	3	11
*United Kingdom	328	11	13	10	12	10
United Republic of Tanzania	5	0	0	0	0	0
United States of America	1,609	17	16	12	12	16
Uruguay	48	1	0	0	0	0
Uzbekistan	43	0	0	0	1	0
Viet Nam	242	0	0	0	0	0
OECD	-	0	2	2	2	2

[End of Annex VI and of document]