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International Union for the Protection of New Varieties of Plants

Technical Working Party for Vegetables Fifty-Sixth Session Virtual meeting, April 18 to 22, 2022	**TWP/6/4** **Original:** English **Date:** April 13, 2022

Technical Working Party for Agricultural Crops
Fifty-First Session
Cambridge, United Kingdom, May 23 to 27, 2022

Technical Working Party for Ornamental Plants and Forest Trees
Fifty-Fourth Session
Hanover, Germany, June 13 to 17, 2022

Technical Working Party for Fruit Crops
Fifty-Third Session
Virtual meeting, July 11 to 15, 2022

Technical Working Party on Testing Methods and Techniques
First Session
Virtual meeting, September 19 to 23, 2022

UPOV INFORMATION DATABASES

Document prepared by the Office of the Union

Disclaimer: this document does not represent UPOV policies or guidance

EXECUTIVE SUMMARY

1.   The purpose of this document is to report developments concerning the GENIE database and UPOV codes; the PLUTO database; and request the checking of amended UPOV codes or used in the PLUTO database for the first time.

2.   The TWPs are invited to:

(a)   note that 131 new UPOV codes were created in 2021 and a total of 9,342 UPOV codes are included in the GENIE database;

(b)   note the amendments agreed by the TC, at its fifty-seventh session, to the UPOV codes for *Beta vulgaris, Brassica oleracea, Citrus, Zea mays, Aloe aristata* and *Dicentra spectabilis* as set out in paragraphs 15 to 26 of this document;

(c)   note that members of the Union and contributors of data to the PLUTO database would be informed of the changes to UPOV codes and the date of the changes by means of a circular in advance;

(d)   check the amendments, new UPOV codes or information, and UPOV codes used in the PLUTO database for the first time, as reproduced in Annex IV to this document and submit comments to the Office of the Union by December 31, 2022.

(e)   note the summary of data contributions from members of the Union to the PLUTO database from 2017 to 2021, as presented in the Annex V to this document.

3.   The TWF and TWO are invited to consider:

        (a)   the proposal to delete the UPOV Codes *HYLOC, HYLOC_COS, HYLOC_GUA, HYLOC_GUN, HYLOC_POL and HYLOC_UND*, as set out in paragraph 34 of this document;

4.   The TWO is invited to consider:

        (a)   the proposal to delete the UPOV Codes CALAT_CRO, CALAT_LOE, CALAT_LRO, CALAT_ROS and CALAT_WAR, as set out in paragraph 38 of this document;

5.   The structure of this document is as follows:

6.   The following abbreviations are used in this document:

CAJ:	Administrative and Legal Committee
GRIN:	Germplasm Resources Information Network
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
TWM:	Technical Working Party for Testing Methods and Techniques
TWO:	Technical Working Party for Ornamental Plants and Forest Trees
TWP(s):	Technical Working Party(ies)
TWV:	Technical Working Party for Vegetables

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 specIEs (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.

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[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".

UPOV Code System

9.   The guide to the UPOV code system (document UPOV/INF/23 "UPOV Code System") was adopted by the Council on September 21, 2021, in the procedure by correspondence, on the basis of document UPOV/INF/23/1 Draft 3 (see document C/55/12 "Outcome of consideration of documents by correspondence", paragraph 32).

10.   Matters concerning new proposals for the revision of document UPOV/INF/23 "Guide to the UPOV code system" are presented in document TWP/6/1 "Development of guidance and information materials".

UPOV code developments

11.   In 2021, 131 new UPOV codes were created. The total number of UPOV codes in the GENIE database as of December 31, 2021 was 9,342.

	Year										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
New UPOV codes	173	212	209	577	188	173	440	242	243	177	131
Amendments	12	5	47*	37	11	16	1	5	3	44	35
Total UPOV Codes	6,851	7,061	7,251	7,808	7,992	8,149	8,589	8,844	9,077	9,213	9,342

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

12.   The TWPs are invited to note that 131 new UPOV codes were created in 2021 and a total of 9,342 UPOV codes are included in the GENIE database.

PROPOSALS FOR AMENDING UPOV CODES

13.   The following amendments to UPOV codes were agreed by the TC at its fifty-seventh session (see document TC/57/25 "Report", paragraphs 69 to 82).

14.   The TC noted that members of the Union and contributors of data to the PLUTO database would be informed of the changes to UPOV codes and the date of the changes by means of a circular in advance.

UPOV codes for *Beta vulgaris*

15.   The TC, at its fifty-seventh session[2], agreed to amend the UPOV codes for *Beta vulgaris* L. subsp. *vulgaris*, as reproduced in Annex I to this document.

16.   The TC agreed to append information to UPOV codes for *Beta vulgaris* L. subsp. *vulgaris* to establish the following groups:

        (i)   Fodder beet group: Class 2.1 ("21FB"),
        (ii)   Sugar beet group: Class 2.1 ("21SB"),
        (iii)   Beetroot group: Class 2.2 ("22BR"),
        (iv)   Leaf beet group: Class 2.2 ("22LB").

17.   The TC agreed that information on denomination classes in document UPOV/EXN/DEN "Explanatory notes on variety denominations under the UPOV Convention" would need to be updated as follows:

_____
[2] Held via electronic means on October 25 and 26, 2021

	Botanical names	UPOV codes
Class 2.1	*B. vulgaris* L. ssp. *vulgaris* (synonym to *B. vulgaris* L. var. *alba* DC.), *B. vulgaris* L. ssp. *vulgaris* (synonym to *B. vulgaris* L. var. *altissima)*	BETAA_VUL_VUL_21FB; BETAA_VUL_VUL_21SB
Class 2.2	*Beta vulgaris* ssp. *vulgaris* var. *conditiva* Alef. (synonym to *B. vulgaris* L. var. *rubra* L.), B. *vulgaris* L. var. *cicla* L., *B. vulgaris* L. ssp. *vulgaris* var. *vulgaris*	BETAA_VUL_VUL_22BR; BETAA_VUL_VUL_22LB
Class 2.3	*Beta* other than classes 2.1 and 2.2.	other than classes 2.1 and 2.2

UPOV codes for *Brassica oleracea*

18.   The TC, at its fifty-seventh session, agreed to amend the botanical names for *Brassica oleracea* in accordance with GRIN, with the consequent changes to the UPOV codes in relation to groups, as provided in the Appendix to Annex II of this document.

19.   The TC agreed appending information to the UPOV code for *Brassica oleracea* L. var. *capitata* L. (BRASS_OLE_GC) to create variety groups or types for White and Red Cabbage, as follows:

    (i)   White Cabbage: 1W (e.g. BRASS_OLE_GC_1W)
    (ii)   Red Cabbage: 2R (e.g. BRASS_OLE_GC_2R)

UPOV codes for *Citrus*

20.   The TC, at its fifty-seventh session, agreed to append information to UPOV code CITRU_AUM to create groups "1MA" for mandarins; and "2OR" for oranges.

21.   The TC agreed to amend the UPOV code CITRU_AUM, following the reclassification of *Citrus clementina* hort. ex *Tanaka* (UPOV code: CITRU_CLE) as a synonym of *Citrus aurantium* L. (UPOV code: CITRU_AUM), as set out in Annex III to this document.

22.   The TC agreed with the proposal from the TWF for partial revision of the Test Guidelines for *Citrus* to move obsolete species from the "principle botanical names" box to the "alternative botanical names".

UPOV codes ZEAAA_MAY_SAC, ZEAAA_MAY_EVE and ZEAAA_MAY_MIC

23.   The TC, at its fifty-seventh session, agreed to delete the UPOV Codes ZEAAA_MAY_SAC, ZEAAA_MAY_EVE and ZEAAA_MAY_MIC, that would be covered by the UPOV code ZEAAA_MAY_MAY.

24.   The TC agreed to append information on variety types or groups to the UPOV code ZEAAA_MAY_MAY to establish the following variety types or groups:

    (i)   Corn; Maize: "1MA",
    (ii)   Sweet Corn: "2SW",
    (iii)   Popcorn: "3PO".

UPOV code for *Aloe aristata*

25.   The TC agreed to delete the UPOV Code ALOEE_ARI as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
ALOEE_ARI	*Aloe aristata* Haw.	*Aristaloe aristata* (Haw.) Boatwr. & J. C. Manning	ARSTL_ARI	*Aristaloe aristata* (Haw.) Boatwr. & J. C. Manning	*Aloe aristata* Haw.

UPOV code for *Dicentra* species

26.   The TC agree to delete the UPOV Code DICEN_SPE, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
DICEN_SPE	*Dicentra spectabilis* (L.) Lem.	*Lamprocapnos spectabilis* (L.) Fukuhara	LAMPO_SPE	*Lamprocapnos spectabilis* (L.) Fukuhara	*Dicentra spectabilis* (L.) Lem.

27.   The TWPs are invited to note:

(a)   the amendments agreed by the TC, at its fifty-seventh session, to the UPOV codes for Beta vulgaris, Brassica oleracea, Citrus, Zea mays, Aloe aristata and Dicentra spectabilis as set out in paragraphs 15 to 26 of this document; and

(b)   that members of the Union and contributors of data to the PLUTO database would be informed of the changes to UPOV codes and the date of the changes by means of a circular in advance.

Proposed amendments for consideration by the TWF and TWO in 2022

28.   The following sections present proposals for amendments to UPOV codes for consideration by the TWF and TWO at their session in 2021.

29.   Section 4.3 (d) 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".

30.   The conclusions at the TWF and TWO as indicated in the following sections, for amendments to UPOV codes, will be presented at the fifty-eighth session of the TC.

31.   On the basis of the conclusions at the fifty-eighth session of the TC on the matters presented in the following sections, members of the Union and contributors of data to the PLUTO database will be informed of the changes and the date of the changes by means of a circular in advance. Contributors of data to the PLUTO database will be requested to use the amended UPOV codes when submitting their plant variety data to the Office of the Union.

UPOV code for Hylocereus species

Background

32.   The Office of the Union was informed of the reclassification of certain *Hylocereus* species *to Selenicereus* species.

33.   The current entries in the GENIE database for certain *Hylocereus* 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	Number of entries in PLUTO
HYLOC	*Hylocereus* (A. Berger) Britton & Rose	n.a.	Asian bleeding-heart; Bleeding-heart	0
HYLOC_COS	*Hylocereus costaricensis* (F. A. C. Weber) Britton & Rose	n.a.		0
HYLOC_GUA	*Hylocereus guatemalensis* (Eichlam) Britton & Rose	n.a.		0
HYLOC_GUN	hybrids between *Hylocereus guatemalensis* (Eichlam) Britton & Rose and *Hylocereus undatus* (Haw.) Britton et Rose	n.a.		1
HYLOC_POL	*Hylocereus polyrhizus* (F. A. C. Weber) Britton & Rose	n.a.	pitahaya	0
HYLOC_UND	*Hylocereus undatus* (Haw.) Britton & Rose	*Cereus undatus* Haw.	belle-of-the-night; dragon-fruit; moonlight cactus; night-blooming cereus; queen-of-the-night; red pitaya; strawberry-pear	23

Proposal

34.   In accordance with the reclassification of certain *Hylocereus* species *to Selenicereus*, the TWF and TWO are invited to consider the deletion of the UPOV codes HYLOC, HYLOC_COS, HYLOC_GUA, HYLOC_GUN, HYLOC_POL and HYLOC_UND. *Hylocereus, Hylocereus costaricensis, Hylocereus guatemalensis, hybrids between Hylocereus guatemalensis and Hylocereus undatus, Hylocereus polyrhizus,* and *Hylocereus undatus* would be covered as synonym of *Selenicereus, Selenicereus, Selenicereus guatemalensis,* Hybrids between *Selenicereus guatemalensis* and *Selenicereus undatus, Selenicereus monacanthus,* and *Selenicereus undatus* under new UPOV codes SELEN, SELEN_COS, SELEN_GUA, SELEN_GUN, SELEN_POL and SELEN_UND, respectively, 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)
HYLOC	*Hylocereus* (A. Berger) Britton & Rose	n.a.	SELEN	*Selenicereus* (A. Berger) Britton & Rose	*Hylocereus* (A. Berger) Britton & Rose
HYLOC_COS	*Hylocereus costaricensis* (F. A. C. Weber) Britton & Rose	n.a.	SELEN_COS	*Selenicereus costaricensis* (F. A. C. Weber) S. Arias & N. Korotkova	*Hylocereus costaricensis* (F. A. C. Weber) Britton & Rose
HYLOC_GUA	*Hylocereus guatemalensis* (Eichlam) Britton & Rose	n.a.	SELEN_GUA	*Selenicereus guatemalensis* (Eichlam ex Weing.) D. R. Hunt	*Hylocereus guatemalensis* (Eichlam) Britton & Rose
HYLOC_GUN	hybrids between *Hylocereus guatemalensis* (Eichlam) Britton & Rose and *Hylocereus undatus* (Haw.) Britton et Rose	n.a.	SELEN_GUN	Hybrids between *Selenicereus guatemalensis* (Eichlam) Britton & Rose and S*elenicereus undatus* (Haw.) Britton et Rose	hybrids between *Hylocereus guatemalensis* (Eichlam) Britton & Rose and *Hylocereus undatus* (Haw.) Britton et Rose
HYLOC_POL	*Hylocereus polyrhizus* (F. A. C. Weber) Britton & Rose	n.a.	SELEN_POL	*Selenicereus monacanthus* (Lem.) D. R. Hunt	*Hylocereus polyrhizus* (F. A. C. Weber) Britton & Rose
HYLOC_UND	*Hylocereus undatus* (Haw.) Britton & Rose	*Cereus undatus* Haw.	SELEN_UND	*Selenicereus undatus* (Haw.) D. R. Hunt	*Cereus undatus* Haw.

35.   The TWF and TWO are invited to consider the proposal to delete the UPOV Codes HYLOC, HYLOC_COS, HYLOC_GUA, HYLOC_GUN, HYLOC_POL and HYLOC_UND, as set out in paragraph 34 of this document.

UPOV code for Calathea species

Background

36.   The Office of the Union was informed of the reclassification of certain *Calathea* species to *Goeppertia* species.

37.   The current entries in the GENIE database for certain *Calathea 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	Number of entries in PLUTO
CALAT	*Calathea* G.F.W. Mey.	n.a.	n.a.	65
CALAT_CRO	*Calathea crocata* E. Morren & Joriss.	*Goeppertia crocata* (É. Morren & Joriss.) Borchs. & S. Suárez	n.a.	8
CALAT_ECU	*Calathea ecuadoriana* H. A. Kenn.	n.a.	n.a.	1
CALAT_LIE	*Calathea lietzei* E. Morren	n.a.	n.a.	7
CALAT_LOE	*Calathea loeseneri* J. F. Macbr.	n.a.	n.a.	0
CALAT_LRO	*Calathea loeseneri* J. F. Macbr. X *Calathea roseopicta* (Linden) Regel	n.a.	n.a.	5
CALAT_ROS	*Calathea roseopicta* (Linden) Regel	*Goeppertia roseopicta* (Linden) Borchs. & S. Su rez	n.a.	22
CALAT_WAR	*Calathea warscewiczii* (Klotzsch) Körn.	*Calathea warscewiczii* (Mathieu ex Planch.) Körn.	n.a.	3

Proposal

38.   In accordance with the reclassification of certain *Calathea species to Goeppertia*, the TWO is invited to consider deletion of the UPOV codes CALAT_CRO, CALAT_LOE, CALAT_LRO, CALAT_ROS and CALAT_WAR. *Calathea crocata, Calathea loeseneri, Calathea loeseneri, x Calathea roseopicta, Calathea roseopicta, and Calathea warscewiczii* would be covered as synonym of *Goeppertia, Goeppertia, Goeppertia loeseneri ✕ Goeppertia roseopicta, Goeppertia roseopicta,* and *Goeppertia warscewiczii* under new UPOV codes GOEPP_CRO, GOEPP_LOE, GOEPP_LRO, GOEPP_ROS and GOEPP_WAR, respectively, 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)
CALAT_CRO	*Calathea crocata* E. Morren & Joriss.	*Goeppertia crocata* (É. Morren & Joriss.) Borchs. & S. Suárez	GOEPP_CRO	*Goeppertia crocata* (É. Morren & Joriss.) Borchs. & S. Suárez	*Calathea crocata* É. Morren & Joriss.
CALAT_LOE	*Calathea loeseneri* J. F. Macbr.	n.a.	GOEPP_LOE	*Goeppertia loeseneri* (J. F. Macbr.) Borchs. & S. Suárez	*Calathea loeseneri* J. F. Macbr.
CALAT_LRO	Calathea loeseneri J. F. Macbr. X Calathea roseopicta (Linden) Regel	n.a.	GOEPP_LRO	*Goeppertia loeseneri* (J. F. Macbr.) Borchs. & S. Suárez ✕ *Goeppertia roseopicta* (Linden) Borchs. & S. Suárez	n.a.
CALAT_ROS	*Calathea roseopicta* (Linden) Regel	*Goeppertia roseopicta* (Linden) Borchs. & S. Su rez	GOEPP_ROS	*Goeppertia roseopicta* (Linden) Borchs. & S. Suárez	*Calathea roseopicta* (Linden) Regel
CALAT_WAR	*Calathea warscewiczii* (Klotzsch) Körn.	*Calathea warscewiczii* (Mathieu ex Planch.) Körn.	GOEPP_WAR	*Goeppertia warscewiczii* (L. Mathieu ex Planch.) Borchs. & S. Suárez	*Calathea warscewiczii* (L. Mathieu ex Planch.) Planch. & Linden

39.   The TWO is invited to consider the proposal to delete the UPOV Codes CALAT_CRO, CALAT_LOE, CALAT_LRO, CALAT_ROS *and* CALAT_WAR*, as set out in paragraph 38 of this document.*

TWP checking

40.   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".

41.   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 2022.

42.   The Excel files in Annex IV 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 existing UPOV codes used in the PLUTO database for the first time':

contains the new crop type allocation or amended allocation for existing UPOV codes used in the PLUTO database for the first time. 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."

43.   Annex IV 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/56, TWO/54, TWA/51, TWF/53 and TWM/1 websites.

44.   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 IV to this document and submit comments to the Office of the Union by December 31, 2022.

PLUTO DATABASE

Summary of contributions to the PLUTO database from 2017 to 2021

45.   Annex V to this document provides a summary of data contributions from members of the Union to the PLUTO database from 2017 to 2021.

46.   The TWPs are invited to note the summary of data contributions from members of the Union to the PLUTO database from 2017 to 2021, as presented in the Annex V to this document.

[Annexes follow]

ANNEX I

AMENDMENTS TO THE UPOV CODES FOR *BETA VULGARIS* SUBSP. *VULGARIS*
Agreed by the Technical Committee, at its fifty-seventh session

		Old			New		
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 II follows]

ANNEX II

AMENDMENTS TO THE UPOV CODES FOR *BRASSICA OLERACEA*
Agreed by the Technical Committee, at its fifty-seventh session

Old			New		
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_GC	*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.

[Annex III follows]

ANNEX III

AMENDMENTS TO UPOV CODES FOR *CITRUS*

Agreed by the Technical Committee, at its fifty-seventh session

	Old				New		
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

[See Excel files]

[Annex V follows]

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 2020	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	Number of new data submissions to PLUTO in 2020	Number of new data submissions to PLUTO in 2021
African Intellectual Property Organization	0	0	0	0	0	0
Albania	n.a.	0	1	0	0	0
Argentina	448	0	0	2	4	8
Australia	316	5	22	20	21	6
*Austria	0	4	5	5	3	5
Azerbaijan	n.a.	0	0	0	0	0
Belarus	25.	0	0	0	0	2
*Belgium	2	3	5	6	5	7
Bolivia (Plurinational State of)	n.a.	0	0	0	0	1
Bosnia and Herzegovina	n.a.	0	0	0	0	0
Brazil	335	3	5	11	11	11
*Bulgaria	26	3	4	10	10	6
Canada	338	11	10	12	12	10
Chile	79	5	7	6	4	4
China	8,960	1	0	1	1**	3
Colombia	128	2	0	1	0	0
Costa Rica	7	2	1	3	1	0
*Croatia	8	2	2	2	2	4
*Czech Republic	37	9	6	6	8	7
*Denmark	10	10	7	11	11	13
Dominican Republic	n.a.	0	0	0	0	1
Ecuador	78	1	1	0	0	0
Egypt	34	n.a.	n.a.	n.a.	0	0
*Estonia	10	3	9	6	7	7
*European Union	3,427	7	11	8	12	8
*Finland	6	2	3	1	3	3
*France	93	8	8	12	12	11
Georgia	17	0	3	0	0	1
*Germany	33	8	9	11	9	13
*Hungary	26	14	11	16	13	14
*Iceland	n.a.	0	0	0	0	0
*Ireland	6	1	2	2	3	3
Israel	88	1	0	8	2	2
*Italy	3	6	3	4	5	2
Japan	713	2	3	4	1	1
Jordan	21	0	0	0	0	0
Kenya	63	0	0	0	0	0
Kyrgyzstan	3	0	0	0	0	0
*Latvia	6	2	2	1	1	2
*Lithuania	4	4	3	4	5	3
Mexico	250	3	4	2	3	2
Montenegro	n.a.	0	0	0	0	0

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*   Data provided via the CPVO.

**   China – Ministry of Agriculture and Rural Affairs (MARA): 1
      China – National Forestry and Grassland Administration (NFGA): 1

Contributor	Number of applications for PBR in 2020	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	Number of new data submissions to PLUTO in 2020	Number of new data submissions to PLUTO in 2021
Morocco	63	0	0	1	0	0
*Netherlands	837	8	9	11	11	12
New Zealand	94	6	6	6	6	1
Nicaragua	6	0	0	0	2	1
North Macedonia	n.a.	0	0	0	0	0
*Norway	23	4	7	6	4	5
Oman	n.a.	2	0	0	0	0
Panama	n.a.	1	0	0	0	0
Paraguay	21	0	1	0	0	0
Peru	43	1	1	1	0	0
*Poland	148	7	3	3	4	3
*Portugal	0	1	2	1	4	3
Republic of Korea	729	0	1	4	3	1
Republic of Moldova	31	1	2	7	2	1
*Romania	50	4	4	5	4	5
Russian Federation	800	5	4	3	1	0
Serbia	63	2	4	1	2	0
Singapore	4	0	0	0	0	3
*Slovakia	9	6	4	4	3	0
*Slovenia	0	3	4	4	2	6
South Africa	275	2	2	3	1	2
*Spain	66	5	4	4	7	1
*Sweden	3	11	9	9	10	6
*Switzerland	93	6	3	6	8	7
Trinidad and Tobago	n.a.	0	0	0	0	7
Tunisia	18	0	0	0	0	0
*Turkey	282	0	2	1	0	0
Ukraine	1,260	0	3	11	4	1
*United Kingdom	130	10	12	10	9	4
United Republic of Tanzania	6	0	0	0	0	10
United States of America	1,432	12	12	16	6	0
Uruguay	45	0	0	0	1	4
Uzbekistan	122	0	1	0	0	1
Saint Vincent and the Grenadines	n.a.	n.a.	n.a.	n.a.	n.a.	0
Viet Nam	256	0	0	0	0	0
OECD	-	2	2	2	2	0

[End of Annex V and of document]