|  |  |
| --- | --- |
|  | **E** |
| International Union for the Protection of New Varieties of Plants |  |

|  |  |
| --- | --- |
| Technical Committee  Fifty-Fourth Session Geneva, October 29 and 30, 2018 | **TC/54/6**  **Original:** English  **Date:** September 27, 2018 |

**UPOV INFORMATION DATABASES**

Document prepared by the Office of the Union

*Disclaimer: this document does not represent UPOV policies or guidance*

EXECUTIVE SUMMARY

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

The Technical Committee (TC) is invited to:

(a) note that 440 new UPOV codes were created in 2017 and a total of 8,589 UPOV codes are included in the GENIE database;

(b) note that the Office of the Union introduced new UPOV codes for 191 forest tree species requested by DG SANTE, in GENIE by September 2017, as set out in paragraph 8 of this document;

(c) note that DG SANTE has proposed the establishment of an administrative arrangement between the Office of the Union and the European Commission to cover collaboration in scientific names of plant species present in each other’s databases and, in particular, regarding the attribution of UPOV codes to plant species in FOREMATIS, as set out in paragraph 9 of this document;

(d) consider amending the codes for the genus *Zea*, as set out in paragraph 21 of this document, in conjunction with the comments by the TWA at its forty seventh session;

(e) consider amending the UPOV codes for subspecies in the *Mucuna* genus, as set out in paragraph 27 of this document;

(f) consideramending UPOV Codes for *Sesbania sesban*, as set out in paragraph 32 of this document;

(g) consider amending UPOV codes for *Brassica oleracea* with the consequent changes to the UPOV codes, as set out in Appendix II to this document, and the revision of the Section 2.3 of the “Guide to the UPOV Code System”, as set out in Appendix III to this document, in conjunction with the comments by the TWV at its fifty second session;

(h) consider allocating the UPOV code BRASS\_OLE to the hybrids between *Brassica oleracea* L. var. *acephala* and *Brassica oleracea*  L. var. *botrytis*, as set out in paragraph 46, subject to agreement to the proposal provided in Appendix II to this document;

(i) consider how to address the hybrids between *Brassica oleracea* L. var. *acephala* and *Brassica oleracea* L. var. *botrytis*, as set out in paragraph 47, in the case that the TC rejects the proposal provided in Appendix II to this document;

(j) consider amending UPOV codes for *Epichloe* species and *Neotyphodium* species, as set out in paragraphs 54 and 55 of this document, in conjunction with the comments by the TWV at its fifty‑second session;

(k) note the summary of contributions to the PLUTO database from 2014 to 2017 and the current situation of members of the Union on data contribution, as presented in the Annex II to this document; and

(l) note that the WG-DEN, at its fourth meeting, agreed that matters under agenda item 5 “Expansion of the content of the PLUTO database” would be considered at its fifth meeting, as set out in paragraph 63 of this document.

The following abbreviations are used in this document:

CPVO: Community Plant Variety Office

DG SANTE: Directorate General for Health and Food Safety - European Commission

FOREMATIS: Forest Reproductive Material Information System

GRIN : Germplasm Resources Information Network

OECD: Organization for Economic Co-operation and Development

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

The structure of this document is as follows:

EXECUTIVE SUMMARY 1

GENIE DATABASE 2

Background 2

UPOV Code System 3

Guide to the UPOV Code System 3

UPOV code developments 3

UPOV Code AMENDMENTS 4

TWP checking 4

Proposals for UPOV code amendments for consideration by the TWPs 4

PLUTO DATABASE 12

Program for improvements to the PLUTO database 12

Search tools 12

Content of the PLUTO Database 12

ANNEX I SPECIFIC PROPOSALS FOR AMENDMENTS PRESENTED TO UPOV CODES FOR CONSIDERATION BY THE TWPS IN 2018

APPENDIX I CURRENT SITUATION FOR BRASSICA OLERACEA

APPENDIX II PROPOSAL ON CHANGES TO THE UPOV CODES FOR BRASSICA OLERACEA

APPENDIX III PROPOSAL ON THE REVISION OF THE SECTION 2.3 OF THE “GUIDE TO THE UPOV CODE SYSTEM”

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

# GENIE DATABASE

## Background

It is recalled that the GENIE database (<http://www.upov.int/genie/en/>) has been developed to provide, for example, online information on the status of protection (see document C/[session]/6), cooperation in examination (see document C/[session]/5), experience in DUS testing (see document TC/[session]/4), and existence of UPOV Test Guidelines (see document TC/[session]/2) for different GENera and specIEs (hence GENIE), and is used to generate the relevant Council and TC documents concerning that information. In addition, the GENIE database is the repository of the UPOV codes and also provides information concerning alternative botanical and common names.

# UPOV Code System

## Guide to the UPOV Code System

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

In 2017, 440 new UPOV codes were created and amendments were made to one existing UPOV code. The total number of UPOV codes in the GENIE database at the end of 2017 was 8,589.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Year | | | | | | | | | |
|  |  | | | | | | | | | |
|  | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| New UPOV codes | 148 | 114 | 173 | 212 | 209 | 577 | 188 | 173 | 440 |
| Amendments | 17 | 6 | 12 | 5 | 47\* | 37 | 11 | 16 | 1 |
| Total UPOV Codes (at end of year) | 6,582 | 6,683 | 6,851 | 7,061 | 7,251 | 7,808 | 7,992 | 8,149 | 8,589 |

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

In March 2017, the Office of the Union received a request from the Directorate-General for Health and Food Safety of the European Commission (DG SANTE) to create UPOV codes for 191 forest tree species moving in international trade under the OECD certification scheme in the context of the extension of the European Commission Forest Reproductive Material Information System (FOREMATIS) to include data of the OECD Forest database. The requested UPOV codes were introduced in GENIE in September 2017.

DG SANTE has proposed the establishment of an administrative arrangement between the Office of the Union and the European Commission to cover collaboration in scientific names of plant species present in each other’s databases and, in particular, regarding the attribution of UPOV codes to plant species in FOREMATIS.

The TC is invited to note that:

(a) 440 new UPOV codes were created in 2017 and a total of 8,589 UPOV codes are included in the GENIE database;

(b) the Office of the Union introduced new UPOV codes for 191 forest tree species requested by DG SANTE, in GENIE by September 2017, as set out in paragraph 8 of this document; and

(c) DG SANTE has proposed the establishment of an administrative arrangement between the Office of the Union and the European Commission to cover collaboration in scientific names of plant species present in each other’s databases and, in particular, regarding the attribution of UPOV codes to plant species in FOREMATIS, as set out in paragraph 9 of this document.

# UPOV Code AMENDMENTS

## TWP checking

Section 3.3 (e) of the “Guide to the UPOV Code System” provides the following:

“(e) New and amended UPOV codes will be presented to the relevant Technical Working Parties (TWP(s)) for comment at their first available session. If the TWP recommends any change, this will be treated as an amendment according to paragraph (d), above”.

In accordance with the procedure set out in Section 3.3 (e) of the Guide to the UPOV Code System, the Office of the Union prepared tables of UPOV code additions and amendments, for checking by the relevant authorities, for each of the TWP sessions in 2018 and 2019, in the case of the TWO.

Experts of the TWA and TWV, have been requested, and the TWF and TWO will, be requested, to check the amendments to UPOV codes and the new UPOV codes or new information added for existing UPOV codes and to submit comments by March 31, 2019.

## Proposals for UPOV code amendments for consideration by the TWPs

Amendments to UPOV codes for consideration by the TWPs at their session in 2018 (2019 for TWO) are presented in document TWP/2/4 Rev. “UPOV information databases”, paragraphs 17 to 61, which are reproduced in the Annex I to this document.

The following sections present the conclusions at the forty-seventh session of the TWA, held in Naivasha, Kenya, from May 21 to 25, 2018, and the conclusions at the fifty-second session of the TWV, held in Beijing, China, from September 17 to 21, 2018, for amendments to UPOV codes.

Section 3.3 of the “Guide to the UPOV Code System” provides the following:

“(d) […] 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”.

According to the conclusions at the fifty-fourth 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.

The conclusions at the forty-ninth session of the TWF, to be held in Santiago de Chile, Chile, from November 19 to 23, 2018, and at the fifty-first session of the TWO, to be held in Christchurch, New Zealand, from February 18 to 22, 2019, for amendments to UPOV codes, will be presented at the fifty-fifth session of the TC.

*UPOV code “ZEAAA\_MAY\_SAC”, “ZEAAA\_MAY\_EVE” and “ZEAAA\_MAY\_MIC”*

Background

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* ) ]  [to be included 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* ) ]  [to be included in GRIN] | Popcorn | 79 |

*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

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, it is proposed 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. |

Discussion at the forty-seventh session of the TWA

The TWA, at its forty-seventh session, held in Naivasha, Kenya, from May 21 to 25, 2018, considered the proposal to delete the UPOV Codes ZEAAA\_MAY\_SAC, ZEAAA\_MAY\_EVE and ZEAAA\_MAY\_MIC and for *Zea mays* L. var. *saccharata*, *Zea mays* L. var. *everta* (Praecox) Sturt. and *Zea mays* L. convar. *microsperma* Koern to be covered by the UPOV Code ZEAAA\_MAY\_MAY. The TWA noted that the information on the type of maize varieties (popcorn, sweet corn) was useful for the grouping of varieties and organization of the growing trials. The TWA agreed that information on the type of maize varieties should remain in the database and should continue to be provided by data contributors (see document TWA/47/7 “Report”, paragraph 85).

The TWV, at its fifty-second session, noted the comment made by the TWA on the proposal to amend codes for ZEAAA, as set out in paragraph 23 of document TWP/2/4 Rev., and agreed with the TWA that the information on the type of maize varieties (popcorn, sweet corn) was useful for the grouping of varieties and organization of the growing trials. The TWV noted that TWA agreed that information on the type of maize varieties should remain in the database and should continue to be provided by data contributors.

The TC is invited to consider amending the codes for the genus Zea, as set out in paragraph 21 of this document, in conjunction with the comments by the TWA at its forty‑seventh session.

### 

### Mucuna genus

Background

The Office of the Union was informed of a reclassification of species and subspecies in the *Mucuna* genus in GRIN.

The current entries in the GENIE database for species and subspecies in the *Mucuna* genus, 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 |
| MUCUN | *Mucuna* | *Mucuna Adans.* | n.a. | 0 |
| MUCUN\_PRU | *Mucuna pruriens* (L.) DC. | *Mucuna pruriens* (L.) DC. | cow-itch; cowhage; velvet-bean | 1 |
| n.a. | n.a. | *Mucuna pruriens* (L.) DC. var. *utilis* (Wall. ex Wight) Baker ex Burck | n.a. | n.a. |
| MUCUN\_PRU\_ATE | *Mucuna aterrima* (Piper & Tracy) Holland. | *Mucuna pruriens* (L.) DC. var. *utilis*  (synonym: *Mucuna aterrima* (Piper & Tracy) Holland) | n.a. | 0 |
| MUCUN\_PRU\_COC | *Mucuna cochinchinensis* (Lour.) A. Chev. | *Mucuna pruriens* (L.) DC. var. *utilis*  (synonym :  *Mucuna cochinchinensis* (Lour.) A. Chev.) | n.a. | 0 |
| MUCUN\_PRU\_DEE | *Mucuna deeringiana* (Bort) Merr. | *Mucuna pruriens* (L.) DC. var. *utilis*  (synonym:  *Mucuna deeringiana* (Bort) Merr.) | n.a. | 0 |

Proposal

In accordance with the reclassification of species and subspecies in the *Mucuna* genus in GRIN,it is proposed to consider deletion of the UPOV codes MUCUN\_PRU\_ATE, MUCUN\_PRU\_COC and MUCUN\_PRU\_DEE. *Mucuna aterrima*, *Mucuna cochinchinensis. Mucuna deeringiana* would be covered by the new UPOV Code for *Mucuna pruriens* (L.) DC. var. *utilis*, which the Office of the Union would create (MUCUN\_PRU\_UTI), as follows:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Current | | | Proposal | | |
| UPOV code | Principal botanical name | Other botanical names | UPOV code | Principal botanical name | Other botanical names |
| n.a. | n.a. | n.a. | MUCUN\_PRU\_UTI | *Mucuna pruriens* (L.) DC. var. *utilis* (Wall. ex Wight) Baker ex Burck | *Mucuna aterrima* (Piper & Tracy) Holland;  *Mucuna cochinchinensis* (Lour.) A. Chev.) ;  *Mucuna deeringiana* (Bort) Merr.;  *Stizolobium deeringianum* Bort |
| MUCUN\_PRU\_ATE | *Mucuna aterrima* (Piper & Tracy) Holland. | n.a. | [to delete] | n.a. | n.a. |
| MUCUN\_PRU\_COC | *Mucuna cochinchinensis* (Lour.) A. Chev. | n.a. | [to delete] | n.a. | n.a. |
| MUCUN\_PRU\_DEE | *Mucuna deeringiana* (Bort) Merr. | *Stizolobium deeringianum* Bort | [to delete] | n.a. | n.a. |

Discussion at the forty-seventh session of the TWA

The TWA agreed with the deletion of the UPOV codes MUCUN\_PRU\_ATE, MUCUN\_PRU\_COC and MUCUN\_PRU\_DEE and the creation of the new UPOV Code MUCUN\_PRU\_UTI (*Mucuna pruriens* (L.) DC. var. *utilis*) covering the synonyms *M. aterrima*, *M. cochinchinensis* and *M. deeringiana* (see document TWA/47/7 “Report”, paragraph 86)*.*

The TC is invited to consider amending the UPOV codes for subspecies in the Mucuna genus, as set out in paragraph 27 of this document.

### UPOV code for Sesbania sesban

#### Background

The Office of the Union was informed of a misallocation of the UPOV code for *Sesbania sesban* (L.) Merr..

The current entries in the GENIE database for *Sesbania* 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 |
| SESBA | *Sesbania* | *Sesbania* Adans. | n.a. | 0 |
| SESBA\_EXA | *Sesbania exaltata* (Raf.) Rydb. ex A. W. Hill | *Sesbania exaltata* (Raf.) Rydb. | n.a. | 0 |
| SENNA\_SES | *Sesbania sesban* (L.) Merr. | *Sesbania sesban* (L.) Merr. | n.a. | 0 |

#### Proposal

It is proposed to correct the UPOV Code SENNA\_SES to SESBA\_SES for *Sesbania sesban* (L.) Merr., as follows:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Current | | | Proposal | | |
| UPOV code | Principal botanical name | Other botanical name(s) | UPOV code | Principal botanical name | Other botanical name(s) |
| SENNA\_SES | *Sesbania sesban* (L.) Merr. | n.a. | SESBA\_SES | *Sesbania sesban* (L.) Merr. | n.a. |

Discussion at the forty-seventh session of the TWA

The TWA agreed with the proposal to rectify the UPOV Code for the species *Sesbania sesban* (L.) Merr. from “SENNA\_SES” to read “SESBA\_SES” (see document TWA/47/7 “Report”, paragraph 87).

The TC is invited to consider amending UPOV Codes for Sesbania sesban, as set out in paragraph 32 of this document.

*Brassica oleracea*

Background

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

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 twospecies, 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 kale** |
| **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.) Thell.** | **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** |

Appendix I to this document 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.

The differences between botanical names in GRIN and in GENIE suggest that the groupings within the *Brassica oleracea* group are not recognized within GRIN classification.

*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

It is proposed to amend 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 document, and a consequential revision of the Section 2.3 of the “Guide to the UPOV Code System”, as provided in Appendix III to this document.

Hybrids between *Brassica oleracea* L. var.*acephala* and *Brassica oleracea*  L. var. *botrytis*

On June 27, 2018, the Office of the Union received a request from the Republic of Korea to allocate a UPOV code for a hybrid between *Brassica oleracea* L. var. *acephala* (UPOV code BRASS\_OLE \_GA) and *Brassica oleracea*  L. var. *botrytis* (UPOV code BRASS\_OLE \_GB).

GRIN has advised that there is no binominal name for hybrids between *Brassica oleracea* L. var. *acephala* and *Brassica oleracea*  L. var. *botrytis*.

The Office of the Union has allocated the UPOV code BRASS\_OLE to the hybrid as an interim solution, pending consideration of an appropriate UPOV code by the TWV.

Section 2.2.4 of the “Guide to the UPOV Code System” provides the following:

“In the case of a species which is formed as a hybrid between two species and for which there is no binomial name (‘hybrid species’) (e.g. Alpha one x Alpha two), a UPOV code is created for the new ‘hybrid species’. The species element of the UPOV code is produced by combining the first letter of the female parent species and the first two letters of the male parent species. For example, a ‘hybrid species’ which was formed as a hybrid between Alpha one (UPOV code: ALPHA\_ONE) x Alpha two (UPOV code: ALPHA\_TWO) would have the UPOV code ‘ALPHA\_OTW’”.

GRIN recognizes that both *Brassica oleracea* L. var. *acephala* and *Brassica oleracea* L. var. *botrytis* are synonyms of *Brassica oleracea* L., as presented in Appendix I to this document.

Therefore, subject to agreement to the proposal to change the UPOV codes in relation to *Brassica*, as provided in Annex II to this document, the UPOV code BRASS\_OLE will be allocated to both parent species of the “hybrids”. As a consequence, the “hybrids” will be covered by the UPOV code BRASS\_OLE.

In the case that the TWV did not accept the proposal provided in Appendix II to this document, the TWV was invited to consider how to address such hybrids, given that the taxa of the “parents” are not recognized as different taxa in GRIN.

Discussion at the fifty-second session of the TWV

The TWV, at its fifty-second session, held in Beijing, China, from September 17 to 21, 2018, considered the proposal to amend UPOV codes for *Brassica oleracea* with the consequent changes to the UPOV codes, as set out in Annex II to document TWP/2/4 Rev. (see document TWV/52/20 “Report”, paragraphs 92 to 94).

The TWV considered the proposal to allocate the UPOV code BRASS\_OLE to the hybrids between *Brassica oleracea* L. var. *acephala* and *Brassica oleracea* L. var. *botrytis*, as set out in paragraph 42 of document TWP/2/4 Rev.

The TWV noted the comment made by the TWA on the proposal to amend codes for ZEAAA, as set out in paragraph 23 of document TWP/2/4 Rev., and agreed with the TWA that the information on the type of maize varieties (popcorn, sweet corn) was useful for the grouping of varieties and organization of the growing trials. The TWV noted that TWA agreed that information on the type of maize varieties should remain in the database and should continue to be provided by data contributors. The TWV further agreed that the same approach should be followed for *Brassica* with regard to red and white cabbage.

The TC is invited to consider:

*(a) amending UPOV codes for Brassica oleracea with the consequent changes to the UPOV codes, as set out in Appendix II to this document, and the revision of the Section 2.3 of the “Guide to the UPOV Code System”, as set out in Appendix III to this document, in conjunction with the comments by the TWV at its fifty‑second session;*

*(b) allocating the UPOV code BRASS\_OLE to the hybrids between* Brassica oleracea*L. var.* acephala *and* Brassica oleracea*L. var.* botrytis*, as set out in paragraph 46, subject to agreement to the proposal provided in Appendix II to this document; and*

*(c) how to address the hybrids between* Brassica oleracea*L. var.* acephala *and* Brassica oleracea*L. var.* botrytis*, as set out in paragraph 47, in the case that the TC rejects the proposal provided in Appendix II to this document.*

### UPOV codes for Epichloe species and Neotyphodium species

Background

The Office of the Union was informed of the reclassification of certain *Neotyphodium* species to *Epichloe* species.

In the case of fungi, the Guide to the UPOV Code System does not indicate a single source to be used for selecting the principal botanical name and synonyms. However, the Index Fungorum (<http://www.indexfungorum.org/names/names.asp>) provides the following information which is shown with the current entries in the GENIE database and the PLUTO database relevant for *Epichloe* species and *Neotyphodium* species:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| UPOV code | Principal botanical name in GENIE | Scientific name  in Index Fungorum | Synonym(s) in Index Fungorum | Numbers of Entries in PLUTO |
| EPICH | *Epichloe* | *Epichloe* (Fr.) Tul. & C. Tul. | *Neotyphodium* Glenn, C.W. Bacon & Hanlin;  *Cordyceps* subgen. *Epichloe* Fr. | 5 |
| EPICH\_COE | *Epichloe coenophiala* | *Epichloe coenophiala* (Morgan-Jones & W. Gams) C.W. Bacon & Schardl | *Acremonium coenophialum* Morgan-Jones & W. Gams; *Neotyphodium coenophialum* (Morgan-Jones & W. Gams) Glenn, C.W. Bacon & Hanlin*;*  *Epichloe typhina sensu* Neill | 7 |
| EPICH\_FES | *Epichloe festucae* | *Epichloe festucae* Leuchtm.,Schardl & M.R. Siegel | *Epichloe typhina sensu auct.* NZ | 14 |
| EPICH\_SIE | *Epichloe siegelii* | *Epichloe siegelii* (K.D. Craven, Leuchtm. & Schardl) Leuchtm., | *Neotyphodium ×siegelii* K.D. Craven, Leuchtm. & Schardl | 1 |
| EPICH\_UNC | *Epichloe uncinata* | *Epichloe uncinata* (W. Gams, Petrini & D. Schmidt) Leuchtm. & Schardl | *Acremonium uncinatum* W. Gams, Petrini & D. Schmidt*;*  *Neotyphodium uncinatum* (W. Gams, Petrini & D. Schmidt) Glenn, C.W. Bacon & Hanlin | 9 |
| NEOTY | *Neotyphodium* | *Epichloe* (Fr.) Tul. & C. Tul. | *Neotyphodium* Glenn, C.W. Bacon & Hanlin;  *Cordyceps* subgen. *Epichloe* Fr. | 1 |
| NEOTY\_ACR | *Neotyphodium acremonium* | n.a.  [This species is not registered in Index Fungorum.] | n.a. | 6 |
| NEOTY\_COE | *Neotyphodium coenophialum* | *Epichloe coenophiala* (Morgan-Jones & W. Gams) C.W. Bacon & Schardl | *Acremonium coenophialum* Morgan-Jones & W. Gams; *Neotyphodium coenophialum* (Morgan-Jones & W. Gams) Glenn, C.W. Bacon & Hanlin;  *Epichloe typhina sensu* Neill | 6 |
| NEOTY\_LOL | *Neotyphodium lolii* | [*Neotyphodium lolii* (Latch, M.J. Chr. & Samuels) Glenn, C.W. Bacon & Hanlin]  [This scientific name is valid until the new scientific name *Elsinoe lolii* is published in a Code compliant form.] | n.a. | 5 |
| NEOTY\_UNC | *Neotyphodium uncinatum* (W. Gams, Petrini & D. Schmidt) Glenn, C.W. Bacon & Hanlin | *Epichloe uncinata (*W. Gams, Petrini & D. Schmidt) Leuchtm. & Schardl | *Acremonium uncinatum* W. Gams, Petrini & D. Schmidt;  *Neotyphodium uncinatum* (W. Gams, Petrini & D. Schmidt) Glenn, C.W. Bacon & Hanlin | 3 |

Proposal

In accordance with the reclassification of certain *Neotyphodium* species to *Epichloe* species,it is proposed to consider deletion of the UPOV codes NEOTY\_ACR, NEOTY\_COE and NEOTY\_UNC. *Neotyphodium coenophialum* would be covered as a synonym of *Epichloe coenophiala* under the UPOV Code EPICH\_COE, and *Neotyphodium uncinatum* would be covered as a synonym of *Epichloe uncinata* under the UPOV Code EPICH\_UNC*.*

With regards to NEOTY and NEOTY\_LOL, it is proposed to consider deletion of these UPOV codes, after a new scientific name for *Neotyphodium lolii* is published in a Code compliant form. *Neotyphodium* would be covered as a synonym of *Epichloe* under the UPOV Code EPICH, and *Neotyphodium lolii* would be covered as a synonym of the *Elsinoe* species under the new UPOV Code for *Elsinoe lolii,* which the Office of the Union would create:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Current | | | Proposal | | |
| UPOV code | Principal botanical name | Other botanical name(s) | UPOV code | Principal botanical name | Other botanical name(s) |
| NEOTY | *Neotyphodium* | n.a. | EPICH | *Epichloe* (Fr.) Tul. & C. Tul. | *Neotyphodium* Glenn, C.W. Bacon & Hanlin;  *Cordyceps* subgen. *Epichloe* Fr. |
| NEOTY\_ACR | *Neotyphodium acremonium* | *Acremonium* | [to delete] | n.a. | n.a. |
| NEOTY\_COE | *Neotyphodium coenophialum* | n.a. | EPICH\_COE | *Epichloe coenophiala* (Morgan-Jones & W. Gams) C.W. Bacon & Schardl | *Acremonium coenophialum* Morgan-Jones & W. Gams; *Neotyphodium coenophialum* (Morgan-Jones & W. Gams) Glenn, C.W. Bacon & Hanlin;  *Epichloe typhina sensu* Neill |
| NEOTY\_LOL | *Neotyphodium lolii* | n.a. | [ELSIN\_LOL] | *Elsinoe lolii*  [once published in a Code compliant form] | *Neotyphodium lolii* (Latch, M.J. Chr. & Samuels) Glenn, C.W. Bacon & Hanlin |
| NEOTY\_UNC | *Neotyphodium uncinatum* (W. Gams, Petrini & D. Schmidt) Glenn, C.W. Bacon & Hanlin | n.a. | EPICH\_UNC | *Epichloe uncinata* (W. Gams, Petrini & D. Schmidt) Leuchtm. & Schardl | *Acremonium uncinatum* W. Gams, Petrini & D. Schmidt;  *Neotyphodium uncinatum* (W. Gams, Petrini & D. Schmidt) Glenn, C.W. Bacon & Hanlin |

Discussion at the fifty-second session of the TWV

The TWV, at its fifty-second session, agreed with proposal to amend UPOV Codes for *Epichloe* species and *Neotyphodium species*, as set out in paragraphs 54 and 55 of this document (see document TWV/52/20 “Report”, paragraph 95).

The TC is invited to consider amending UPOV codes for Epichloe species and Neotyphodium species, as set out in paragraphs 54 and 55 of this document, in conjunction with the comments by the TWV at its fifty‑second session.

# PLUTO DATABASE

## Program for improvements to the PLUTO database

The CAJ, at its sixty-eighth session, held on October 21, 2013, considered document CAJ/68/6 “UPOV information databases” and approved the amendments to the Program for improvements to the PLUTO database (“Program”) as set out in document CAJ/68/6, Annex II, subject to certain further amendments agreed at that session (see document CAJ/68/10 “Report on the Conclusions”, paragraphs 23 to 26).

The Program reflecting amendments approved at previous sessions is available in document TC/50/6 “UPOV Information Databases”, Annex I.

Annex II to this document provides a summary of the contributions to the PLUTO database from 2014 to 2017 and the current situation of members of the Union on data contribution.

## Search tools

Matters concerning the possible development of a similarity search tool for variety denomination purposes are reported in document TC/54/12 “Variety Denominations”.

## Content of the PLUTO Database

The background of this matter is provided in document TC/53/6 “UPOV information databases”, paragraphs 22 to 26.

The WG-DEN, at its fourth meeting, held in Geneva on October 27, 2017, agreed that matters under agenda item 5 “Expansion of the content of the PLUTO database” would be considered at a later meeting on the basis of the document presented at the second meeting. It was agreed that the Office of the Union should propose how to progress the discussion on this matters at the fifth meeting of the WG-DEN.

The fifth meeting of the WG-DEN will be held in Geneva, on October 30, 2018.

The TC is invited to note:

(a) the summary of contributions to the PLUTO database from 2014 to 2017 and the current situation of members of the Union on data contribution, as presented in the Annex II to this document; and

(b) that the WG-DEN, at its fourth meeting, agreed that matters under agenda item 5 “Expansion of the content of the PLUTO database” would be considered at its fifth meeting, as set out in paragraph 63 of this document.

[Annexes follow]

SPECIFIC PROPOSALS FOR AMENDMENTS PRESENTED TO UPOV CODES FOR CONSIDERATION

BY THE TWPS IN 2018

[Extract from document TWP/2/4 Rev. “UPOV information databases” ]

Specific proposals

17. The following sections present proposals for amendments to UPOV codes for consideration by the TWPs at their session in 2018 (2019 for TWO).

18. 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” .

19. Subject to agreement by the TWPs as indicated in the following sections, members of the Union and contributors of data to the PLUTO database would 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 would be requested to use the amended UPOV codes when submitting their plant variety data to the Office of the Union.

*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* ) ]  [to be included 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* ) ]  [to be included 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. |

*Mucuna genus*

Background

24. The Office of the Union was informed of the reclassification of species and subspecies in the *Mucuna* genus in GRIN.

25. The current entries in the GENIE database for species and subspecies in the *Mucuna* genus, 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 |
| --- | --- | --- | --- | --- |
| MUCUN | *Mucuna* | *Mucuna Adans.* | n.a. | 0 |
| MUCUN\_PRU | *Mucuna pruriens* (L.) DC. | *Mucuna pruriens* (L.) DC. | cow-itch; cowhage; velvet-bean | 1 |
| n.a. | n.a. | *Mucuna pruriens* (L.) DC. var. *utilis* (Wall. ex Wight) Baker ex Burck | n.a. | n.a. |
| MUCUN\_PRU\_ATE | *Mucuna aterrima* (Piper & Tracy) Holland. | *Mucuna pruriens* (L.) DC. var. *utilis*  (synonym: *Mucuna aterrima* (Piper & Tracy) Holland) | n.a. | 0 |
| MUCUN\_PRU\_COC | *Mucuna cochinchinensis* (Lour.) A. Chev. | *Mucuna pruriens* (L.) DC. var. *utilis*  (synonym :  *Mucuna cochinchinensis* (Lour.) A. Chev.) | n.a. | 0 |
| MUCUN\_PRU\_DEE | *Mucuna deeringiana* (Bort) Merr. | *Mucuna pruriens* (L.) DC. var. *utilis*  (synonym:  *Mucuna deeringiana* (Bort) Merr.) | n.a. | 0 |

Proposal

26. In accordance with the reclassification of species and subspecies in the *Mucuna* genus in GRIN,the TWA might wish to consider deletion of the UPOV codes MUCUN\_PRU\_ATE, MUCUN\_PRU\_COC and MUCUN\_PRU\_DEE. *Mucuna aterrima*, *Mucuna cochinchinensis* and *Mucuna deeringiana* would be covered by the new UPOV Code for *Mucuna pruriens* (L.) DC. var. *utilis*, which the Office of the Union would create (MUCUN\_PRU\_UTI), as follows:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Current | | | Proposal | | |
| UPOV code | Principal botanical name | Other botanical names | UPOV code | Principal botanical name | Other botanical names |
| n.a. | n.a. | n.a. | MUCUN\_PRU\_UTI | *Mucuna pruriens* (L.) DC. var. *utilis* (Wall. ex Wight) Baker ex Burck | *Mucuna aterrima* (Piper & Tracy) Holland;  *Mucuna cochinchinensis* (Lour.) A. Chev.) ;  *Mucuna deeringiana* (Bort) Merr.;  *Stizolobium deeringianum* Bort |
| MUCUN\_PRU\_ATE | *Mucuna aterrima* (Piper & Tracy) Holland. | n.a. | [to delete] | n.a. | n.a. |
| MUCUN\_PRU\_COC | *Mucuna cochinchinensis* (Lour.) A. Chev. | n.a. | [to delete] | n.a. | n.a. |
| MUCUN\_PRU\_DEE | *Mucuna deeringiana* (Bort) Merr. | *Stizolobium deeringianum* Bort | [to delete] | n.a. | n.a. |

*UPOV code for Sesbania sesban*

Background

27. The Office of the Union was informed of the misallocation of the UPOV code for *Sesbania sesban* (L.) Merr..

28. The current entries in the GENIE database for *Sesbania* 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 |
| SESBA | *Sesbania* | *Sesbania* Adans. | n.a. | 0 |
| SESBA\_EXA | *Sesbania exaltata* (Raf.) Rydb. ex A. W. Hill | *Sesbania exaltata* (Raf.) Rydb. | n.a. | 0 |
| SENNA\_SES | *Sesbania sesban* (L.) Merr. | *Sesbania sesban* (L.) Merr. | n.a. | 0 |

Proposal

29. It is proposed to correct the UPOV Code SENNA\_SES to SESBA\_SES for *Sesbania sesban* (L.) Merr., as follows:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Current | | | Proposal | | |
| UPOV code | Principal botanical name | Other botanical name(s) | UPOV code | Principal botanical name | Other botanical name(s) |
| SENNA\_SES | *Sesbania sesban* (L.) Merr. | n.a. | SESBA\_SES | *Sesbania sesban* (L.) Merr. | n.a. |

*Brassica oleracea*

Background

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

31. 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 twospecies, 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 kale** |
| **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.) Thell.** | **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** |

32. Annex I to this document 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.

33. 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:

34. *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

35. 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 Annex II to this document, and the proposal on the revision of the Section 2.3 of the “Guide to the UPOV Code System”, as provided in Annex III to this document.

36. With regards to the revision of the Section 2.3 of the “Guide to the UPOV Code System”, if the TWV agrees with this proposal set out in paragraph 35, the proposal for the revision would be considered by the TC, at its fifty-fourth session. Subject to agreement by the TC and CAJ in 2018, the Council would be invited to approve the revision of the “Guide to the UPOV Code System”.

Hybrids between *Brassica oleracea* L. var.*acephala* and *Brassica oleracea*  L. var. *botrytis*

37. On June 27, 2018, the Office of the Union received a request from the Republic of Korea to allocate a UPOV code for a hybrid between *Brassica oleracea* L. var. *acephala* (UPOV code BRASS\_OLE \_GA) and *Brassica oleracea*  L. var. *botrytis* (UPOV code BRASS\_OLE \_GB).

38. GRIN has advised that there is no binominal name for hybrids between *Brassica oleracea* L. var. *acephala* and *Brassica oleracea*  L. var. *botrytis*.

39. The Office of the Union has allocated the UPOV code BRASS\_OLE to the hybrid as an interim solution, pending consideration of an appropriate UPOV code by the TWV.

40. Section 2.2.4 of the “Guide to the UPOV Code System” provides the following:

“In the case of a species which is formed as a hybrid between two species and for which there is no

binomial name (‘hybrid species’) (e.g. Alpha one x Alpha two), a UPOV code is created for the new ‘hybrid species’. The species element of the UPOV code is produced by combining the first letter of the female parent species and the first two letters of the male parent species. For example, a ‘hybrid species’ which was formed as a hybrid between Alpha one (UPOV code: ALPHA\_ONE) x Alpha two (UPOV code:

ALPHA\_TWO) would have the UPOV code ‘ALPHA\_OTW’” .

41. GRIN recognizes that both *Brassica oleracea* L. var. *acephala* and *Brassica oleracea* L. var. *botrytis* are synonyms of *Brassica oleracea* L., as presented in Annex I to this document.

42. Therefore, subject to agreement to the proposal to change the UPOV codes in relation to *Brassica*, as provided in Annex II to this document, the UPOV code BRASS\_OLE will be allocated to both parent species of the “hybrids”. As a consequence, the “hybrids” will be covered by the UPOV code BRASS\_OLE.

43. In the case that the TWV does not accept the proposal provided in Annex II to this document, the TWV is invited to consider how to address such hybrids, given that the taxa of the “parents” are not recognized as different taxa in GRIN.

*UPOV codes for Epichloe species and Neotyphodium species*

Background

44. The Office of the Union was informed of the reclassification of certain *Neotyphodium* species to *Epichloe* species.

45. In the case of fungi, the Guide to the UPOV Code System does not indicate a single source to be used for selecting the principal botanical name and synonyms. However, the Index Fungorum (<http://www.indexfungorum.org/names/names.asp>) provides the following information which is shown with the current entries in the GENIE database and the PLUTO database relevant for *Epichloe* species and *Neotyphodium* species:

| UPOV code | Principal botanical name in GENIE | Scientific name  in Index Fungorum | Synonym(s) in Index Fungorum | Numbers of Entries in PLUTO |
| --- | --- | --- | --- | --- |
| EPICH | *Epichloe* | *Epichloe* (Fr.) Tul. & C. Tul. | *Neotyphodium* Glenn, C.W. Bacon & Hanlin;  *Cordyceps* subgen. *Epichloe* Fr. | 5 |
| EPICH\_COE | *Epichloe coenophiala* | *Epichloe coenophiala* (Morgan-Jones & W. Gams) C.W. Bacon & Schardl | *Acremonium coenophialum* Morgan-Jones & W. Gams; *Neotyphodium coenophialum* (Morgan-Jones & W. Gams) Glenn, C.W. Bacon & Hanlin*;*  *Epichloe typhina sensu* Neill | 7 |
| EPICH\_FES | *Epichloe festucae* | *Epichloe festucae* Leuchtm.,Schardl & M.R. Siegel | *Epichloe typhina sensu auct.* NZ | 14 |
| EPICH\_SIE | *Epichloe siegelii* | *Epichloe siegelii* (K.D. Craven, Leuchtm. & Schardl) Leuchtm., | *Neotyphodium ×siegelii* K.D. Craven, Leuchtm. & Schardl | 1 |
| EPICH\_UNC | *Epichloe uncinata* | *Epichloe uncinata* (W. Gams, Petrini & D. Schmidt) Leuchtm. & Schardl | *Acremonium uncinatum* W. Gams, Petrini & D. Schmidt*;*  *Neotyphodium uncinatum* (W. Gams, Petrini & D. Schmidt) Glenn, C.W. Bacon & Hanlin | 9 |
| NEOTY | *Neotyphodium* | *Epichloe* (Fr.) Tul. & C. Tul. | *Neotyphodium* Glenn, C.W. Bacon & Hanlin;  *Cordyceps* subgen. *Epichloe* Fr. | 1 |
| NEOTY\_ACR | *Neotyphodium acremonium* | n.a.  [This species is not registered in Index Fungorum.] | n.a. | 6 |
| NEOTY\_COE | *Neotyphodium coenophialum* | *Epichloe coenophiala* (Morgan-Jones & W. Gams) C.W. Bacon & Schardl | *Acremonium coenophialum* Morgan-Jones & W. Gams; *Neotyphodium coenophialum* (Morgan-Jones & W. Gams) Glenn, C.W. Bacon & Hanlin;  *Epichloe typhina sensu* Neill | 6 |
| NEOTY\_LOL | *Neotyphodium lolii* | [*Neotyphodium lolii* (Latch, M.J. Chr. & Samuels) Glenn, C.W. Bacon & Hanlin]  [This scientific name is valid until the new scientific name *Elsinoe lolii* is published in a Code compliant form.] | n.a. | 5 |
| NEOTY\_UNC | *Neotyphodium uncinatum* (W. Gams, Petrini & D. Schmidt) Glenn, C.W. Bacon & Hanlin | *Epichloe uncinata (*W. Gams, Petrini & D. Schmidt) Leuchtm. & Schardl | *Acremonium uncinatum* W. Gams, Petrini & D. Schmidt;  *Neotyphodium uncinatum* (W. Gams, Petrini & D. Schmidt) Glenn, C.W. Bacon & Hanlin | 3 |

Proposal

46. In accordance with the reclassification of certain *Neotyphodium* species to *Epichloe* species,the TWV might wish to consider deletion of the UPOV codes NEOTY\_ACR, NEOTY\_COE and NEOTY\_UNC. *Neotyphodium coenophialum* would be covered as a synonym of *Epichloe coenophiala* under the UPOV Code EPICH\_COE, and *Neotyphodium uncinatum* would be covered as a synonym of *Epichloe uncinata* under the UPOV Code EPICH\_UNC*.*

47. With regards to NEOTY and NEOTY\_LOL, the TWV might wish to consider deletion of these UPOV codes, after a new scientific name for *Neotyphodium lolii* is published in a Code compliant form. *Neotyphodium* would be covered as a synonym of *Epichloe* under the UPOV Code EPICH, and *Neotyphodium lolii* would be covered as a synonym of the *Elsinoe* species under the new UPOV Code for *Elsinoe lolii,* which the Office of the Union would create:

| Current | | | Proposal | | |
| --- | --- | --- | --- | --- | --- |
| UPOV code | Principal botanical name | Other botanical name(s) | UPOV code | Principal botanical name | Other botanical name(s) |
| NEOTY | *Neotyphodium* | n.a. | EPICH | *Epichloe* (Fr.) Tul. & C. Tul. | *Neotyphodium* Glenn, C.W. Bacon & Hanlin;  *Cordyceps* subgen. *Epichloe* Fr. |
| NEOTY\_ACR | *Neotyphodium acremonium* | *Acremonium* | [to delete] | n.a. | n.a. |
| NEOTY\_COE | *Neotyphodium coenophialum* | n.a. | EPICH\_COE | *Epichloe coenophiala* (Morgan-Jones & W. Gams) C.W. Bacon & Schardl | *Acremonium coenophialum* Morgan-Jones & W. Gams; *Neotyphodium coenophialum* (Morgan-Jones & W. Gams) Glenn, C.W. Bacon & Hanlin;  *Epichloe typhina sensu* Neill |
| NEOTY\_LOL | *Neotyphodium lolii* | n.a. | [ELSIN\_LOL] | *Elsinoe lolii*  [once published in a Code compliant form] | *Neotyphodium lolii* (Latch, M.J. Chr. & Samuels) Glenn, C.W. Bacon & Hanlin |
| NEOTY\_UNC | *Neotyphodium uncinatum* (W. Gams, Petrini & D. Schmidt) Glenn, C.W. Bacon & Hanlin | n.a. | EPICH\_UNC | *Epichloe uncinata* (W. Gams, Petrini & D. Schmidt) Leuchtm. & Schardl | *Acremonium uncinatum* W. Gams, Petrini & D. Schmidt;  *Neotyphodium uncinatum* (W. Gams, Petrini & D. Schmidt) Glenn, C.W. Bacon & Hanlin |

*UPOV code for Citrus limettioides*

Background

48. The Office of the Union was informed of a duplication of UPOV codes for *Citrus limettioides* Tanaka.

49. The current entries in the GENIE database for *Citrus limettioides*, 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 |
| CITRU\_LMT | *Citrus limettioides* Tanaka | *Citrus limettioides* Tanaka | Indian sweet lime,  Palestine sweet lemon,  Palestine sweet lime,  sweet lime | 0 |
| CITRU\_LIT | *Citrus limettioides* Tanaka | *Citrus limettioides* Tanaka | Indian sweet lime;  Palestine sweet lemon | 0 |

Proposal

50. The TWF might wish to consider deletion of the UPOV Code CITRU\_LMT, as follows:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Current | | | Proposal | | |
| UPOV code | Principal botanical name | Other botanical name(s) | UPOV code | Principal botanical name | Other botanical name(s) |
| CITRU\_LMT | *Citrus limettioides* Tanaka | n.a. | [to delete] | n.a. | n.a. |

*UPOV code for inter-generic hybrids between Echeveria and Sedum*

Background

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

52. The current entries in the GENIE database for inter-generic hybrids between *Echeveria* and *Sedum*, 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 |
| ECSED | *Echeveria* DC. x *Sedum* L. | *×Sedeveria* E. Walther  (with a comment  “= Sedum × Echeveria”) | n.a. | 0 |
| ECSED\_EMO | *Echeveria elegans* Rose. *x*  *Sedum morganianum* E. Walther | n.a. | n.a. | 0 |
| SEDEV | *×Sedeveria* spp. | *×Sedeveria* E. Walther  (with a comment  “= Sedum × Echeveria”) | n.a. | 1 |

Proposal

53. The TWO might wish to consider deletion of the UPOV Codes ECSED and ECSED\_EMO. *Echeveria elegans* Rose. x*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 “(hybrids between *Echeveria* DC. and *Sedum* L. )” after “*×Sedeveria* E. Walther”. *Echeveria lilacina* Kimnach & R. C. Moran x *Sedum suaveolens* Kimnach would be covered by the the new UPOV Code SEDEV\_LSU, 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) |
| ECSED | *Echeveria* DC.  x *Sedum* L. | n.a. | [to delete] | n.a. | n.a. |
| ECSED\_EMO | *Echeveria elegans* Rose. x *Sedum morganianum* E. Walther | n.a. | SEDEV \_EMO | *Echeveria elegans* Rose. x  *Sedum morganianum* E. Walther | n.a. |
| SEDEV | *×Sedeveria spp.* | *Echeveria lilacina* Kimnach & R. C. Moran x Sedum suaveolens Kimnach; Sedeveria | SEDEV | *×Sedeveria* E. Walther  (hybrids between *Echeveria* DC. and *Sedum* L.) | n.a. |
| n.a. | n.a. | n.a. | SEDEV\_LSU | Echeveria lilacina Kimnach & R. C. Moran  x Sedum suaveolens Kimnach | n.a. |

*UPOV codes for Platostoma and Platostoma calcaratum*

Background

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

55. The current entries in the GENIE database for *Platostoma* and *Platostoma calcaratum*, 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 |
| PLATO | *Platostoma* P. Beauv. | *Platostoma* P. Beauv. | n.a. | 0 |
| CRTNT | *Ceratanthus* | *Platostoma* P. Beauv.  (synonym: *Ceratanthus* F. Muell. ex G. Taylor) | n.a. | 0 |
| PLATO\_CAL | *Platostoma calcaratum* (Hemsl.) A. J. Paton | *Platostoma calcaratum* (Hemsl.) A. J. Paton | n.a. | 0 |
| CRTNT\_CAL | *Ceratanthus calcaratus* (Hemsl.) G. Taylor | *Platostoma calcaratum* (Hemsl.) A. J. Paton  (synonym: *Ceratanthus calcaratus* (Hemsl.) G. Taylor) | n.a. | 1 |

56. The deletion of the UPOV Codes CRTNT and CRTNT\_CAL was presented in Annex III, part A “UPOV codes amendments to be checked” to document TWO/48/5 “UPOV Information Databases” but has not yet been implemented.

Proposal

57. The TWO might wish to consider deletion of 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 | | | Proposal | | |
| 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*

Background

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

59. The current entries in the GENIE database for *Digitalis*, *Isoplexis* and hybrids between *Digitalis* and *Isoplexis* and their 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 |
| DGTLS | *Digitalis* L. | *Digitalis* L. | Foxglove | 26 |
| ISOPL | *Isoplexis* (Lindl.) Loudon | *Digitalis* L.  (synonym: *Isoplexis* (Lindl.) Loudon) | n.a. | 0 |
| ISOPL\_CAN | *Isoplexis canariensis* (L.) Lindl. | *Digitalis canariensis* L.  (synonym: *Isoplexis canariensis* (L.) Lindl.) | n.a. | 0 |
| DGISO | *Digitalis* L. × *Isoplexis* (Lindl.) Loudon | n.a. | n.a. | 0 |
| DGISO\_PCA | *Digitalis purpurea* L. × *Isoplexis canariensis (L.) Lindl.* | n.a. | n.a. | 8 |
| DGTLS\_PUR | *Digitalis purpurea* L. | *Digitalis purpurea* L. | Common Foxglove; Purple Foxglove; digitalis; foxglove | 6 |

60. The deletion of the UPOV Codes ISOPL, DGISO and DGISO\_PCA was presented in Annex III, part A “UPOV codes amendments to be checked” to document TWP/1/4 “UPOV information databases” but has not yet been implemented.

Proposal

61. The TWO might wish to consider deletion of the UPOV Codes ISOPL, DGISO, ISOPL\_CAN and DGISO\_PCA. *Isoplexis* (Lindl.) Loudon would be covered by the UPOV Code DGTLS as a synonym of *Digitalis* L. and *Isoplexis canariensis* (L.) Lindl. would be covered by the new UPOV Code DGTLS\_CAN, which the Office of the Union would create. *Digitalis purpurea* L. × *Isoplexis canariensis (L.) Lindl.* would be covered by the new UPOV Code DGTLS\_PCA, 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) |
| 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. | [to delete] | n.a. | n.a. |
| ISOPL\_CAN | *Isoplexis canariensis* (L.) Lindl. | n.a. | DGTLS \_CAN | *Digitalis canariensis* L. | *Isoplexis canariensis* (L.) Lindl |
| DGISO | *Digitalis* L. × *Isoplexis* (Lindl.) Loudon | n.a. | [to delete] | n.a. | n.a. |
| DGISO\_PCA | *Digitalis purpurea* L. × *Isoplexis canariensis (L.) Lindl.* | n.a. | DGTLS \_PCA | *Digitalis purpurea* L. × *Digitalis canariensis* L. | *Digitalis purpurea* L. × *Isoplexis canariensis (L.) Lindl.* |

[Appendix I follows]

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. | Synonym for *Brassica oleracea* L. | 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. | Synonym for *Brassica oleracea* L. | 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. | Synonym for *Brassica oleracea* L.var. *capitata* L. | White Cabbage | 3,747 |
| BRASS\_OLE\_GCR | *Brassica oleracea* L. *convar. capitata* (L.) Alef.var. *rubra* (L.) Thell. | Synonym for *Brassica oleracea* L.var. *capitata* L. | 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 follows]

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]

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 from 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]

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 Plant Breeders’ Rights in 2016 | Number of new data submissions to the Plant Variety Database in 2014 | Number of new data submissions to the Plant Variety Database in 2015 | Number of new data submissions to the  Plant Variety Database in 2016 | Number of new data submissions to the Plant Variety Database in 2017 | Situation at August 31, 2018 |
| --- | --- | --- | --- | --- | --- | --- |
| African Intellectual Property Organization | 0 | 0 | 0 | 0 | 0 | A reminder e-mail with instructions for contribution sent on January, 2018, following receipt of incomplete data. |
| Albania | 0 | 0 | 1 | 1 | 0 | Latest data under preparation |
| Argentina | 238 | 0 | 0 | 1 | 0 | A reminder for latest data contribution sent in January, 2018. |
| Australia | 387 | 3 | 5 | 7 | 5 |  |
| [[1]](#footnote-2)\*Austria | 2 | 3 | 3 | 4 | 4 |  |
| Azerbaijan | 19 (2014) | 0 | 0 | 0 | 0 | Awaiting reply to e-mail of January, 2018, inviting data. |
| Belarus | 20 | 0 | 0 | 1 | 0 | Awaiting reply to e-mail of January, 2018, inviting data. |
| \*Belgium | 4 | 4 | 6 | 5 | 3 |  |
| Bolivia (Plurinational State of) | 15 | 0 | 0 | 1 | 1 |  |
| Bosnia and Herzegovina | n.a. | n.a. | n.a. | n.a. | 0 | Data under preparation. |
| Brazil | 326 | 4 | 3 | 0 | 3 |  |
| \*Bulgaria | 35 | 5 | 12 | 6 | 3 |  |
| Canada | 282 | 5 | 7 | 11 | 11 |  |
| Chile | 90 | 2 | 4 | 6 | 5 |  |
| China | 2,923 | 1 | 2 | 1 | 1 |  |
| Colombia | 122 | 0 | 0 | 0 | 2 |  |
| Costa Rica | 2 | 2 | 1 | 3 | 2 |  |
| \*Croatia | 6 | 0 | 3 | 2 | 2 |  |
| \*Czech Republic | 68 | 4 | 3 | 6 | 9 |  |
| \*Denmark | 3 | 8 | 12 | 11 | 10 |  |
| Dominican Republic | 0 (2011) | 0 | 0 | 0 | 0 | Awaiting reply to e-mail of January, 2018, inviting data. |
| Ecuador | 83 | 1 | 0 | 0 | 1 |  |
| \*Estonia | 10 | 4 | 9 | 3 | 3 |  |
| \*European Union | 3,299 | 6 | 10 | 13 | 7 |  |
| \*Finland | 7 | 2 | 2 | 2 | 2 |  |
| \*France | 94 | 6 | 13 | 11 | 8 |  |
| Georgia | 48 | 1 | 0 | 2 | 0 | Awaiting reply to e-mail of January, 2018, inviting data. |
| \*Germany | 56 | 8 | 11 | 12 | 8 |  |
| \*Hungary | 15 | 6 | 16 | 19 | 14 |  |
| \*Iceland | 0 (2012) | 0 | 0 | 0 | 0 |  |
| \*Ireland | 2 (2014) | 2 | 2 | 2 | 1 |  |
| Israel | 56 | 2 | 1 | 1 | 1 |  |
| \*Italy | 12 | 4 | 8 | 6 | 6 |  |
| Japan | 977 | 5 | 4 | 1 | 2 |  |
| Jordan | 3 | 0 | 0 | 1 | 0 | Awaiting reply to e-mail of May, 2018, inviting data. |
| Kenya | 75 | 2 | 0 | 1 | 0 | Awaiting reply to e-mail of August, 2018, inviting data. |
| Kyrgyzstan | 0 | 1 | 0 | 0 | 0 | Latest data under preparation. Awaiting reply to e-mail of August, 2018. |
| \*Latvia | 10 | 3 | 1 | 1 | 2 |  |
| \*Lithuania | 2 | 2 | 3 | 4 | 4 |  |
| Mexico | 234 | 1 | 1 | 3 | 3 |  |
| Montenegro | n/a | - | 0 | 0 | 0 | Awaiting reply to e-mail of April, 2017, inviting data. |
| Morocco | 64 | 0 | 2 | 0 | 0 | Awaiting reply to e-mail of January, 2017, inviting data. |
| \*Netherlands | 804 | 2 | 10 | 11 | 8 |  |
| New Zealand | 132 | 5 | 6 | 5 | 6 |  |
| Nicaragua | 12 (2015) | 0 | 0 | 0 | 0 | Participated in the training course in 2015 and planned to submit data by end of November 2015. Awaiting reply to e-mail of January, 2018, inviting data. |
| \*Norway | 8 | 1 | 4 | 3 | 4 |  |
| Oman | 0 | 0 | 0 | 0 | 2 |  |
| Panama | 1 | 0 | 0 | 1 | 1 |  |
| Paraguay | 62 | 0 | 1 | 1 | 0 | Awaiting reply to e-mail of January, 2018, inviting data. |
| Peru | 29 | 2 | 0 | 0 | 1 |  |
| \*Poland | 115 | 5 | 3 | 5 | 7 |  |
| \*Portugal | 3 | 2 | 0 | 2 | 1 |  |
| Republic of Korea | 966 | 1 | 0 | 1 | 0 | With regard to latest data, clarifications needed for uploading to PLUTO. |
| Republic of Moldova | 22 | 2 | 3 | 3 | 1 |  |
| \*Romania | 34 | 4 | 4 | 4 | 4 |  |
| Russian Federation | 772 | 2 | 5 | 5 | 5 |  |
| Serbia | 50 | 2 | 3 | 4 | 2 |  |
| Singapore | 1 | 0 | 0 | 0 | 0 | No data submitted. Awaiting reply to e-mail of January, 2018, inviting data. |
| \*Slovakia | 21 | 4 | 4 | 5 | 6 |  |
| \*Slovenia | 0 (2015) | 5 | 5 | 5 | 3 |  |
| South Africa | 310 | 0 | 0 | 1 | 2 |  |
| \*Spain | 40 | 5 | 5 | 5 | 5 |  |
| \*Sweden | 5 | 6 | 11 | 12 | 11 |  |
| \*Switzerland | 72 | 7 | 6 | 5 | 6 |  |
| The former Yugoslav Republic of Macedonia | n/a | 0 | 0 | 0 | 0 | Participated in the training course in 2014 and planned to submit data upon receipt of applications. Awaiting reply to e-mail of March, 2018, inviting data. |
| Trinidad and Tobago | 0 | 0 | 0 | 0 | 0 | Participated in the training course in 2014. Awaiting reply to e-mail of March, 2018, inviting data. |
| Tunisia | 62 | 0 | 0 | 0 | 0 | Awaiting reply to e-mail of March, 2018, inviting data. |
| \*Turkey | 193 | 1 | 1 | 3 | 0 |  |
| Ukraine | 1,274 | 0 | 0 | 0 | 0 | Awaiting reply to e-mail of May, 2018, inviting data. |
| \*United Kingdom | 54 | 10 | 11 | 13 | 10 |  |
| United Republic of Tanzania | 0 | - | 0 | 0 | 0 | Awaiting reply to e-mail of May, 2018, inviting data. |
| United States of America | 1,604 | 10 | 17 | 16 | 12 |  |
| Uruguay | 48 | 1 | 1 | 0 | 0 | With regard to latest data, clarifications needed for uploading in PLUTO. Awaiting reply to e-mail of Janurary, 2018, inviting data. |
| Uzbekistan | 20 | 0 | 0 | 0 | 0 | Participated in the training course in 2014 and planned to submit data in 2015. Awaiting reply to e-mail of May, 2018, inviting data. |
| Viet Nam | 185 | 0 | 0 | 0 | 0 | Data under preparation. Awaiting reply to email of May, 2018, requesting data submission. |
| OECD | - | 1 | 0 | 2 | 2 |  |
| Number of UPOV members that contributed to the PLUTO database | | 44 | 48 | 45 | 48 |  |
| Percentage of UPOV members that contributed to the PLUTO database | | 62% | 67% | 61% | 64% |  |

[End of Annex II and of document]

1. ( ) Parenthesis indicates that data are currently being processed.

   \* Data provided via the CPVO. [↑](#footnote-ref-2)