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GUIDE TO THE UPOV CODE SYSTEM

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1. PURPOSE

1.1 The main purpose of the UPOV Code System is to enhance the usefulness of the UPOV Plant Variety Database (PLUTO Database) by overcoming the problem of synonyms for plant taxa. That is achieved by attributing each taxa a code according to the UPOV Code System (“UPOV code”); synonyms for the same plant taxa are attributed the same UPOV code.

1.2 In addition, the UPOV code may provide information on variety groups, variety types and the denomination class.

1.3 The UPOV Code System is employed in the [GENIE database](#), which has been developed to provide, for example, online information on variety denomination class, status of protection (see document C/40/6), cooperation in examination (see document C/40/5), experience in DUS testing (see document TC/43/4), and existence of UPOV Test Guidelines (see document TC/43/2) for different GENera and specIEs (hence GENIE), and is also used to generate the relevant Council and Technical Committee (TC) documents concerning that information.

2. RESPONSIBILITY FOR THE UPOV CODE SYSTEM

2.1 The Office of the Union (Office) is responsible for the UPOV Code System and the individual UPOV codes.

3. REPOSITORY OF UPOV CODES

3.1 The definitive collection of UPOV codes exists exclusively in the GENIE database.

4. UPOV CODE: BOTANICAL CLASSIFICATION ELEMENTS

4.1 UPOV code construction

4.1.1 In general, the following UPOV code construction is used for the botanical classification elements of the UPOV Code System:

(a) an alphabetic element of five letters (e.g. XXXXX) indicating the genus (“genus element”);

(b) a three-letter element (e.g. YYY) indicating the species (“species element”);

(c) where relevant, a further element of up to three letters (e.g. ZZZ) indicating a sub-specific unit (“sub-species element”);

thus,

XXXXX_YYY_ZZZ

4.1.2 In all cases, the five-letter genus element is to be provided, but the three-letter species element and the sub-specific element are only provided where necessary.

4.1.3 As far as possible, the elements try to follow the first letters of the botanical name of that element, e.g.:

<i>Prunus</i>	PRUNU_
<i>Prunus armeniaca</i>	PRUNU_ARM

4.1.4 In some cases, it is necessary to improvise to ensure that similar taxa have different UPOV codes (e.g. *Platycodon* = “PLTYC_” and *Platymiscium* = “PLTYM_”). In cases where the name is shorter than the UPOV code, the last letter of the name is repeated e.g. *Poa* = POAAA.

4.1.5 In the case of the sub-specific element, the UPOV code is used in a more flexible way to contain more than one level of ranking, thereby avoiding the need for extra elements in the UPOV code.

4.2 Inter-generic and inter-specific hybrids

4.2.1 The letter “x” is not used in the UPOV code to indicate hybrids.

(Background note: the multiplication sign ‘×’ is used in botany as an optional device to indicate hybridity, but is not part of a name in any sense and may or may not be applied according to the wishes and opinions of a botanical author or editor. What one person considers a hybrid, may not be so considered by another, thus we may see *Solanum tuberosum* or *Solanum ×tuberosum* if the writer of the second version understands the potato species to be of hybrid origin.)

4.2.2 In the case of a genus which is formed as a hybrid between other genera and for which there is a binomial name (e.g. ×*Triticosecale* [= *Triticum* x *Secale*]), the “genus element” of the UPOV code is based on the binomial name. For example, ×*Triticosecale* has the UPOV code “TRITL”.

4.2.3 In the case of a genus which is formed as a hybrid between two genera (“hybrid genus”) (e.g. *Alpha* x *Beta*) and for which there is no binomial name, a UPOV code is created for the new “hybrid genus”. The genus element of the UPOV code is produced by combining the first two letters of the female parent genus and the first three letters of the male parent genus. For example, a “hybrid genus” which was formed as a hybrid between *Alpha* (UPOV code: ALPHA) and *Beta* (UPOV code: BETAA) would have the UPOV code “ALBET”.

4.2.4 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”.

4.2.5 In the case of a hybrid genus (or species) which is formed as a hybrid between more than two genera (or species) and for which there is no binomial name, the same general approach is followed as for a hybrid between two genera (or species); the sequence of letters used in the UPOV code is based on the order of female parent followed by male parent.

4.2.6 In the case of UPOV codes for hybrid genera and species, the UPOV code will not distinguish between two hybrids produced using the same parents. A UPOV code is created for the first hybrid notified to UPOV in accordance with the procedure set out in paragraphs 4.2.3 to 4.2.5. However, if a subsequent request is received for a hybrid involving the same genera/species in a different combination, the Principal Botanical Name will be amended to indicate that the UPOV code covers all combinations involving the same genera/species.

Example:

UPOV code request received for: *Alpha one* x *Alpha two*

<u>UPOV Code</u>	<u>Principal Botanical Name</u>
ALPHA_OTW	<i>Alpha one</i> x <i>Alpha two</i>

Subsequently, UPOV code request received for: *Alpha two* x *Alpha one*
or
(*Alpha one* x *Alpha two*) x *Alpha one*
etc.

<u>UPOV Code</u>	<u>Principal Botanical Name</u>
ALPHA_OTW	Hybrids between <i>Alpha one</i> and <i>Alpha two</i>

4.3 Introduction of New UPOV Codes / Amendments to UPOV Codes

(a) In the first instance, the Office will create a UPOV code on the basis of the Germplasm Resources Information Network (GRIN) database¹, or other suitable references if the species concerned are not included in the GRIN database.

(b) Where the Office is aware of relevant experts for the genus or species concerned, or is advised of such experts, for example by the proposer of a new UPOV code, it will, wherever possible, check its proposals with those experts before creating the UPOV code.

(c) New UPOV codes might be proposed by any party, but it is expected that the majority of proposals will be made by contributors to the PLUTO Database. Where the Office receives such proposals, it will respond by updating the GENIE database with the new UPOV codes in a timely manner and, in particular, will seek to ensure that new UPOV codes are available to allow their use for the forthcoming edition of the PLUTO Database. In addition, the Office will add new UPOV codes where it identifies a need.

(d) In general, amendments to UPOV codes will not be made as a result of taxonomic developments unless these result in a change to the genus classification of a species. The "Explanatory notes on variety denominations under the UPOV Convention" (document UPOV/EXN/DEN) contain UPOV variety denomination classes; for genera and species not covered by the List of Classes in Annex I to document UPOV/EXN/DEN, the general rule ("one genus / one class") is that a genus is considered to be a class (see document UPOV/EXN/DEN, Section 4.5.2 and its Annex I). Therefore, it is important that the first element of the UPOV code can be used to sort species into the correct genus. The UPOV codes will also be amended if there are consequences for the content of a variety denomination class where the list of classes applies. Amendments to UPOV codes will be handled by the same procedure as the introduction of new UPOV codes as in paragraphs (a) and (b), above. However, in addition, all members of the Union and contributors of data to the PLUTO Database will be informed of any amendments.

(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.

(f) Checking by Technical Working Party(ies): the Office determines the relevant TWP(s) for checking each UPOV code on the basis of available information.

(g) Checking by all authorities: all the experts of the relevant TWP(s) to be invited to check the UPOV codes where:

(i) many authorities (e.g. 10 or more) have practical experience in DUS testing (based on GENIE database / document TC/xx/4 (e.g. TC/43/4)), have provided interested experts in the drafting of relevant Test Guidelines and/or have protected varieties (based on PLUTO Database); or

(ii) they concern genera or species for which a wide review is considered appropriate by the Office (e.g. because it concerns a proposal for a species or sub-species not previously recognized within the genus, or a proposal for restructuring of the UPOV code).

(h) Checking by specific authorities: in cases not covered by (g) above, the experts of the relevant TWP(s) of specific authorities will be invited to check the UPOV codes. The specific authorities being those which have practical DUS testing experience, have provided interested experts in the drafting of relevant Test Guidelines, or which have granted protection for varieties covered by the relevant UPOV code.

4.4 Updating of Information Linked to UPOV Codes

(a) UPOV codes might need to be updated to take account of, for example, changes in taxonomic classification, new information on common names, etc. In the case of changes of taxonomic classification, this might, although it is emphasized that this is not necessarily the case (see section 3.3 (d), above), result in a need to change the UPOV code. In such cases, the procedure is as explained in section 3.3, above. In other cases, the Office will amend the information linked to the existing UPOV code as appropriate.

(b) The TC, the TWPs and individual communications from members and observers of these bodies will be the principal routes by which the Office will update its information.

¹ USDA, ARS, National Genetic Resources Program. *Germplasm Resources Information Network - (GRIN)* [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. URL: http://www.ars-grin.gov/cgi-bin/npgs/html/tax_search.pl

5 UPOV CODE: APPENDED INFORMATION

5.1 Appended element construction

5.1.1. Where required, an element may be appended to a UPOV code to provide information on the variety group, variety type and/or denomination class.

The appended element to UPOV codes is identifiable through the following naming convention:

- A digit (number from 1 to 9) prefix identifies the new appended element.
- Different digits or letters could, if appropriate, indicate different categories of information.
- The appended element should contain a maximum of six digits or letters in total (e.g. "1AC2TG")

This element may be appended to any UPOV code, regardless of plant taxa (genera, species or subspecies levels).
Examples:

UPOV code for genus *Abies*: ABIES
UPOV code with appended element: ABIES_1AC2TG

UPOV code for species *Abies sibirica*: ABIES_SIB
UPOV code with appended element: ABIES_SIB_1AC2TG

UPOV code for sub-species *Abies sibirica* subsp. *semenovii*: ABIES_SIB_SEM
UPOV code with appended element: ABIES_SIB_SEM_1AC2TG

5.2 Procedure for introducing and amending the appended UPOV code element

The relevant TWP(s) will make or consider proposals for appending the new elements to UPOV codes and any subsequent amendments. The relevant TWP(s) would propose the required information to be appended, including the definition of any groups or types of crops, and any subsequent amendments. The TWP proposals would then be considered for approval by the Technical Committee.

5.3 Use of the appended UPOV code element

The UPOV code structure including the appended element to UPOV codes is compatible with databases and systems that do not use the appended element. In particular, the UPOV codes using the appended element is compatible with existing databases and systems, even if those systems and databases do not support the appended element. In this regard, all users have the possibility not to use the appended element in UPOV codes.

5.4 Notification of appended elements to UPOV Codes

When an appended element is introduced for a UPOV code, all members of the Union and contributors of data to the PLUTO Database will be informed.

6. PUBLICATION OF UPOV CODES

6.1 As explained in Section 3.2, all UPOV codes can be accessed in the GENIE database, which is available on the UPOV website (see <http://www.upov.int/genie/en/>).

6.2 In addition, the UPOV codes, together with their relevant botanical and common names and variety denomination class as contained in the GENIE database, are published on the UPOV website (see <http://www.upov.int/genie/en/updates/>). That information is published in a form that facilitates electronic downloading of the UPOV codes.