

Technical Working Party for Vegetables**TWV/57/18****Fifty-Seventh Session
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REPLACING BOTANICAL NOMENCLATURE BY VARIETY GROUPS*Document prepared by experts from the European Union and the Netherlands**Disclaimer: this document does not represent UPOV policies or guidance*

The annexes to this document contain a document prepared by the experts from the Netherlands on “Replacing Botanical Nomenclature by Variety Groups” (Annex I); and a copy of a presentation prepared by the experts from the European Union on “Replacing botanical nomenclature by variety groups, some practical consequences” (Annex II), to be presented at the fifty-seventh session of the TWV.

[Annexes follow]

REPLACING BOTANICAL NOMENCLATURE BY VARIETY GROUPS

1. The purpose of this document is to propose that variety groups should be used to replace complex infraspecific botanical names for *Beta vulgaris*, *Brassica oleracea* and *Cichorium intybus*.
2. The TWV, at its fifty-sixth session, received a presentation concerning the 'Use of Variety Groups in the UPOV system for *Brassica oleracea* and other vegetable crops' (document TWV/56/13). It was stated that group classification is flexible in time and follows new trends in breeding (new groups can be proposed and accepted), and recommended that groups in the UPOV system would be useful for several vegetables.
3. The TWV agreed to invite the Netherlands to further develop the proposal to create variety groups for *B. vulgaris*, *B. oleracea* and *C. intybus*, to be presented at the fifty-seventh session of the TWV.

*Cichorium intybus**Background*

4. The TWV at its 56th session recalled that, at its fifty-fourth session, it had noted that approximately 1200 varieties with UPOV code CICHO_INT in the PLUTO database could not be allocated with certainty to any variety group. The TWV agreed to invite contributors to the PLUTO database to further precise whether the varieties belonged to the groups "forage-", "industrial-", "leaf-" or "witloof-chicory".
5. The Netherlands made a presentation (TWV/56/15) on the UPOV codes for *Cichorium intybus*. It was noted that in the PLUTO database, when selecting for CICH0_INT there were 1569 entries, selected one level further down for CICH0_INT_FOL 184 entries, for CICH0_INT_SAT 362 entries and for CICH0_INT 1023 entries.
6. Studies of these entries led to conclusions that
 - many entries are not allocated or are allocated wrongly to the subspecies and GENIE code;
 - Witloof does not have a unique GENIE code and ends up in all 3 *Cichorium intybus* codes;
 - Forage varieties do not have a GENIE code and thus are not allocated to one
7. These conclusions were followed by proposals
 - To create the following variety groups in GENIE with GENIE codes for *Cichorium intybus*:
 - Witloof Chicory Group
 - Leaf Chicory Group
 - Industrial (Root) Chicory Group
 - And to add • Forage Chicory Group
8. The English, French, German and Spanish common names in GENIE could also be part of the confusion in allocating the entries to the applicable subspecies, and the proposal therefore includes a revision of those common names.

Proposal for variety groups in *Cichorium intybus* and revision of the English, French, German and Spanish common names in GENIE

UPOV code	BOTANICAL NAMES	GRIN	Proposal Group name	English	French	German	Spanish
CICHO_INT	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L. (Witloof Chicory Group)	Chicory; Witloof chicory	Chicorée Endive	Salatzichorie; Wurzelzichorie; Chicorée	Achicoria; Endivia
CICHO_INT_FOL	<i>Cichorium intybus</i> L. var. <i>foliosum</i> Hegi	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L. (Leaf Chicory Group)	Salad Chicory; Leaf chicory	Chicorée amère	Salatzichorie	Achicoria amarga
CICHO_INT_SAT	<i>Cichorium intybus</i> L. var. <i>sativum</i> DC.	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L. (Industrial Chicory Group)	Industrial Chicory; Large-rooted Chicory	Chicorée à café	Wurzelzichorie	Achicoria de café
CICHO_INT	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L. (Forage Chicory Group)	Forage Chicory	Chicoree Fourrage	Futterzichorie	Achicoria forraje

Proposal to invite contributors to the PLUTO database to further precise whether the varieties belong to the groups.

Brassica oleracea

Background

9. The TWV at its 55th session considered the proposal from the Netherlands to replace the botanical nomenclature of *Brassica oleracea* by the respective group type. For example, reference would be made to *Brassica oleracea* Curly kale Group instead of *B. vulgaris oleracea* L. var. *sabellica* (synonym of *B. vulgaris oleracea* L. convar. *acephala* (DC.) Alef. var. *sabellica* L.). At its 56th session it received a presentation on the 'Use of Variety Groups in the UPOV system for *Brassica oleracea* and other vegetable crops' The proposal for variety groups for *Brassica oleracea* is based on the content of this presentation.

Proposal for variety groups in *Brassica oleracea*

UPOV code	BOTANICAL NAMES	GRIN	Proposal Group name
BRASS_OLE_ALB	<i>Brassica oleracea</i> L. var. <i>alboglabra</i> (L. H. Bailey) Musil <i>Brassica alboglabra</i> L. H. Bailey; <i>Brassica oleracea</i> var. <i>albiflora</i> auct.	<i>Brassica oleracea</i> L. var. <i>alboglabra</i> (L. H. Bailey) Musil (<i>Brassica oleracea</i> Chinese Kale or Kailaan Group)	<i>Brassica oleracea</i> L. (Chinese Kale or Kailaan Group)
BRASS_OLE_COS	<i>Brassica oleracea</i> L. var. <i>costata</i> DC. <i>Brassica capitata</i> subsp. <i>costata</i> (DC.) Lizg.; <i>Brassica oleracea</i> convar. <i>acephala</i> var. <i>luteola</i> Alef.; <i>Brassica oleracea</i> subsp. <i>oleracea</i> convar. <i>costata</i> (DC.) Gladis; <i>Brassica oleracea</i> var. <i>trunchuda</i> L.H. Bailey	<i>Brassica oleracea</i> L. var. <i>costata</i> DC. (<i>Brassica oleracea</i> Portuguese Kale Group)	<i>Brassica oleracea</i> L. (Tronchuda Group)
BRASS_OLE_COS	<i>Brassica oleracea</i> L. convar. <i>acephala</i> (DC.) Alef.	<i>Brassica oleracea</i> L. var. <i>sabellica</i> L. (<i>Brassica oleracea</i> Kale Group)	<i>Brassica oleracea</i> L. (Kale Group)
BRASS_OLE_GAM	<i>Brassica oleracea</i> L. convar. <i>acephala</i> (DC.) Alef. var. <i>medullosa</i> Thell. <i>Brassica oleracea</i> L. var. <i>medullosa</i> Thell.	<i>Brassica oleracea</i> L. var. <i>medullosa</i> Thell. (<i>Brassica oleracea</i> Marrowstem Kale Group)	<i>Brassica oleracea</i> L. (Marrowstem Kale Group)

BRASS_OLE_GAR	Brassica oleracea L. var. ramosa DC.	Brassica oleracea L. var. ramosa DC. (Brassica oleracea Thousand Head Kale Group)	Brassica oleracea L. (Thousand Head Kale Group)
BRASS_OLE_GAS	Brassica oleracea L. convar. acephala (DC.) Alef. var. sabellica L. Brassica oleracea L. var. sabellica L.	Brassica oleracea L. var. sabellica L. (Brassica oleracea Acephala Group)	Brassica oleracea L. (Curly kale Group)
BRASS_OLE_GBB	Brassica oleracea L. convar. acephala (DC.) Alef. var. viridis L. Brassica oleracea L. var. viridis L.	Brassica oleracea L. var. viridis L. (Brassica oleracea Collard Group)	Brassica oleracea L. (Collard Group)
BRASS_OLE_GBC	Brassica oleracea L. var. italica Plenck Brassica oleracea L. var. botrytis L. subvar. cymosa Duchesne; Brassica oleracea L. var. cymosa (Duchesne) DC.; Brassica oleracea subvar. cymosa Duchesne	Brassica oleracea L. var. italica Plenck (Brassica oleracea Broccoli Group)	Brassica oleracea L. (Broccoli Group)
BRASS_OLE_GC	Brassica oleracea L. convar. capitata (L.) Alef. Brassica oleracea L. convar. capitata (L.) Alef. var. alba DC. x Brassica oleracea L. convar. capitata (L.) Alef. var. rubra (L.) Thell.; Brassica oleracea L. convar. capitata (L.) Alef. var. capitata (L.) Alef.; Brassica oleracea L. var. capitata L.	Brassica oleracea L. var. capitata L. (Brassica oleracea Red Cabbage and White/Green Cabbage Groups)	Brassica oleracea L. (Cabbage Group)
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.	Brassica oleracea L. var. capitata L. (Brassica oleracea White Cabbage Group)	Brassica oleracea L. (White Cabbage Group)
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.	Brassica oleracea L. var. capitata L. (Brassica oleracea Red Cabbage Group)	Brassica oleracea L. (Red Cabbage Group)
BRASS_OLE_GCS	Brassica oleracea L. convar. capitata (L.) Alef. var. sabauda L. Brassica oleracea L. convar. capitata (L.) Alef. var. bullata DC.	Brassica oleracea L. var. sabauda L. (Brassica oleracea Savoy Cabbage Group)	Brassica oleracea L. (Savoy Cabbage Group)
BRASS_OLE_GGM	Brassica oleracea L. var. gemmifera Zenker Brassica oleracea L. convar. oleracea var. gemmifera DC.; Brassica subsontanea lizg	Brassica oleracea L. var. gemmifera DC. (Brassica oleracea Brussels Sprouts Group)	Brassica oleracea L. (Brussels Sprouts Group)
BRASS_OLE_GGO	Brassica oleracea L. var. gongylodes L. Brassica caulorapa (DC.) Pasq.; Brassica oleracea L. convar. acephala (DC.) Alef. var. gongylodes L.; Brassica oleracea var. caulorapa DC.	Brassica oleracea L. var. gongylodes L. (Brassica oleracea Kohlrabi Group)	Brassica oleracea L. (Kohlrabi Group)
BRASS_OLE_PAL	Brassica oleracea L. var. palmifolia DC.	Brassica oleracea L. var. palmifolia DC. (Brassica oleracea Jersey Kale or Palmtree Kale Group)	Brassica oleracea L. (Palm Kale Group)

10. In this proposal hybrids and crossings between subspecies are not included. They could be considered to belong to the group to which they morphologically resemble most.

Beta vulgaris

Background

11. The TWV at its 54th session recalled that, at its fifty-second session, it had agreed that the information on type of varieties was useful for grouping varieties and organizing growing trials and should remain in the database (see document TWV/52/20 "Report", paragraph 94). The TWV agreed that the same approach should be used for UPOV codes of the different types of beet varieties.

12. The TWV at its 55th session agreed to append information on denomination classes to UPOV codes for *Beta vulgaris* subsp. *vulgaris* to establish the following groups:

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

Proposal for variety groups in *Beta vulgaris*

UPOV code			
BETAA_VUL_GVA	Beta vulgaris L. ssp. vulgaris var. alba DC. Beta vulgaris L. ssp. vulgaris var. crassa Alef.; Beta vulgaris L. ssp. vulgaris var. crassa Mansf.; Beta vulgaris L. ssp. vulgaris var. rapacea K. Koch	Beta vulgaris L (Fodder Beet Group)	Beta vulgaris L. (Fodder Beet Group)
BETAA_VUL_GVC	Beta vulgaris L. ssp. vulgaris var. conditiva Alef. Beta vulgaris L. ssp. vulgaris var. esculenta L.; Beta vulgaris L. ssp. vulgaris var. hortensis	Beta vulgaris L (Garden Beet Group)	Beta vulgaris L (Garden Beet Group)
BETAA_VUL_GVF	Beta vulgaris L. ssp. vulgaris var. flavescens DC. f. crispa Beta vulgaris L. ssp. vulgaris var. cicla (L.) Ulrich; Beta vulgaris L. ssp. vulgaris var. vulgaris	Beta vulgaris L (Leaf Beet Group)	Beta vulgaris L (Leaf Beet Group)
BETAA_VUL_GVS	Beta vulgaris L. ssp. vulgaris var. saccharifera Alef. Beta vulgaris L. ssp. vulgaris var. altissima Doell	Beta vulgaris L (Sugar Beet Group)	Beta vulgaris L (Sugar Beet Group)

13. Proposal to change the present (iii) Beetroot group for the purpose of denomination classes, to Garden beet group, as in the proposal for the group name: *Beta vulgaris* L. (Garden Beet Group) and to change the notation, adding brackets, for the other groups accordingly.

[Annex II follows]



Replacing botanical nomenclature by variety groups, some practical consequences

TWV, Antalya, Türkiye, May 1 to 5, 2023

Variety groups, practical consequences



- According to the UPOV Code system, UPOV/INF/23/1

In the first instance, the Office will create a UPOV code on the basis of the Germplasm Resources Information Network (GRIN) database

- ⇒ It would be desirable to liaise with GRIN and have modifications done in the GRIN database
- ⇒ When GRIN creates a new group – or changes a species name available in GENIE, an alert would enable us to update GENIE as well



Variety groups, practical consequences

- GRIN already implements the group system

GRIN-Global
U.S. National Plant Germplasm System

Version: 2.3.3.1
Accessions Descriptors Reports GRIN Taxonomy ▾ GRIN ▾ Help

Taxon: *Apium graveolens* L. var. *dulce* (Mill.) DC. (*Apium graveolens* Stalk Celery Group)

New Species Search



Variety groups, practical consequences

- Consequences on the reorganisation of species name for the UPOV code

UPOV code	BOTANICAL NAMES	GRIN	Proposal Group name
CICHO_INT	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L. (Witloof Chicory Group)
CICHO_INT_FOL	<i>Cichorium intybus</i> L. var. <i>foliosum</i> Hegi	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L. (Leaf Chicory Group)
CICHO_INT_SAT	<i>Cichorium intybus</i> L. var. <i>sativum</i> DC.	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L. (Industrial Chicory Group)
CICHO_INT_	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L. (Forage Chicory Group)

✓ Need to have *Cichorium intybus* L. with undefined group, in case the type of variety is not identified by the contributor CICHO_INT

✓ The Witloof Chicory group needs to have its own UPOV code, as well as the Forage Chicory group



Variety groups, practical consequences

- Consequences on the reorganisation of species name for the UPOV code

UPOV code	BOTANICAL NAMES	GRIN	Proposal Group name
CICHO_INT	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L. (Witloof Chicory Group)
CICHO_INT_FOL	<i>Cichorium intybus</i> L. var. <i>foliosum</i> Hegi	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L. (Leaf Chicory Group)
CICHO_INT_SAT	<i>Cichorium intybus</i> L. var. <i>sativum</i> DC.	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L. (Industrial Chicory Group)
CICHO_INT_	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L. (Forage Chicory Group)

- ✓ Possibility to have for a given variety the co existence of the Botanical name and the group name, which could appear side by side, as in GRIN

Taxon: *Apium graveolens* L. var. *dulce* (Mill.) DC. (*Apium graveolens* Stalk Celery Group)



Variety groups, practical consequences

- Apium graveolens* Stalk Celery Group (syn. *Apium graveolens* L. var. *dulce* (Mill.) DC.)
<>
 - Apium graveolens* L. var. *dulce* (Mill.) DC. (syn. *Apium graveolens* Stalk Celery Group)
- ⇒ One field for the Latin name and one field for the Group name possible
- ⇒ Some member states may prefer one or the other
- ⇒ Whatever the situation, looking for 'celery', you find it!





Variety groups, practical consequences

- Need for further groups – and further UPOV codes to implement the EU legislation on marketing authorisations

UPOV Species Name	UPOV Species Code	Additional N	EU Species Name
Capsicum annuum L.	CAPSI_ANN	Rootstock = N OR Rootstock = Null	Capsicum annuum L. – Chili, Pepper
Capsicum annuum L.	CAPSI_ANN	Rootstock = Y	Capsicum annuum
Cichorium endivia L.	CICHO_END	Endive Type=Null	Cichorium endivia L. >> Curled and plain-leaved endive
Cichorium endivia L.	CICHO_END	Endive Type=1	Cichorium endivia L. >> Curled-leaved endive
Cichorium endivia L.	CICHO_END	Endive Type=2	Cichorium endivia L. >> Plain-leaved endive
Citrus lanatus (Thunb.) Matsum. & Nakai	CTRLS_LAN	Rootstock = N OR Rootstock = Null	Citrus lanatus (Thunb.) Matsum. et Nakai – Watermelon
Citrus lanatus (Thunb.) Matsum. & Nakai	CTRLS_LAN	Rootstock = Y	Citrus lanatus
Cucumis sativus L.	CUCUM_SAT	Cucumis Type = 1	Cucumis sativus L. >> Cucumber group
Cucumis sativus L.	CUCUM_SAT	Cucumis Type = 2	Cucumis sativus L. >> Gherkin group
Cynara cardunculus L.	CYNAR_CAR	Cynara Type = 1	Cynara cardunculus L. >> Globe artichoke group
Cynara cardunculus L.	CYNAR_CAR	Cynara Type = 2	Cynara cardunculus L. >> Cardoon group
Daucus carota L.	DAUCU_CAR	Fodder Carrot=Null	Daucus carota L. >> Carrot and fodder carrot
Daucus carota L.	DAUCU_CAR	Fodder Carrot=2	Daucus carota L. >> Carrot
Daucus carota L.	DAUCU_CAR	Fodder Carrot=1	Daucus carota L. >> Fodder carrot
Hordeum vulgare L.	HORDE_VUL	Horde Type = 1	Hordeum vulgare L. >> 2-row barley
Hordeum vulgare L.	HORDE_VUL	Horde Type = 2	Hordeum vulgare L. >> 6-row barley
Phaseolus vulgaris L.	PHASE_VUL	Bean Type = 1	Phaseolus vulgaris L. >> Dwarf French bean group
Phaseolus vulgaris L.	PHASE_VUL	Bean Type = 2	Phaseolus vulgaris L. >> Climbing French bean group
Pisum sativum L.	PISUM_SAT	Pisum Type = 4	Pisum sativum L. (partim) – Field pea
Pisum sativum L.	PISUM_SAT	Pisum Type = 1	Pisum sativum L. (partim) >> Wrinkled pea group
Pisum sativum L.	PISUM_SAT	Pisum Type = 2	Pisum sativum L. (partim) >> Round pea group
Pisum sativum L.	PISUM_SAT	Pisum Type = 3	Pisum sativum L. (partim) >> Sugar pea group
Solanum lycopersicum L.	SOLAN_LYC	Rootstock = N OR Rootstock = Null	Lycopersicon esculentum Mill. – Tomato
Solanum lycopersicum L.	SOLAN_LYC	Rootstock = Y	Solanum lycopersicum L.



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