

Technical Working Party for Vegetables

TWV/56/13

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REPLACING BOTANICAL NOMENCLATURE OF *BRASSICA OLERACEA* BY VARIETY GROUPS

Document prepared by an expert from the Netherlands

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The annex to this document contains a copy of a presentation “Use of Variety Groups in the UPOV system for *Brassica oleracea* and other vegetable crops”, to be made by an expert from the Netherlands, at the fifty-sixth session of the TWV.


[Annex follows]



Use of Variety Groups in the UPOV system

for *Brassica oleracea* and
other vegetable crops

Naktuinbouw



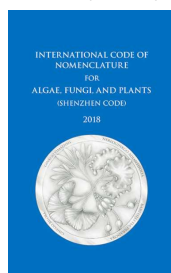
Reason for this presentation

- Since 2021 an extra category within the UPOV-code: Variety Group (see also discussion last year in TWV 2021)
- This gives new possibilities for *Brassica oleracea* and other vegetables
- Use of Groups discussed at Naktuinbouw and Dutch Board of Plant Varieties
- We are in favor of replacing complicated infraspecific botanical names by groups
- Providing some basic taxonomical background information

Taxonomical perspective

Two taxonomical codes for nomenclature

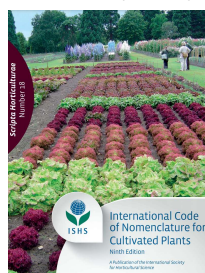
ICN (1867>)



Taxa for wild plants:

Genus, species, subspecies, etc.


ICNCP (1953>)



Taxa for cultivated plants

Cultivar/variety & **Group**

- The ICN is insufficient for cultivated plants
- ICNCP is additional to the ICN (extra rules & ranks for cultivated plants)




What is a group according the ICNCP?

ARTICLE 3: THE GROUP

3.1. The formal category which may comprise cultivars, individual plants or combinations thereof on the basis of defined character-based similarity is the Group. The Rules for forming Group names are laid out in Art. 22 of this *Code*.

3.2. Criteria for forming and maintaining a Group vary according to the required purposes of particular users. All members of a Group must share the character(s) by which that Group is defined.

- The (variety) group is a formal category for cultivated plants
- Based on shared characteristics
- Based on needs and purposes of users



Group versus botanical taxa


ICNCP


3.3. A taxon previously recognized as a species or lower rank under the *ICN* may be designated as a Group, if such a designation is considered more appropriate and has utility.


Ex. 5. If *Hosta fortunei* is no longer recognized as a species, the epithet “fortunei” may be used to form *H. Fortunei* Group, if it is thought that individual cultivars and plants previously assigned to that species continue to need to be so assembled.

Ex. 6. If *Brassica oleracea* var. *sabauda* (published by Linnaeus in 1753) is no longer recognized as an infraspecific taxon at the rank of *varietas* (var.) within the species, it may be referred to as *Brassica oleracea* Sabauda Group.

- For cultivated plants botanical ranks can be replaced by groups if useful (e.g. *Brassica oleracea* var. *sabauda* > Sabauda Group)

	<h2>Group versus botanical taxa (2)</h2>
	<p>Fundamental difference</p> <ul style="list-style-type: none">• Traditional botanical taxa are hierarchical and based on genetical relationships<ul style="list-style-type: none">➤ Driven by natural selection: evolution• Groups are not hierarchical and based on user criteria (e.g. double flowers, variegated leaves, dwarf habit, etc.).<ul style="list-style-type: none">➤ Driven by human selection: breeding

	<h2>Groups in botanical registers</h2>
	<ul style="list-style-type: none">• Most botanical registers are focused on wild plants (not on cultivated plants)• They struggle with infraspecific botanical names for important cultivated crops• E.G. GRIN & Plants Of the World Online (POWO) <p>➤ Traditional botanical names that relate to our (cultivated) groups more and more become synonyms (E.g., <i>Zea mays</i> var. <i>saccharata</i> and <i>Beta vulgaris</i> var. <i>conditiva</i>)</p> <p>➤ For wild plants those taxa do not work and the meaning for cultivated plants is not recognized</p>




Groups in (legal) horticultural registers

- Horticultural registers are focused on cultivated plants
- The use of groups is common practice
 - In non-legal registers: e.g. PlantScope, RHS Plant Finder
 - In legal databases: **Dutch variety register & EU Common Catalogue.**

➤ Group classification is **flexible** in time and follows new trends in breeding (new groups can be proposed and accepted)

➤ If useful varieties can be applied to more than one group

➤ Groups develop in practice



Need for Group classification

Intensification of breeding

➤


- More varieties
- Complexity of genetic ancestry
- More domestication

➤


Limitation of botanic classification

➤

More need for groups



Examples of vegetable crops



Logical to use groups: Vegetables

Naktuinbouw uses groups instead of infrabotanical ranks for:

- *Brassica oleracea*
- *Beta vulgaris*
- *Cichorium intybus*


And also for

• <i>Brassica rapa</i>	• <i>Phaseolus vulgaris</i>
• <i>Allium cepa</i>	• <i>Pisum sativum</i>
• <i>Cucumis sativus</i>	• <i>Raphanus sativus</i>
• <i>Cynara cardunculus</i>	• <i>Zea mays</i>

Brassica oleracea

Brassica oleracea L. (Broccoli Group)
Brassica oleracea L. (Brussels Sprouts Group)
Brassica oleracea L. (Cauliflower Group)
Brassica oleracea L. (Kale Group)
Brassica oleracea L. (Kohlrabi Group)
Brassica oleracea L. (Palm Kale Group)
Brassica oleracea L. (Red Cabbage Group)
Brassica oleracea L. (Savoy Cabbage Group)
Brassica oleracea L. (Tronchuda Group (Portuguese cabbage))
Brassica oleracea L. (White Cabbage Group)

➤ Also used in our Dutch Variety register and EU common catalogue



Beta vulgaris

Beta vulgaris L. (Garden Beet Group)
Beta vulgaris L. (Leaf Beet Group)

➤ Also used in our Dutch Variety register and EU common catalogue


Cichorium intybus

Cichorium intybus L. (Industrial (Root) Chicory)
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Cichorium intybus L. (Leaf Chicory Group)

Cichorium intybus L. (Witloof Chicory Group)
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➤ Also used in our Dutch Variety register and EU common catalogue

	Recommendation
	<ul data-bbox="435 1333 1252 1556" style="list-style-type: none">• Use of groups in the UPOV system is useful for several vegetables• Start with three crops: <i>Brassica oleracea</i>, <i>Beta vulgaris</i> and <i>Cichorium intybus</i>• Other relevant crops could follow in time

Quality in Horticulture

[End of Annex and of document]