

Technical Working Party for Fruit Crops

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REPORT ON AMENDING UPOV CODES FOR CITRUS

Document prepared by an expert from the International Community of Breeders of Asexually Reproduced Horticultural Plants (CIOFORA)

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1. The purpose of this document is to report developments on amending UPOV codes for the *Citrus* complex.
2. Powerful new research technologies and methods have substantially updated the scientific understanding of *Citrus* genetics in recent decades. In 2018 a committee headed by Dr. Melanie Schori (the USDA-ARS Nomenclatural Botanist overseeing GRIN-Global taxonomy) reviewed recent discoveries in *Citrus* genetics and their implications for *Citrus* taxonomy. The main purpose was to determine which *Citrus* taxa are valid species, which are hybrid taxa, and how botanical nomenclature should reflect current science. Many taxa were merged, and the names of many taxa changed, following the International Code of Nomenclature for algae, fungi, and plants (Madrid Code, 2025). The changes were implemented on the GRIN-Global website in 2020.
3. Since UPOV uses GRIN-Global taxonomy for the UPOV Codes in its GENIE database, DUS Test Guidelines, and related resources, UPOV technical experts and the UPOV Technical Working Party for Fruit Crops (TWF) recognized the need to update and harmonize the UPOV Codes for *Citrus* and allied genera with current GRIN-Global taxonomy. UPOV technical experts prepared a draft revision of 163 UPOV citrus codes based on current GRIN-Global taxonomy, [TWP/9/2](#), which was published on March 11, 2025.
4. Following report [TWF/56/7](#) adopted on June 26, 2025¹, a first batch of revisions was undertaken, of the rows of the TWP/9/2 spreadsheet pertaining to the genera *×Citroncirus*, *Fortunella* and *Poncirus*, to ensure that the information corresponded to GRIN-Global taxonomy, correct typos and add common names.
5. On October 20 and 21, 2025 the UPOV Technical Committee (TC)² met in Geneva and agreed to amend the UPOV codes for the genera *×Citroncirus*, *Fortunella* and *Poncirus*, as set out in Annex I to document SESSIONS/2025/5. The TC also “agreed that the proposed revision of the five Test Guidelines for *Citrus* groups should be conducted to redefine the scope of documents TG/83, TG/201, TG/202, TG/203 and TG/204 (*Citrus* groups).” The *Citrus* groups covered by the revision of UPOV codes are:
 - (i) TG/201 (Group 1): Mandarins and hybrids
 - (ii) TG/202 (Group 2): Oranges and hybrids
 - (iii) TG/203 (Group 3): Lemons and Limes
 - (iv) TG/204 (Group 4): Grapefruit and Pummelo
 - (v) TG/83 (Group 5): Trifoliate Orange
6. On February 5, 2026, the Office of the Union issued Circular E-26/010 to all UPOV bodies to announce the amendments to the UPOV codes, which took effect on March 16, 2026
7. Over the past year D. Karp, in consultation with citrus geneticists and taxonomists, UPOV technical experts, and Dr. Schori, has worked to complete the proposed revision of the entire TWP/9/2 spreadsheet. It became evident that although the updated GRIN-Global taxonomy represented a substantial advance over previous versions, some inconsistencies remained. On March 27, 2026 Karp met with Dr. Schori and agreed

¹ TWF, fifty-sixth session, held in Bursa, Türkiye, from June 23 to June 26, 2025. See document TWF/56/8 “Report”, paragraphs 25 to 31.

² TC, sixty-first session, held in Geneva, from October 20 to 21, 2025. See document TC/61/8 “Report”, paragraphs 10, 24 to 29.

to specific revisions, and to research others. On April 17 a group met online and at the Valencian Institute of Agricultural Research (IVIA), Valencia, Spain to review the progress of the *Citrus* codes revision project. The participants included experts from European Union, France, Spain, United States of America, GRIN and UPOV Office.

8. The group agreed to complete the proposed revisions of the UPOV Codes for *Citrus* to present to the TWF/57 on Sept. 7-10 in Leipzig and online. The following week (Sept. 14-18), taking into account comments from the TWF/57, Karp will work as needed with UPOV technical experts in Geneva to finalize the document. The plan is to submit it to the UPOV Technical Committee before the TC/62 meeting, which will be held October 19-20, 2026.

9. Subsequently Dr. Ancillo and Karp will collaborate on a presentation explaining the UPOV *Citrus* code revision, and related modifications in GRIN-Global *Citrus* taxonomy, at the V International Symposium on Citrus Biotechnology, which will be held in Bastia, Corsica, France, November 17-19, 2026.

Materials and methods for the UPOV Citrus code revision

[UPOV GENIE database](#)

[UPOV DUS Test Guidelines](#)

[GRIN-Global Citrus taxonomy](#)

Notes and spreadsheets used for the 2018-2020 revision of *Citrus* taxonomy

[GRIN-Global USDA National Plant Germplasm System](#)

[UPOV PLUTO Plant Variety Database](#)

[Kew Plants of the World Online](#)

[Sorting Citrus Names](#) (The University of Melbourne)

[Citrus of the World 2.0](#) (2002)

[Givaudan Citrus Variety Collection](#) (GCVC) website, archives, and photographs

10. Citrus experts and books from France, Spain and Germany were consulted to provide common names for *Citrus* taxa.

11. 500+ scientific books and articles on *Citrus* genetics, including two important resources previously underutilized:

- (i) the works of the Japanese citrus scientists T. Tanaka and Y. Tanaka, downloaded during the brief period in 2020 when they were available online, scanned by OCR, and translated
- (ii) [Hiraoka, Y. 2020. Application of high-density SNP genotyping array in citrus germplasm characterization and genetic dissection of traits.](#) (UC-Riverside PhD thesis with genetic analyses of the species admixture in the accessions of the GCVC, including many obscure taxa)

12. Gathering together evidence from the above sources, Karp wrote 32 dossiers ranging from 1 to 40 pages (available on request), to examine how *Citrus* taxa are treated currently and the implications of recent advances in *Citrus* genetics for taxonomy and UPOV codes. This research informed the revision of the TWP/9/2 spreadsheet, which proposes a revision of UPOV citrus codes and related taxonomy.

13. A report on developments will be provided during the fifty-seventh session of the TWF.

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