

Technical Working Party for Fruit Crops

TWF/53/3

**Fifty-Third Session
Virtual meeting, July 11 to 15, 2022****Original:** English
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REPORTS ON DEVELOPMENTS IN PLANT VARIETY PROTECTION FROM MEMBERS AND OBSERVERS*Document prepared by the Office of the Union**Disclaimer: this document does not represent UPOV policies or guidance*

1. The Technical Committee (TC), at its forty-seventh session, held in Geneva from April 4 to 6, 2011, agreed to request the Office of the Union to invite experts to submit written reports to the Office of the Union in advance of the Technical Working Party (TWP) sessions in order that a document containing those reports could be prepared by the Office of the Union. The TC noted that TWP experts would be invited to make a brief oral summary of their written report at the session and would also be encouraged to make reports under the agenda item "Experiences with new types and species", as appropriate. The TC also noted that TWP experts would have an opportunity to raise questions concerning matters of interest (see document TC/47/26 "Report on the Conclusions", paragraphs 9 and 10).

2. Written reports were invited by the Office of the Union in Circular E-22/064 of May 4, 2022. The following reports were received (in alphabetical order):

- Members of the Union: Annexes I to IV: Germany, European Union, Japan and the Netherlands,

[Annexes follow]

GERMANY

In 2022 the Bundessortenamt started 79 new examinations for PBR for varieties of fruit species. In total 223 candidate varieties of 13 fruit species are currently under examination at the testing station Wurzen of the Bundessortenamt; the most important of which are raspberry (64 candidate varieties under examination in 2022), strawberry (40), blackberry (37), and apple (31). The majority of actual examinations of fruit varieties at the Bundessortenamt (87 %) are carried out on behalf of other PBR authorities, mostly for the CPVO (83 %). 2 varieties of European pear are currently examined for National Listing in Germany.

For the time being a total of 120 varieties of fruit species are under protection according to the German Plant Breeders' Rights Act, and 1 variety has been admitted to the National List, according to the German Seed Act. Recently, the Bundessortenamt has established a fruit gene bank network for nut fruit species, in which the genetic resources of 11 partners with collections of 44 hazelnut, and 43 walnut varieties are coordinated in Germany.

In the frame of the Working Group Berries of the European Cooperative Program for Plant Genetic Resources (ECPGR) the Bundessortenamt has built up an inventory list of all accessions of *Rubus* L., currently held in the distinctive gene bank collections of the 17 partner countries, from which particular varieties will be selected for building up a joint European core collection.

[Annex II follows]

EUROPEAN UNION

Statistics

In 2021, the Community Plant Variety Office of the European Union (CPVO) received 3 480 applications for Community plant variety rights, 653 applicants filed applications for CPVRs. In 2021, the distribution between crop sectors was as follows:

- Ornamental, 1445 applications (41.5%)
- Agricultural, 1190 applications (34.2%)
- Vegetable, 578 applications (16.6%)
- **Fruit 267 applications (7.7%).**

In 2021, the CPVO Office granted 2859 titles for Community protection; 29 583 titles were in force by the end of the year. National authorities from all over the world regularly base their decisions on applications for CPVRs on technical examinations carried out on behalf of the CPVO (international cooperation, takeover of reports). In 2021, the CPVO provided 547 (**247 for fruit**) technical reports to different countries, the five countries from which most requests emanated were Ecuador, Canada, Switzerland, Russian Federation and Serbia.

Presidency

On 21 August 2021, the mandate of the CPVO President Martin Ekvad ended. Francesco Mattina, former vice-President has been appointed as new President of the CPVO.

Administrative Council (AC)

The CPVO is supervised by an Administrative Council (AC) comprising representatives of the Member States and the European Commission and their alternates. In 2021, the members of the AC took note of the following:

- Proposal for exploring involvement in initiatives under the EU IP action plan for PVR related activities
- Update of the CPVO International Cooperation Strategy to align it with new policy objectives of the European Union
- Engaging in a written agreement with third country authorities under which the CPVO could both take-over DUS reports and initiate DUS tests for *Eutrema japonicum*.

The AC also adopted the R&D strategy for 2021-2025: objectives of the previous strategy confirmed (promote BMT in DUS testing and variety identification, shared online databases, improvement and harmonization of CPVO technical protocols). In addition, the CPVO aims at getting involved in EU funded R&D projects like Horizon Europe.

Legal developments and Regulations

- By Regulation (EU) 2021/1873 of the European Parliament and of the Council of 20 October 2021, the term of protection of the Community plant variety rights for varieties of the species *Asparagus officinalis* L. and of the species groups flower bulbs, **woody small fruits** and woody ornamentals has been extended by five years with retroactive effect. The duration of the Community plant variety rights will, therefore, be extended from 25 to 30 years.
- A study about "the economic contribution of PVR system in the EU" has been launched in 2021, it involves the CPVO, EUIPO, the European Commission and breeder's associations. The study considered the potential for the PVR system to help meet the Commission's Green Deal objectives and the United Nations (UN) Sustainable Development Goals (SDGs). The outcome of the study has been released on 28.04.22 and is available on the CPVO website.

R&D activities

- Projects co-financed by CPVO: in 2021, 4 projects were finalized (Melon database, Durum wheat database (first part “Durdus”), Oilseed rape database (first follow-up), Cannabis database (first part) and Apple (epigenetic markers and phenotyping tools)), 3 projects continued to make good progress (Durum wheat database (follow-up, “Durdus Tools”), Tomato database (first part), HarmoresColl) and two new proposals were evaluated positively for a start in 2022 (Hydrangea (molecular markers), ToBr-Ag (phytopathology tests in vegetables)).
- INVITE project: in 2021, good results were achieved in the development of new molecular and phenotypic tools, as well as for predictive models and field-testing protocols. CPVO continued to provide support for the respect of confidentiality issues regarding the access to historical data and for a good representation of the EOs’ interests and needs for DUS testing.

International affairs

The CPVO participated in several IP Key international outreach activities

- IP Key China
 - Awareness raising seminar in November 2021: videos of the activity available on the [IPKey China website](#);
 - Technical training on DUS in November 2021.
- IPKey Latin America: the licensing course was completed under the IPKey Latin America project in 2021 and will be promoted under the new phase of IPKey Latin America in 2022-2023. Moreover, the project concluded the Study on Ecuador, which will be as well presented under the new phase of the project.
- IPKey South East Asia:
 - Webinar series in June 2021 on PVP and UPOV 91, presentations delivered available on the [IPKey SEA website](#);
 - Training to Plant variety protection and intellectual property officials of Thailand in June 2021;
 - Webinar on Plant Variety Protection and UPOV 1991 (January 2022)
 - Workshop on support to beneficiary countries to accession to UPOV 91 (January 2022), presentations available on the [IPKey SEA website](#).

Other activities in Southeast Asia were carried out under the EAPVP Forum umbrella, such as the annual meeting held in September 2021 where the CPVO participated.

- AfrIPI: regional seminar on the Arusha Protocol. The activity is currently in a follow-up phase, ARIPO will circulate a survey among its Member States to collect information on short term plans with regard to the ratification of the Protocol.
- OAPI: the Office contributed by electronic means to national seminars for breeders, examiners and seed producers Libreville (Gabon), Brazzaville (Republic of Congo), Niamey (Niger) and N’Djamena (Chad). These seminars were funded by the European Commission.
- CarIPI: several activities have been carried out under the project in the Caribbean that ultimately led to the implementation of a parallel series of activities under a TAIEX project with the Dominican Republic, implementation started in 2022 with a first mission in March 2022 concerning Quality Audit Systems. The focus of the TAIEX project is on capacity building on DUS matters. Under the CarIPI project the following activities were carried out:

- Webinar on independence in the conduct of DUS examination and managing of conflict of interest (6 April 2021)
- Webinar on establishing a functional PVR System (23 April 2021)
- Webinar on regional cooperation in PVR (28 September 2021). In the framework of this activity, we circulated as CPVO, UPOV and CarIPI a policy paper on enhancing regional cooperation in the Caribbean, followed by a survey on the single countries plans and ambitions in PVR matter.
- Caribbean week of agriculture (October 2021).

FOCUS ON THE FRUIT SECTOR

Administrative Council decisions on fruit species Technical Protocols

In 2021, the following technical protocols were adopted by the AC:

- *Actinidia* Lindl. - kiwifruit
- *Juglans regia* L. - walnut
- *Prunus dulcis* (Mill.) D. A. Webb (syn.: *Prunus amygdalus* Batsch) - almond
- *Vaccinium* L. - blueberry

In April 2022 the revised technical protocol for *Hippophae rhamnoides* L. – common sea buckthorn was adopted by the AC.

Statistics

The number of fruit CPVR applications decreased in 2021 by 12%.

Table: Number of applications received per year for all fruit species since 2016, with a total covering 1995-2021

	2017	2018	2019	2020	2021	Total (1995-2021)
All fruit species	312	325	246	303	267	5 094

The top three species in the history of the CPVO until 2021 remained peach, strawberry and apple, the highest number of applications received in 2021 was for strawberry (48) followed by peach (37) and blueberry (31). Most applications in the fruit sector are made for 'small fruit' crops.

In 2021, the 10 most important species represented 85 % of 2021 fruit applications.

The table below shows the number of applications for the 10 most important fruit species for the last 5 years with a total covering the period 1995-2021:

Species	2017	2018	2019	2020	2021	Total (1995-2021)
<i>Prunus persica</i> (L.) Batsch	52	21	34	47	37	1080
<i>Fragaria x ananassa</i> Duchesne ex Rozier	44	37	53	48	48	791
<i>Malus domestica</i> Borkh.	36	27	23	28	21	623
<i>Vitis</i> L.	34	50	14	20	29	368
<i>Prunus armeniaca</i> L.	16	8	10	8	5	327
<i>Vaccinium</i> L.	23	42	20	37	31	299
<i>Rubus idaeus</i> L.	27	22	27	24	13	276
<i>Prunus salicina</i> Lindl.	7	7	8	7	6	155
<i>Prunus avium</i> (L.) L.	6	12	8	5	13	154
<i>Rubus</i> subg. <i>Rubus</i>	16	8	5	12	23	121
Total	261	234	202	236	226	4194

The fruit expert meeting

A meeting of fruit experts was held electronically on 5 and 6 October 2021. The meeting was attended by experts from 11 examinations offices as well as by representatives of CIOPORA and Plantum. In 2021, the outcome of discussions on implementation of new or revised UPOV test guidelines for almond, blueberry, kiwifruit and walnut was reported. They all were adopted in 2021 after separate meetings with groups of experts. In addition, the group discussed numerous other items on DUS matters such as:

- Testing of apple mutants
- Organization of blueberry testing
- Developments and breeding in strawberry
- Obtaining reference material for DUS testing
- Single observation for species with multi-annual testing
- Plant health issues.

R & D projects

Developing molecular markers allowing the distinction of apple mutants (sports)

The project "aims at increasing the efficiency and reliability of DUS testing of apple mutants, by identifying markers allowing the molecular characterization of mutants. The project is coordinated by INRA with GEVES as partner. In the frame of a 3 years project, the assessment of the genetic and epigenetic changes that occur in Gala mutants is analysed with the objective to link them to the phenotype. Phenotyping is also an important part of this project which aims at describing and identifying varieties on the basis of images of fruits recorded automatically from conveyer machines.

INVITE

INVITE (INnovations in plant Variety Testing in Europe), is one of the two laureate projects of the call SFS-29-2018 "Innovations in plant variety testing" of the Horizon 2020 program. It aims at improving efficiency of variety testing and availability of information to stakeholders on variety performances under diversified production conditions and on biotic and abiotic stresses for a number of crops including apple. It addresses DUS and performance testing in a balanced way and intends to maximize synergies between them through related activities based on phenotyping, genotyping, modelling and database management.

[Annex III follows]

JAPAN

1. Number of applications in 2021

Year	Number	(2021/2020)	Fruits	(2021/2020)
1978 to 2021	35,932	-	2,158	-
2020	713		46	
2021	776	(108.8%)	66	(143.5%)

Top 5 of application for Fruits in 2021

Strawberry 21, Apple 7, Citrus 7, Peach 5, Kiwifruit 4.

2. Number of granted in 2021

Year	Number	(2021/2020)	Fruits	(2021/2020)
1978 to 2021	28,823	-	1,799	-
2020	502		21	
2021	588	(117.1%)	30	(142.9%)

Top 5 of granted for Fruits in 2021

Apple 5, Strawberry 4, Grapevine 4, Pineapple 4, Peach 3, Citrus 3.

3. National test guidelines harmonized with UPOV TGs in 2022

Genera and Species (5)
Groundnut, Dieffenbachia, Radish, Tomato, Everlasting Daisy

4. National test guidelines developed for new type of species in 2022

Genera and Species (7)
<i>Bauera rubioides</i> Andrews, <i>Berzelia</i> , <i>Boneset</i> , <i>Juniperus conferta</i> Parl., <i>Ligustrum sinense</i> Lour., <i>Pecteilis radiata</i> (Spreng.) Raf., <i>Strobilanthes anisophylla</i> (Wall. ex Hook.) T. Anderson

Web-site: http://www.hinshu2.maff.go.jp/info/sinsakijun/botanical_taxon_e.html

5. Other

- ✓ Regarding vegetative propagation plants, almost 400 plant species and genera were designated whose protected varieties were required the authorization of PBR holders on the propagation including the utilization of farm saved seed, even under the old Act.
Furthermore, to enable PBR holders to exercise their rights effectively and refrain from the unintended outflow of their protected varieties overseas, Japan PVP and Seed Act was amended in December 2020 and took into effect on April 1, 2022. Under the amended PVP and Seed Act, any acts in respect of the propagating material of all protected varieties (including use of farm saved seeds) shall require the authorization of right holders.
It resulted on the gradual increase of the number of applications for vegetable, such as tomato.
- ✓ Japan continuously provides other UPOV members with examination reports under the Memorandum of Cooperation (MOC). We have agreed the MOC with 15 members at April 2022.
For example, MAFF and NCSS carrying out DUS examination for *Eutrema japonicum* (Miq.) Koidz. (syn. *Wasabia japonica* (Miq.) Matsum.) on behalf of CPVO.

- ✓ Since establishment of the East Asia Plant Variety Protection Forum in 2008, Japan continuously support Forum member's activities and will enhance support to establish effective PVP system consistent with the UPOV Convention. These cooperation activities are conducted under the 10-Year Strategic Plan of the Forum which has common direction to join UPOV member. Especially, Japan, Viet Nam and UPOV are working together on the pilot project to develop a single online application Platform "e-PVP Asia" for submitting one application data to multiple PVP Offices. "e- PVP Asia" includes the function to facilitate cooperation in examination among participating countries, that applicant can select country where DUS test would be done, and the report of the DUS test would be transferred to other countries. It is planned to launch "e-PVP Asia" at the end of 2022.
- ✓ Since 2016, based on the Memorandum of Understanding, Center for Seeds and Seedlings, NARO (NCSS) and Naktuinbouw have established Calibration Manuals for DUS technical harmonization. "Calibration manual for tulip" was finalized in 2022, and it will be published through both of websites. With addition of this, a total of 10 Calibration Manuals will be available for third country.

[Annex IV follows]

NETHERLANDS

Naktuinbouw Variety Testing developments

- As from April 2021 the DUS team 4 junior DUS examiners joined the team to replace colleagues who retired or changed jobs. The DUS team now consists of 40 employees, including 2 managers and 4 in disease resistance. The Department of Variety Testing includes also a support team, a trial management team and a project team. In total there are 70 employees.
- The Variety Testing Department yearly offers a number of courses around Plant Breeders' Rights and/or Listing. Last year almost all courses have been provided as online-sessions (Zoom/Teams).
- During the COVID-19 crisis, the daily business of the employees of the Variety Testing department has not been disturbed. They succeeded to do the DUS work at the normal quality level and are also flexible in the contacts with the applicants.
- Applicants more and more use the online systems of UPOV and CPVO for filing their applications for listing and/or Plant Breeders' Rights. Nowadays it is possible to apply for Plant Breeders' Rights for all species through UPOV PRISMA as well as for Listing in the Netherlands. In 2021 35,2% of the National applications were filed by electronic means of the CPVO system, mainly due to a reduced application fee (in 2020 34%). Up to now we received a limited number of online applications through UPOV PRISMA.

Number of applications received

In 2021, 2655 applications were received for testing for the first year for National listing, and for National or European Plant Breeders' Rights. Applications of the same variety for Listing as well PBR, in vegetables and in agricultural crops are split in this table.

2021	NL listing	NL PBR	EU PBR	TOTAL
<i>Agriculture</i>	230	95	103	
<i>Vegetable</i>	662	529	74	
<i>Ornamental (incl. trees)</i>		213	749	
TOTAL	892	837	926	2655

DUS projects

- Digitisation
 - Naktuinbouw continues to work on the expansion of the Naktuinbouw Academy: a digital training platform.
 - Databases: Naktuinbouw develops SNP-databases in French bean, rose, lettuce, onion, hemp, tomato and perennial ryegrass. Some databases are developed nationally, others in international projects (e.g. IMODDUS). The projects are funded by amongst others the Dutch board for plant varieties and CPVO.

EU projects: Database Melon, Harmorescoll and INVITE + Hemp

- An EU database for melon varieties is developed by cooperation between France, Spain, Portugal, Slovakia and the Netherlands. The development is funded by CPVO. In 2021 the project has been finished and continuation in cooperation is agreed.
- Harmorescoll: in this project the reference material for obligatory disease resistance tests will be harmonized.
- The EU project INVITE on the improvement on DUS and VCU. Naktuinbouw is one of the partners in this program.
- Starting a project on setting up resistance tests to ToBRFV for tomato and pepper and improvement of resistance test melon/*Aphis gossypii*

- International projects
 - Calibration manuals. Naktuinbouw cooperates since 2016 with NCSS Japan on the harmonisation of Dutch Calibration Books and Japanese Testing Manuals.
- Other projects
 - Study on minimum distances in tulip 2021-2023.
 - Studies on DUS and VCU testing in True Potato Seeds
 - Automatic morphological descriptions of ornamental crops through machine learning. <https://www.wur.nl/nl/Onderzoek-Resultaten/Onderzoeksinstituten/plant-research/biometris/show-biometris/MODOMA-Deep-Learning-in-sierteelt.htm>

International cooperation

- In 2021 online activities were carried out with Egypt, APSA, Mexico and Ethiopia.
- In cooperation with CPVO, Naktuinbouw joined the IPKey-project China. Training was organised digitally with direct translation.
- In 2021 a 4-year project is started by the Wageningen university on the Nigerian Seed sector. The Nigerian government and Naktuinbouw are involved on the topics of Plant Breeders rights and variety registration.

PVP Development Program (Toolbox)

- This is a tool to help countries to develop, improve and implement their Plant Breeders' Rights system. The first 5 years period has been finalized successfully. The Dutch Ministry has made another 5 years of funds available (2022-2027) for the implementation of this program.

More info: PVP Development Program - PVP Toolbox | Naktuinbouw or contact: PVPToolbox@naktuinbouw.nl

Plant Breeders Rights for Food security and Economic Development training course.

- In 2021, the course was presented in an online format. In 2022, the course will also be held online from Oct 3 – Dec 2.

More information: <https://www.naktuinbouw.com/bulb/training-course/plant-breeders%E2%80%99-rights-food-security-and-economic-development> or contact: l.pinan.gonzalez@naktuinbouw.nl

[End of Annex IV and of document]