

Technical Working Party for Ornamental Plants and Forest Trees TWO/55/3**Fifty-Fifth Session
Virtual meeting, June 12 to 16, 2023****Original:** English
Date: June 19, 2023

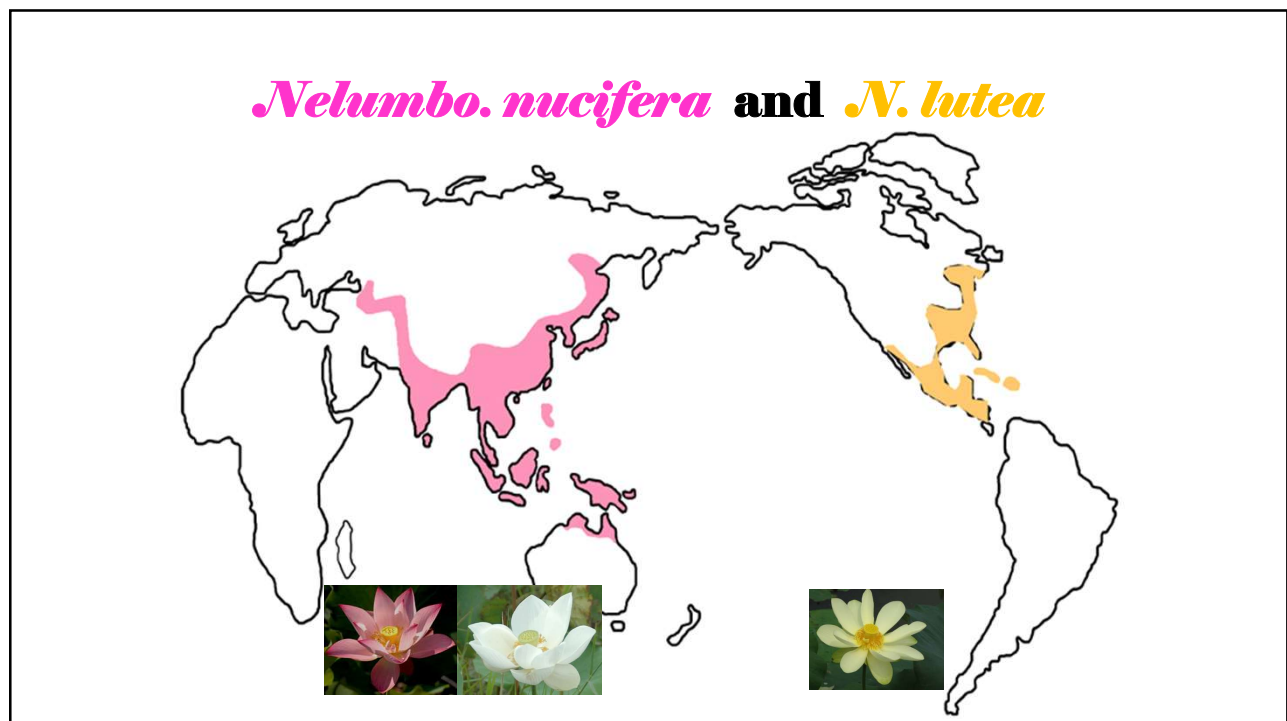
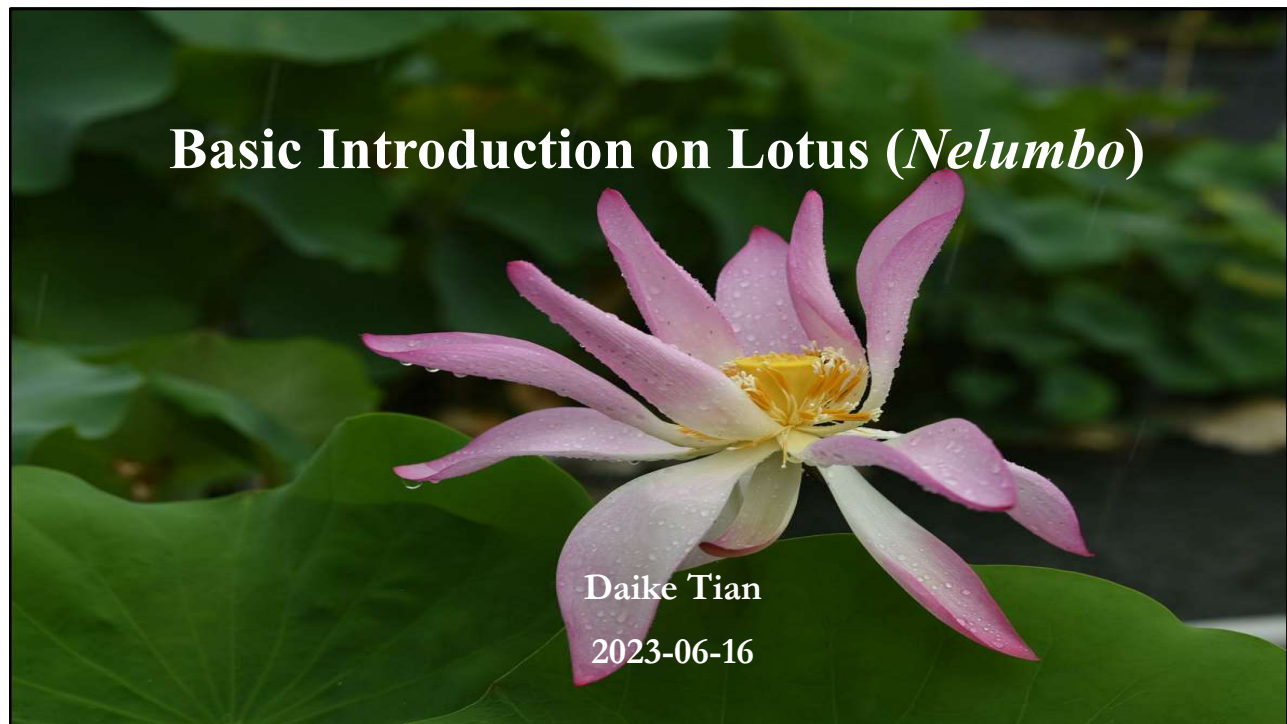
REPORTS ON DEVELOPMENTS IN PLANT VARIETY PROTECTION FROM MEMBERS AND OBSERVERS*Document prepared by the Office of the Union**Disclaimer: this document does not represent UPOV policies or guidance*

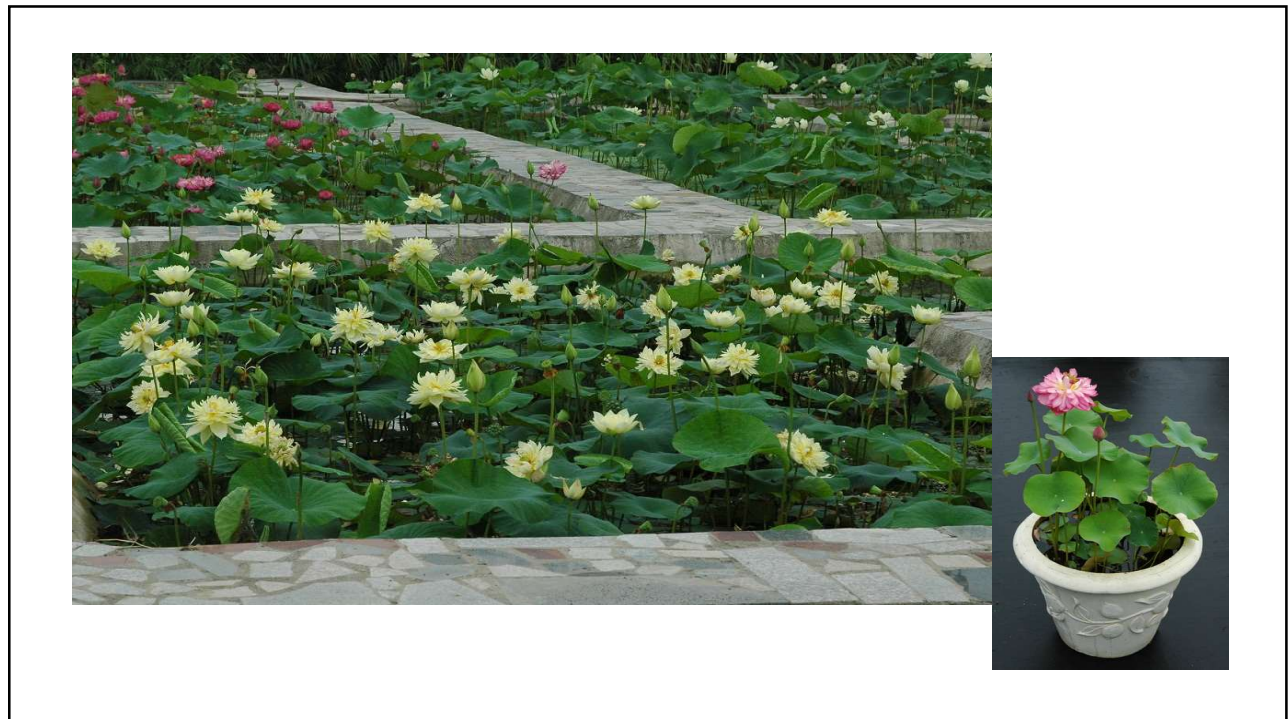
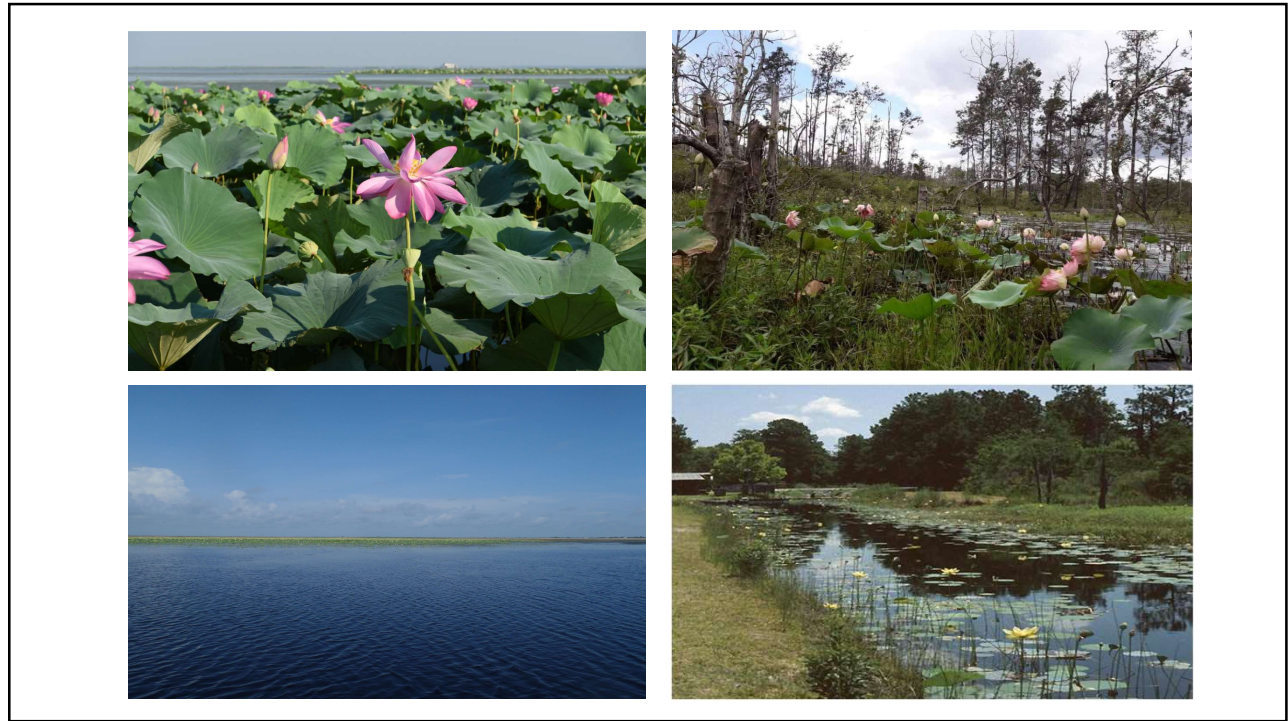
1. The Technical Committee (TC), at its forty-seventh session, held in Geneva from April 4 to 6, 2011, agreed to request the Office of the Union to invite experts to submit written reports to the Office of the Union in advance of the Technical Working Party (TWP) sessions in order that a document containing 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-23/079 of April 25, 2023. The following reports were received (in alphabetical order):

- Members of the Union: Annexes I to VII: China, European Union, France, Japan, Netherlands, New Zealand and South Africa

[Annexes follow]



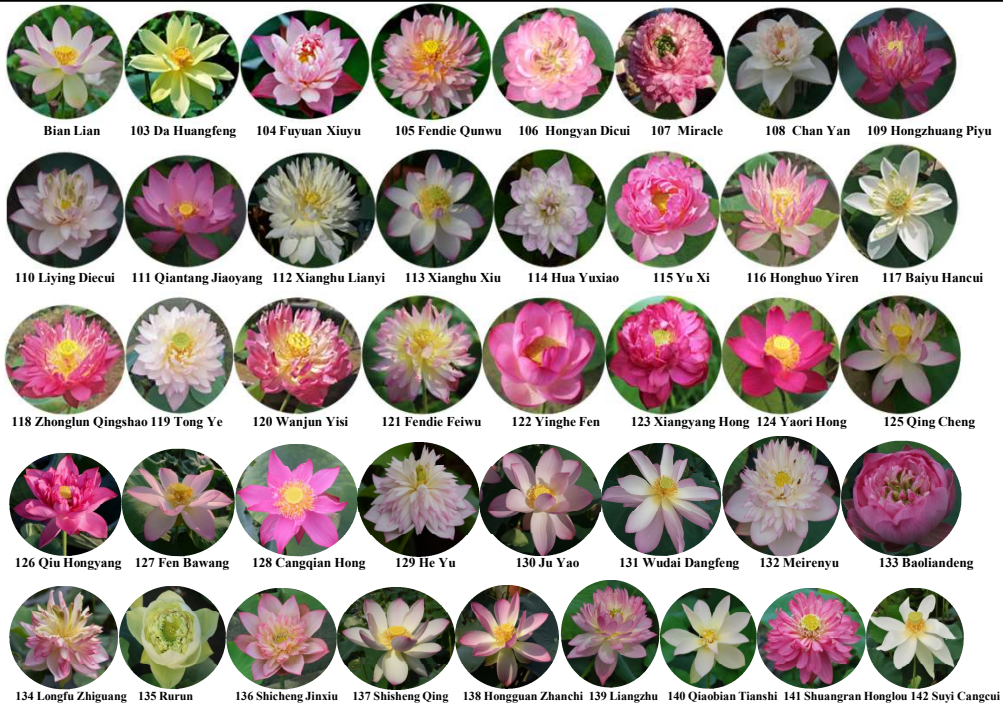
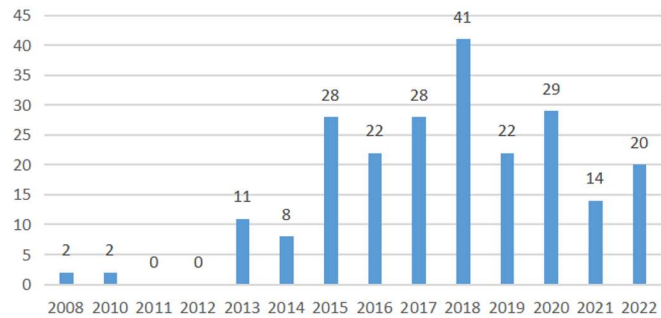


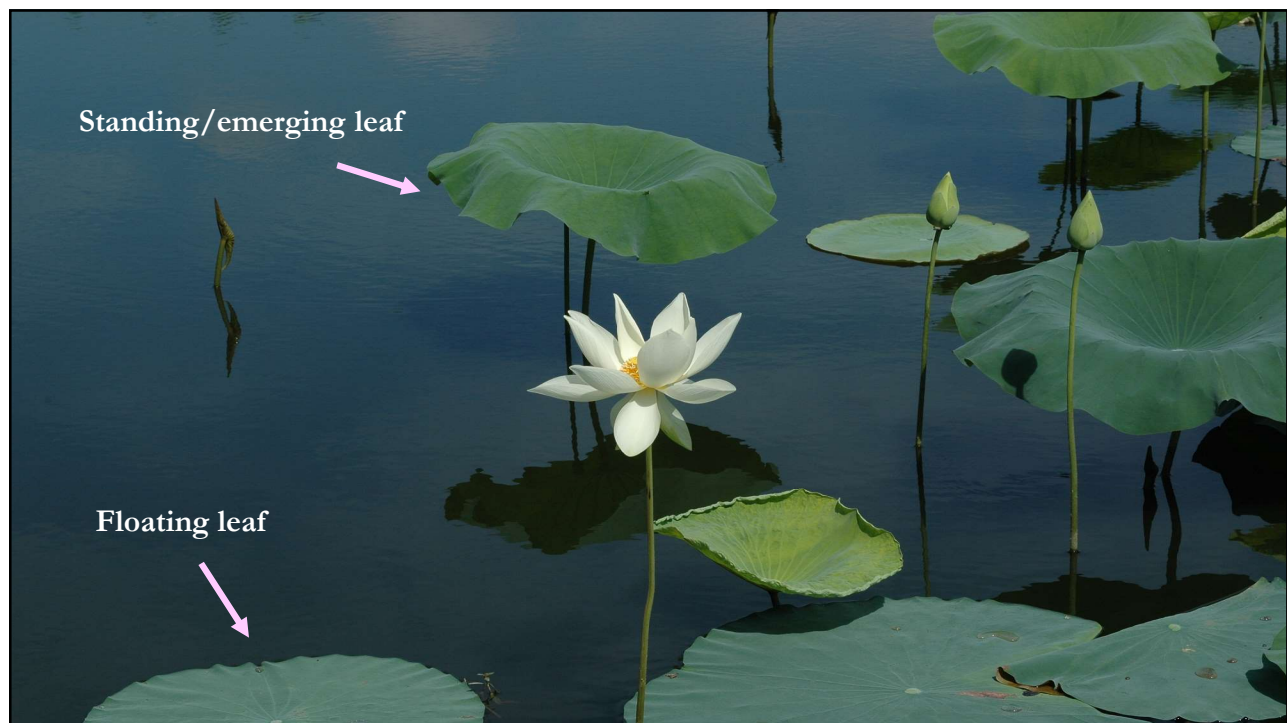
Varieties: 5000 names (China, Japan, USA,...)

| Registered Year | Number of Varieties |
|-----------------|---------------------|
| 2008 | 2 |
| 2010 | 2 |
| 2011 | 0 |
| 2012 | 0 |
| 2013 | 11 |
| 2014 | 8 |
| 2015 | 28 |
| 2016 | 22 |
| 2017 | 28 |
| 2018 | 41 |
| 2019 | 22 |
| 2020 | 29 |
| 2021 | 14 |
| 2022 | 20 |

International Registration

232 varieties





Morphology

- Root



- Stem/rhizome



- Leaf

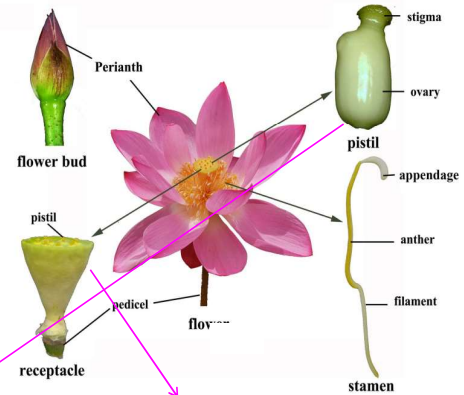


- Flower

- Seedpod

- Fruit

- Seed



Seedpod

Classification

1. Rhizome/vegetable lotus



2. Seed lotus



3. Flower/ornamental lotus



Plant size/height



Flower Shape



Cup-shaped



Bowl-shaped

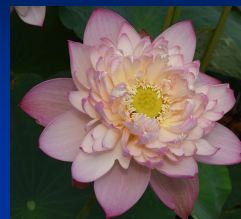
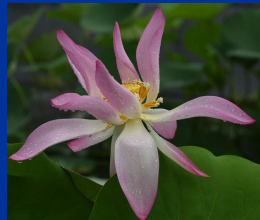


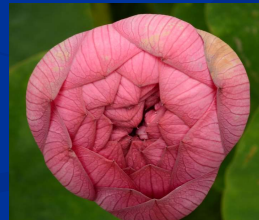
Plate-shaped



Dancing-gesture



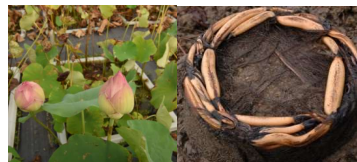
Head-shaped



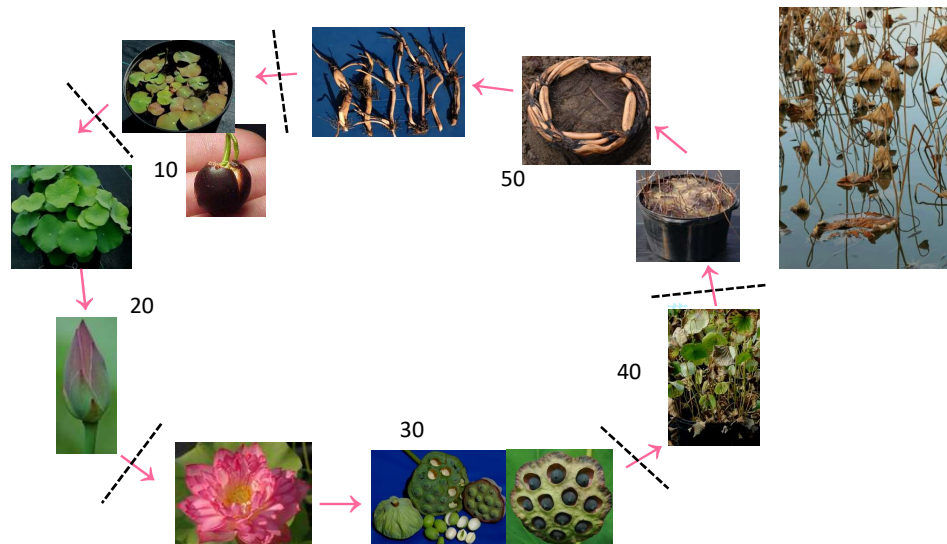
Ball-shaped

Ecological Types

- **Temperate:** China, Japan, India, Republic of Korea, Russian Federation, etc.
- **Tropical :** Southern Asian countries
- **Subtropical:** South China, North of Thailand, Viet Nam, Lao People's Democratic Republic, Myanmar, and India



Life Cycle and Growth Stages of Lotus



EUROPEAN UNION

Statistics

1. Community Plant Variety Office of the European Union (CPVO) applications decreased slightly but remained strong in 2022, with 3193 applications in total. The processing of more than 78 000 applications since 1995 underlines the stability of the system.

The distribution between crop sectors was as follows:

- Ornamental, 1265 applications (40%),
- Agricultural, 1 002 applications (31%), previous year (1 190 applications, 34%),
- Vegetable, 664 applications (21%),
- Fruit 262 applications (8%).

2. In 2022, the CPVO Office granted 2964 titles for Community protection; 30 562 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 2022, the CPVO provided 550 technical reports to 39 countries, the five countries from which most requests emanated were United Kingdom, Colombia, Morocco, Australia and Kenya.

Administrative Council (AC)

3. The CPVO is supervised by an Administrative Council (AC) comprising representatives of the Member States and the European Commission and their alternates. In 2022, the members of the AC adopted the following:

- Intellectual Property Action Plan/SMEs: EU SME fund – a new scheme of financial vouchers to support SMEs in filing applications for EU Plant Variety Rights; extension to PVR application fee in 2023, the half of the application fee can be reimbursed (more information on: [SME Fund for community plant variety - How to apply | CPVO \(europa.eu\)](https://cpvo.europa.eu/sme-fund))
- Fees regulation update launched in December 2022, expected to enter into force in 07/2023.
- Revision of Entrustment requirements document adopted with entry into force from 01/01/2023.
- Strategic Plan 2022-2026, strategic goals – operational excellence, developing the PVR value chain and fit for purpose legal and policy framework.

Administrative Council decisions on technical protocols

4. In the course of 2022, the following technical protocols were adopted by the AC:

- | | |
|-----------------------------------|---------------------------|
| - <i>Lactuca sativa</i> L. | CPVO-TP/013/6-Rev.3 |
| - <i>Chrysanthemum</i> L. | CPVO-TP/026/2-Rev |
| - <i>Spinacea oleracea</i> L. | CPVO/TP-055/5-Rev.4 |
| - <i>X Triticosecale</i> Witt. | CPVO/TP-121/3-Corr |
| - <i>Secale cereale</i> L. | CPVO-TP/058/1-Rev-Corr |
| - <i>Hippophae rhamnoides</i> L. | CPVO-TP/240/2 |
| - <i>Diplotaxis tenuifolia</i> | CPVO-TP/244/1-Rev.2 |
| - <i>Foeniculum vulgare</i> Mill. | CPVO-TP/183/2 |
| - <i>Eruca sativa</i> Mill | CPVO-TP/245/1-Rev.2-Corr. |

- | | |
|---------------------------------|-------------------|
| - <i>Cannabis sativa</i> L. | CPVO-TP/276/2-Rev |
| - <i>Echinacea</i> Moench | CPVO-TP/281/2 |
| - <i>Lagerstroemia</i> L. | CPVO-TP/095/1 |
| - <i>Eustoma exaltatum</i> (L). | CPVO-TP/197/2 |

Legal developments and Regulations

5. A study about "the economic contribution of PVR system in the EU" has been launched in 2021 and published in April 2022. It involves the CPVO, EUIPO, the European Commission and breeder's associations. The study considers the potential for the PVR system to help meet the Commission's Green Deal objectives and the United Nations (UN) Sustainable Development Goals.

International affairs

6. The CPVO participated in several IP Key international outreach activities

IP Key China

- Closed webinar Chinese Seed Law: videos of the activity available on the [IPKey China website](#);

IPKey Latin America and AL INVEST PI: new phase in 2022-2023.

- Study on the PVR legislation of Ecuador presented to Ministries in Ecuador during a seminar in May 2022
- October 2022 together with the project AL INVEST PI, IPKey Latin America: webinar (with more than 400 participants) on licensing of plant variety rights, partially relying on the content developed for the learning course on licensing plant varieties ("Laboratorio de Contratos de Licencias de Variedades Vegetales").
- November 2022: enforcement seminar, carried out in cooperation with UPOV and national authorities of the Region.

IPKey South East Asia:

- Webinar on Plant Variety Protection and the 1991 Act of the UPOV Convention (January 2022)
- Workshop on support to beneficiary countries to accession to the 1991 Act of the UPOV Convention (January 2022), presentations available on the [IPKey SEA website](#).

AfriPI: due to the project constraints, no activity was carried out

OAPI: the Office gave a support in the implementation of 9 activities, of which:

- 2 national seminars on PVR system
- 4 activities concerning Quality Audit System in 4 different OAPI countries
- 2 study visits of OAPI delegation to the CPVO
- 1 training on the application process for legal and officers and examiners of OAPI

CarIPI:

- 2022 CarIPI, together with the CPVO and UPOV, organised an in-person seminar on Regional Cooperation in PVR in the Dominican Republic
- The other activity, carried out in September 2022, concerned the protection of plant genetic resources, traditional knowledge and folklore and the interfaces with the PVR System.

TAIEX: (Dominican Republic, Chile, Saint Vincent and the Grenadines)

- The CPVO in 2022 cooperated with 3 different countries in the implementation of TAIEX activities, together with experts from EU Member States. The activities were all targeting PVR authorities, to support them in the implementation of the national PVR system, including administrative procedures for the management of the application process, technical examination and guidelines on administrative proceedings before PVR offices.

UPOV activities

- Attendance of all TWPs
- Attendance of the regular UPOV meetings in Geneva
- WG EDV
- WG Harvested Material
- WG on Smallholder Farmers in relation to private and non-commercial use
- Seminar on plant breeding and plant variety protection and climate change
- WG DUS

OECD

- Attendance of the OECD Seed Scheme Technical Working Group meetings and the annual meeting

ORNAMENTAL SECTOR

Statistics

7. The table hereunder shows the 10 most important ornamental crops over the last 5 years. Changes in the number of applications of most of these crops seem to be rather accidental. Roses and *Phalaenopsis* Blume and x *Doritaenopsis* hort. were by far the most significant species in 2022.

| Species | 2018 | 2019 | 2020 | 2021 | 2022 | Total (1995-2022) |
|--|------------|------------|------------|------------|------------|----------------------|
| <i>Rosa</i> L. | 242 | 175 | 174 | 168 | 200 | 5170 |
| <i>Chrysanthemum</i> L. | 140 | 121 | 78 | 83 | 83 | 3989 |
| <i>Phalaenopsis</i> Blume and x <i>Doritaenopsis</i> hort. | 112 | 153 | 108 | 130 | 102 | 1716 |
| <i>Calibrachoa</i> Llave & Lex. and <i>Petunia</i> Juss. | 60 | 46 | 67 | 65 | 33 | 1664 |
| <i>Lilium</i> L. | 35 | 21 | 14 | 36 | 18 | 1389 |
| <i>Gerbera</i> L. | 54 | 44 | 18 | 29 | 15 | 1256 |
| <i>Dianthus</i> L. | 35 | 40 | 48 | 38 | 15 | 1156 |
| <i>Impatiens</i> L. | 12 | 16 | 12 | 9 | 10 | 1025 |
| <i>Anthurium</i> Schott | 15 | 30 | 22 | 13 | 40 | 914 |
| <i>Hydrangea</i> L. | 51 | 46 | 36 | 53 | 22 | 734 |
| Total | 756 | 692 | 577 | 624 | 538 | |

The ornamental expert meeting (OEM)

8. The CPVO held its annual meeting with EU ornamental experts on 13 September 2022 in Netherlands. The meeting was attended by experts from seven examinations offices as well as by representatives of the breeder's organisations. The group discussed several DUS technical examination related topics, technical protocols and IT tools (see list above):

- Content of variety descriptions and final reports
- Difficulty in obtaining material of reference varieties
- Requirement for plant passport
- *Euphorbia pulcherrima* testing
- Uniformity threshold for small deviating colour section
- Extension of the duration of protection

9. R&D: the group received an update from Naktuinbouw on their project on SNP database in cut-flower roses.

[Annex III follows]

FRANCE

1. GEVES is the Examination Office of France, in charge of DUS and VCUS evaluation of new plant varieties, and in charge of quality testing of seeds.
GEVES website can be consulted here www.geves.fr
2. Description files can be found on the website for the varieties listed on the French catalogue.
<https://www.geves.fr/catalogue-france/>
3. You can subscribe to our NEWSLETTER available both in French and in English to receive the latest information on GEVES's expert activities in plants and seeds, at national and international levels. Please subscribe here : <https://www.geves.fr/newsletter-en/>
4. GEVES will host the TWF meeting in Nîmes from July 3rd to 7th 2023, with a full day of technical visit including a visit to the DUS testing station of INRAE l'Amarine in charge of DUS tests of apricot, peach, Japanese plum, interspecific hybrids and rootstocks.
5. The activity in the framework of national listing , PBR, and the activity in the framework of DUS bilateral agreements has slightly decreased in 2022.
6. Main activity remains on agricultural species. Detailed figures can be found on the annual report available on our website.
7. In total in 2022, GEVES tested more than 1700 new cultivars for DUS:
 - around 1300 new varieties and parental components in the agricultural sector.
Main species tested are maize, wheat, barley, oilseed rape, sunflower, soybean.
 - around 220 new candidate varieties in the vegetable sector.
Main species are lettuce, tomato, melon, pepper, cauliflower and cabbages.
 - around 140 new candidate varieties in the ornamental sector.
Main species are Hydrangea, Salvia, Chrysanthemum, Buddleja.
 - around 50 new candidate varieties in the fruit sector.
Main species tested are apple, pear, peach, cherry, apricot, Japanese plum, vine.
8. Additional figures can be found on the 2022 annual report available on our website (currently available in French, soon in English).
9. The International System of Cooperation for DUS is active and efficient. For more information, the international cooperation service of GEVES can be contacted here: camille.zitter@geves.fr
10. In 2022, the international cooperation service of GEVES received more than 1000 applications, mainly from the EU but also from all over the world. 70% of the requests are take-over requests and the DUS reports are then sent according to UPOV document TGP/5.
11. In addition to that, the French National Office for PBR (INOV) has received 113 applications in 2022, out of which 95% were tested for DUS by GEVES. INOV is involved in UPOV PRISMA for all genera and species. Contact : inov@geves.fr
12. Regarding the use of molecular markers, GEVES is using in 2022 in routine molecular markers for the management of reference collection according to UPOV guidance, for maize, sorghum, spring barley. Projects are being currently led on Oilseed rape, Hydrangea and Tomato. For more information on BMT, please contact: GEVES BIOGEVES rene.mathis@geves.fr.

A workshop has been organized on the use of molecular markers in official DUS studies. The workshop took place in person near La Rochelle, France, on June 6th to 8th 2023, and aimed to offer a mix of theoretical and practical work. This workshop was aimed at people who play a role in the variety registration process, for example in an examination office or associated competent authority.
More information available here : <https://www.geves.fr/news/6-8-june-2023-workshop-on-the-use-of-molecular-markers-in-dus-studies/>

13. Concerning Ornamentals, a R&D project, co-funded by the Community Plant Variety Office (CPVO) and named "*Harnessing molecular data to support DUS testing in ornamentals: a case-study on Hydrangea*", is currently on-going since May 2022. This 18-months-project, led by GEVES in collaboration with the Bundessortenamt (German examination office) and the French National Research Institute for Agriculture, Food and the Environment (INRAE), aims to use molecular biology techniques to optimize and secure the management of the reference collection and DUS trials on this species. A poster has been presented at International Horticulture Congress 2022, in Angers 15-19 August ([S01 - Session P10 - Harnessing molecular data to support DUS testing in ornamentals: a case study on Hydrangea \(ihc2022.org\)](#)).

14. Regarding the use of disease resistance characteristics, GEVES uses in routine genetic disease resistance characteristics, processed in bio assays, for DUS results. It provides also services, facilities, protocols, identified standards and strains for such activities to Examination Offices and seed companies, all over the world. For more information, please contact: GEVES SNES sophie.perrot@geves.fr

[Annex IV follows]

JAPAN

1. Number of applications in 2022

| Year | Total number | (2022/2021) | Ornamental | (2022/2021) |
|--------------|--------------|-------------|------------|-------------|
| 1978 to 2022 | 36615 | - | 28960 | - |
| 2021 | 776 | | 580 | |
| 2022 | 683 | (88%) | 497 | (86%) |

Top 5 of applications for Ornamentals in 2022

Rosa 78, Chrysanthemum 69, Petunia, Calibracoa and x Petchoa 49 (32; 16; 1), Hydrangea 46, Dianthus 25

2. Number of granted in 2022

| Year | Number | (2022/2021) | Ornamental | (2022/2021) |
|--------------|--------|-------------|------------|-------------|
| 1978 to 2022 | 29497 | - | 23069 | - |
| 2021 | 588 | | 455 | |
| 2022 | 674 | (115%) | 482 | (106%) |

3. National test guidelines harmonized with UPOV TGs in 2022

| Common name of plants (7) |
|--|
| Abelia, Camellia, Chestnut, Barley, Tree peony, Eringi, Coleus |

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

| Genera or Species (13) |
|---|
| <i>Bupleurum rotundifolium</i> L., <i>Dichroa febrifuga</i> Lour., <i>Disporum</i> Salisb., <i>Dorycnium hirsutum</i> (L.) Ser., <i>Fatsia japonica</i> (Thunb.) Decne. & Planch., <i>Hylotelephium</i> H. Ohba, <i>Kaempferia parviflora</i> Wall. ex Baker, <i>Prunus</i> L.(root stock), <i>Sarcococca</i> Lindl., <i>Scindapsus pictus</i> Hassk., <i>Sedum lineare</i> Thunb., <i>Viburnum dilatatum</i> Thunb., <i>Westringia</i> Sm. |

Web-site: https://www.maff.go.jp/j/shokusan/hinshu/info/sinsa_kijun_jp.html

5. Other

- ✓ To enable PBR holders to exercise their rights effectively and to have a check on any 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.
- ✓ Japan continuously provides other UPOV members with examination reports under the Memorandum of Cooperation (MOC). Japan had provided 64 DUS examination reports in total to other countries in 2022. In addition, MAFF and NCSS have been carrying out DUS examination for CPVR application of *Eutrema japonicum* (Miq.) Koidz. (syn. *Wasabia japonica* (Miq.) Matsum.) on behalf of CPVO.

- ✓ Since the establishment of the East Asia Plant Variety Protection (EAPVP) Forum in 2008, Japan continuously supports cooperative activities with the Forum members conducted under the EAPVP Forum 10 year Strategic Plan. The common long-term direction of the 10 year Strategic Plan is to establish effective PVP systems consistent with the UPOV Convention, with the aim of achieving UPOV membership among all South East Asian Countries as a basis for further harmonization and regional cooperation.
- ✓ Japan, Viet Nam and UPOV are also working together to develop a single online application Platform “e-PVP Asia” that enables a onetime application to multiple PVP Offices connected with the UPOV PRISMA, thereby expediting the application process. The “e- PVP Asia” is also expected to facilitate cooperation in examination among participating countries. We are aiming to launch “e-PVP Asia” by early 2027.
- ✓ 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 lettuce ver.2” was finalized in 2023, and it will be published through both of websites. With revision of this, a total of 10 Calibration Manuals will be available for third country.

[Annex V follows]

Naktuinbouw Variety Testing developments

- As from April 2022 one junior DUS examiner joined the DUS team to replace colleagues who retired or changed jobs. The DUS team now consists of 40 employees, including 2 managers and 4 specialized 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).
- Applicants more and more use the online systems of UPOV PRISMA 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.

Number of applications received

In 2022, 2393 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 as PBR, in vegetables and in agricultural crops are split in this table.

| 2022 | NL listing | NL PBR | EU PBR | TOTAL |
|---------------------------------|------------|------------|------------|-------------|
| <i>Agriculture</i> | 252 | 70 | 42 | |
| <i>Vegetable</i> | 717 | 453 | 58 | |
| <i>Ornamental (incl. trees)</i> | | 161 | 640 | |
| TOTAL | 969 | 684 | 740 | 2393 |

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 and Tomato. 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 and IPKey

- An EU database for melon varieties is developed by cooperation between France, Portugal, Slovakia Spain 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.
- Imoddus join a project on setting up resistance tests to *Aphis gossypii* in Melon
- Naktuinbouw continues to support IPKey projects

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>
- Develop a disease resistance test for ZYMV in courgette

International cooperation 2023

- Since 2022, a holistic project has been started in the Philippines with the funds provided by RVO. The project aims to share knowledge and provide trainings for the development of the Philippines National Seed Technology Park (NSTP) project. The project continues until July 2024.
- In 2023, Naktuinbouw hosted the Sounding Board meeting of SeedNL, received a delegation from Morocco regarding knowledge exchange for DUS trials of fibre-cannabis and will receive experts from Colombia in October for a DUS training on Cannabis under the TAIEX project.
- Another TAIEX project with Japan regarding the exchange of knowledge on molecular techniques for infringements of plant breeder rights is under planning.

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 finalised successfully. The Dutch Ministry has made another 5 years of funds available (2022-2027) for the implementation of this program. In 2023, different PVP projects in 11 countries are being carried out.

More info: [PVP Development Program – PVP Toolbox | Naktuinbouw](#) or contact: PVPToolbox@naktuinbouw.nl

Plant Breeders Rights training course.

- In 2022, the course was presented in an online format. In 2023, the course will be split into four separate e-learning, each with its own theme. The courses will probably start this fall.

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

[Annex VI follows]

NEW ZEALAND

1. In the year to May 2023 the number of ornamental applications has decreased slightly to 34 new varieties. In New Zealand, ornamental applications are primarily for rose, lavender and tulip. This year, the New Zealand Office continued to receive an increasing number of applications for varieties for indoor use, particularly *Begonia masoniana* and *Peperomia* varieties. Grant decisions for these species will be made using foreign test reports.
2. An in-person DUS training workshop was recently run in Christchurch, the first since 2018, which included the PVR regional describers, Examiners from IP Australia, and research institute staff involved with DUS testing.
3. The Plant Variety Rights Act 2022 and the Plant Variety Rights Regulations 2022 came into force on 24 January 2023. The new law contains elements of the 1991 UPOV Convention, with additional provisions for applications for varieties belonging to taonga (treasured) species, primarily species of native plants. These provisions will come into force in late 2023 and are intended to address obligations under the Treaty of Waitangi and include establishment of the Māori Plant Varieties Committee. All parts of the new law are intended to be in force by early 2024. The Plant Variety Rights Act 2022 will run in parallel with the Plant Variety Rights Act 1987 because there are no retrospective provisions in the new law. This dual system could potentially continue for the next 25 to 30 years. A revised and clearer fees regime has also been adopted with an increase in trial fees and an examination fee for all varieties.

[Annex VII follows]

With reference to Applications and valid Plant Breeders' Rights for **2022** the following is reported:

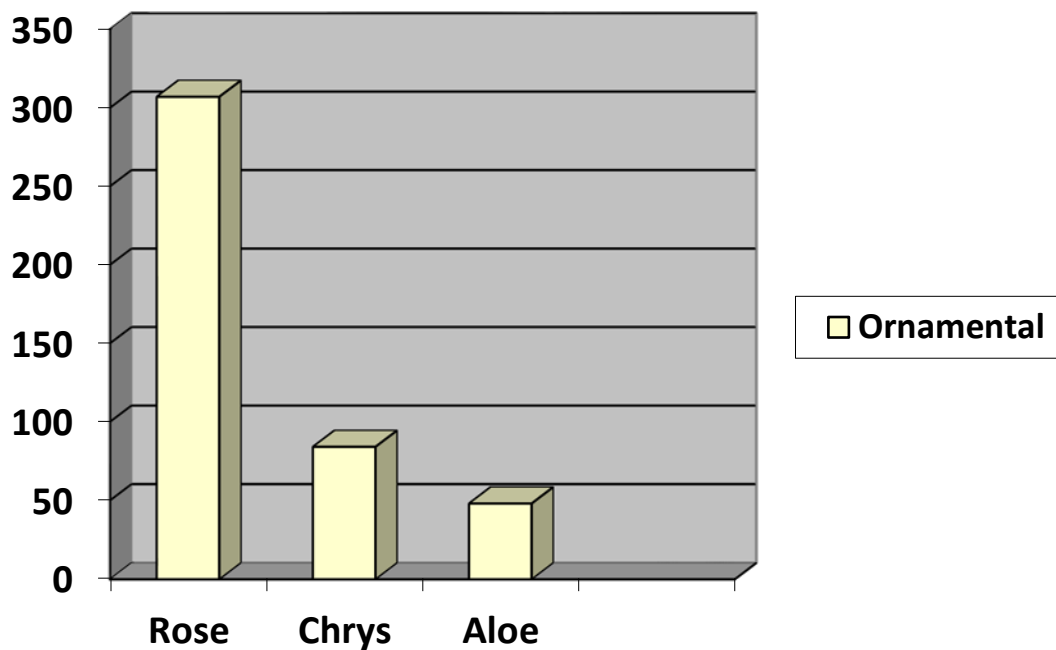
- No additional taxa have been declared in terms of the Plant Breeders' Rights Act during **2022**.
- 263 PBR applications were received of which 10% [29] were for Ornamental crops.
- As of December **2022**, a **TOTAL** of **3637** varieties had valid plant breeder's rights in South Africa, of which **23%** were for **Ornamental** crops.

The top three Ornamental crops are:

1. *Rosa* L. [307]

2. *Chrysanthemum* L. [84]

3. *Aloe* L. [48]



[End of Annex VII and of document]