

Technical Working Party for Ornamental Plants and Forest Trees TWO/52/3

Fifty-Second Session
Roelofarendsveen, Netherlands, June 8 to 12, 2020

Original: English
Date: July 23, 2020

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-20/043 of April 23, 2020. The following reports were received (in alphabetical order):
 - Members of the Union: Annexes I to VIII: European Union, France, Hungary, Japan, Mexico, Netherlands, New Zealand and the United Kingdom

[Annexes follow]

EUROPEAN UNION

Community Plant Variety Office of the European Union (CPVO) statistics and figures

Statistics for 2019

In 2019, the CPVO received 3525 applications for Community plant variety rights (CPVRs), 683 applicants filed applications for CPVRs. In 2019, the distribution between crop sectors was as follows:

- Ornamental, 1592 applications (45.2%)
- Agricultural, 1005 applications (28.5%)
- Vegetable, 682 applications (19.3%) very similar to last year (19.4%)
- Fruit 246 applications (6.9%).

In 2019, the CPVO granted 3188 titles for Community protection; 28228 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). By the end of 2019 the CPVO had provided 7231 technical reports to 60 countries. During 2019, the five countries from which most requests emanated were Colombia, Morocco, Ecuador, Brazil and Canada.

Administrative Council (AC)

The AC met twice in 2019: in Angers (France) on 19-20 March and in Brussels (Belgium) on 19 September. The members of the AC adopted particularly the following:

- The amendment of the fees regulation, the chosen option for application fee changes for the period 2020-2023, and the move to close to 100 % of recovery of the real examination costs with no change in the annual fee.
- A decision process to be applied by the CPVO when attributing candidate varieties to Examination Offices
- The proposal that DUS examinations would be organized at the Mexican Office – SNICS – for an ongoing CPVO application as well as for future applications for the species *Psidium guajava*. They also agreed that the CPVO would be entering into an arrangement for 5 years with SNICS under which the CPVO could both take over DUS reports and initiate DUS tests for the species in question.
- The proposal to enter into an agreement with the Costa Rican Office – ONS– to take over the DUS report for the genetically modified *Ananas comosus* (L.) Merr variety 'Rose'.

International affairs

The CPVO participated in several international events:

- Visit of the African Intellectual Property Organisation (Yaoundé, Cameroon) to analyze the method used to process applications. In September and October, the CPVO contributed to three seminars in Togo, Burkina Faso and Mali and received experts from OAPI at its premises. All activities were conducted in closed cooperation with the other project partners UPOV, GEVES, Naktuinbouw and GNIS.
- IP Key China, Latin America (LA), South-east Asia (SEA)

Ornamental sector

Administrative Council decisions on ornamental TPs

<i>Callistephus chinensis</i> (L.) Nees	CPVO-TP/307/1
<i>Geranium</i> L.	CPVO-TP/330/1
<i>Guzmania</i> Ruiz et Pav.	CPVO-TP/182/2
<i>Portulaca grandiflora</i> Hook.; <i>Portulaca oleracea</i> L.; <i>Portulaca umbraticola</i> Kunth	CPVO-TP/242/2
<i>Lobelia alsinoides</i> Lam.; <i>Lobelia erinus</i> L.; <i>Lobelia valida</i> L. Bolus; Hybrids between <i>Lobelia erinus</i> and <i>Lobelia alsinoides</i> ; Hybrids between <i>Lobelia erinus</i> and <i>Lobelia valida</i>	CPVO-TP/293/1 Corr.

Statistics

The 10 most important ornamental crops over the last 5 years. Changes in the importance of most of these crops seem to be rather accidental. Roses and chrysanthemums remained by far the most important species in 2019. After a decline for two years, application numbers for *Phalaenopsis* varieties were on the rise again. In the longer run, one may anticipate that *Phalaenopsis* will rise in ranking and that *Hydrangea* varieties may make it into the top 10 list.

Species	2015	2016	2017	2018	2019	Total (1995-2019)
<i>Rosa</i> L.	161	185	169	242	175	4628
<i>Chrysanthemum</i> L.	100	117	148	140	121	3745
<i>Pelargonium</i> L'Hér. Ex Aiton	51	43	33	53	56	1679
<i>Calibrachoa</i> Llave & Lex. and <i>Petunia</i> Juss.	80	50	104	78	50	1569
<i>Lilium</i> L.	58	50	36	35	21	1321
<i>Phalaenopsis</i> Blume and <i>x Doritaenopsis hort.</i>	41	48	134	112	151	1243
<i>Gerbera</i> L.	39	30	30	54	44	1194
<i>Dianthus</i> L.	26	35	60	35	40	1055
<i>Impatiens</i> L.	19	10	12	12	16	994
<i>Anthurium</i> Schott	34	30	25	15	30	839
Total	609	598	751	776	704	

In the ornamental sector, rights were granted based upon a technical examinations are in some 95% of all application; in some 5% of the cases reports were taken over from other authorities.

In 2019, the CPVO received applications for 85 species for which no European Examination office was entrusted so far. After two calls for tenders, testing facilities have been found for 63 species. Since 1995, the CPVO has received applications from 2226 different botanical taxon.

The ornamental expert meeting

The CPVO held its annual meeting with European Union (EU) ornamental experts in Angers in November 2019. The meeting was attended by experts from five examinations offices as well as a representative of CIOFORA.

The aim of the meeting was to prepare the implementation of UPOV Test Guidelines as stated above (for which some unknown example varieties were exchanged by varieties available in the European Union), to inform examiners of the developments in the work of the CPVO and to discuss items linked to the technical examinations (such as obtaining reference varieties for DUS testing and the revision of the Technical Verification procedure, the source of reference material, guidance on uniformity threshold for small deviating colour sections, the requirements of a Plant Passport/Phytosanitary Certificate, mentioning the trade name in the application documents or the notion of the end of a DUS trial). Some of the discussions held served as preparation for the annual meeting with all Examination Offices.

R&D projects:

Finalized project - "Practical Case Study on Minimum Distances between Selected *Pelargonium* Varieties"

The project was initiated and coordinated by CIOFORA and financed by the CPVO; the Bundessortenamt being the examination office in Germany conducting technical examination of *Pelargonium* varieties on behalf of the CPVO set up the growing trial. The project has been designed as a practical case study of seven pairs of *Pelargonium* varieties whether these should be declared clearly distinguishable.

In an earlier case study, the possible effects of the introduction of minimum distances according to the CIOFORA position on Minimum Distance for 3 vegetative reproduced species apple, rose and *Pelargonium* has been studied. The result of that earlier study, which did not involve observations on real plants, but was conducted as a paper study, did not give a clear picture on the feasibility of the CIOFORA approach. This practical case study aims at a re-evaluation of the distinctness of actual *Pelargonium* varieties, which have been declared distinct by Bundessortenamt in the past, on the basis of the Minimum Distance position of CIOFORA and the mock protocol for *Pelargonium*. The mock protocol has been prepared by CIOFORA on the basis of the existing CPVO protocol for *Pelargonium* and includes proposals to disregard for the judgement on distinctness certain characteristics and to delete certain states in selected remaining characteristics.

The CPVO notes that the practical case study – comprising an on the spot assessment by *Pelargonium* breeders – demonstrated that the Technical Protocol CPVO/TP-028/2 allows to take transparent decisions on the compliance with the distinctness requirement set out in Article 7 of Council Regulation (EC) 2100/94. The *Pelargonium* breeders involved in the project are satisfied with the current protocol as it allows them to create and protect new varieties.

One out of the seven variety pairs grown was particularly close and compliance with the requirement of clear distinctness may be arguable. However, it lies in the nature of varieties expressing their characteristics in a continued range that border line cases exist irrespective of where the threshold for clear distinctness is set. There is thus no immediate need neither for a revision of the Technical Protocol nor for any other follow-up. However, the CPVO acknowledges that there can be differences in opinions as regards where the border should be set when applying the concept of "clearly distinct" within the meaning of the Basic Regulation. CPVO Technical Protocols are applied when assessing distinctness and CIOFORA is encouraged to continue to participate actively in CPVO expert meetings where the protocols are discussed and in the CPVO Administrative Council where they are adopted. The CPVO looks forward to engage in discussions with CIOFORA bilaterally and in other fora on how to address concerns from the industry.

[Annex II follows]

GEVES new website was launched in 2017 and can be consulted here www.geves.fr
Description files can be found on the website for the varieties listed on the French catalogue.
<https://www.geves.fr/catalogue-france/>

The activity in the framework of national listing and the activity in the framework of DUS bilateral agreements is quite stable in 2019, with a great increase in ornamental species.

In total, GEVES studies each year more than 1400 new varieties,

- around 1000 new candidate varieties, a year, in the agricultural sector.
Main species tested are maize, wheat, barley, oilseed rape, sunflower, soybean.
- around 250 new candidate varieties, a year, in the vegetable sector.
Main species are tomato, melon, lettuce.
- around 100 new candidate varieties, a year, in the fruit sector.
Main species tested are apple, pear, peach, cherry, apricot, Japanese plum, vine.
- around 240 new candidate varieties, a year, in the ornamental sector.
Main species are Hydrangea, Salvia, Chrysanthemum, Lavandula.

GEVES activity is entrusted by the CPVO. GEVES, as an examination office on behalf of CPVO, receives around 700 requests of results each year including about 60% of take over reports related to field and vegetable crops tested first for national listing. GEVES also sends each year about 500 reports to other examination offices (about 100 examinations and 400 take-overs) and buy about 120 reports from them in the framework of bilateral agreements.

The International System of Cooperation is active and efficient. For more information, the international cooperation service of GEVES can be contacted here: camille.zitter@geves.fr (new!)

In addition to that, the French National Office for PBR (**INOV**) has received 107 applications in 2019, out of which 95% were tested for DUS by GEVES.
INOV is involved in UPOV PRISMA for all genera and species.

In 2018 and 2019, GEVES has significantly developed its activity on ornamental species.

The volume of activity for ornamental DUS testing has doubled in 2019.

The ornamental scope of GEVES now includes 79 genera (290 species): Coreopsis, Salvia, Penstemon, Spirea, Hibiscus, Leucanthemum, Echinacea, Escallonia, Astrantia, Ipomea, Iberis, Scabiosa, ...

GEVES is now also entrusted by CPVO on Chrysanthemum natural season: 24 applications are under test in 2020.

GEVES has made a certain number of investments in order to be able to support this increase in activities (new experts, new equipment, etc), in particular the current building of a new greenhouse on the Brion site.

In addition, GEVES has improved its procedures for the receipt of plant material (candidate varieties or reference ones) in relation to the EU Regulation [2016/2031](#) of the European Parliament and of the Council on protective measures against pest of plants and its implementing regulation [EU 2019/2072](#) implemented since 14 December 2019.

GEVES has been highly involved for the last few years in the following topics:

- the use of molecular markers in the DUS tests for the management of reference collections, for the identification and characterization of varieties, for checking of hybrid conformity. It is routinely used in maize, barley, sorghum, and fruit species
- continuous improvement of our methods and protocols, in line with CPVO TPs and CPVO requirements and UPOV guidance
- use and development of disease resistance characteristics, processed in bio tests, for DUS results, mainly for vegetable DUS testing

Regarding the use of molecular markers, GEVES is using in 2020 in routine molecular markers for the management of reference collection according to UPOV guidance, for maize, sorghum, spring barley. A project is being currently led on Oilseed rape.

GEVES is working on the revision of UPOV document INF17 and TGP/15.

GEVES presented the revision of the example of parent lines in maize included in TGP/15. An additional threshold has now been implemented in France in the model used for parent lines in maize. The revision of the example included in document TGP/15 has been presented by GEVES during the 2019 BMT.

For more information, please contact: GEVES BIOGEVES rene.mathis@geves.fr.

Regarding the use of disease resistance characteristics, GEVES has been involved in the CPVO project Harmores 3 with 7 other EO and breeders. It produced 6 new harmonized protocols.

GEVES uses in routine genetic disease resistance characteristics, processed in bio tests, 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 valerie.grimault@geves.fr.

GEVES led with Naktuinbouw (NL) the project HARMORESCOLL, founded by CPVO. This project aims for a harmonised collection of reference materials (varieties, isolates, differentials) used in disease resistance tests for vegetable variety testing. <https://www.researchgate.net/project/Harmorescoll-Setting-up-an-EU-system-for-harmonized-collections-of-reference-isolates-controls-and-differentials-to-facilitate-disease-resistance-testing>

On 8th July 2019, GEVES hosted the kick off meeting of the EU H2020 "INVITE " Project for "INnovations in plant **V**ariety **T**esting in **E**urope", in which it is involved. This 5-year project, with 29 partners throughout Europe (research institutes, examination offices, post-registration organisations, seed companies), aims to improve both methods in the evaluation of varieties and information available to decision makers on varietal performance, under a wide variety of biotic and abiotic conditions. Several species were targeted, primarily wheat and maize, but also sunflower, raygrass, potato, apple and tomato. <https://www.h2020-invite.eu/>

For more information on GEVES activities, the 2019 Activity Report is available (currently only in French) here: <https://www.geves.fr/actualites/rapport-dactivite-2019/?param=notranslate>

[Annex III follows]

TWO/52/3

ANNEX III

HUNGARY

Hungary has ornamental plant breeding from some species, such as Hemerocallis, Laburnum, Sorbus, Juniperus, Tilia, Ginkgo, Hedera, Ulmus, Prunus laurocerasus, etc. Most of the Hungarian applications aim is the European PBR. There are some large nursery, who has breeding group, and some breeders, who work alone.

The aim of the breeding is the heat and dry condition tolerance in the case of street trees. The compact growing habit and tolerance of city condition are the other important aim. Spectacular flower form, long flowering period in case of perennials.

National Listing. Our office prepares the National Listing.

We are CPVO accredited office from many species (actually 86 ornamental species). Generally we participate on the CPVO new species procedure, and some newly wined species make grow the number of accredited species.

Last year we had a successful CPVO audit.

The number of new applications for DUS examination is changing year by year.

[Annex IV follows]

JAPAN

1. Number of applications in 2019

Year	Number	(2019/2018)	Ornamentals	(2019/2018)
1978 to 2019	34,443	-	27,346	-
2018	883		682	
2019	822	(93.1%)	649	(95.2%)

Top 5 of application for Ornamentals in 2019

Chrysanthemum 111, Rosa 77, Petunia and Calibracoa 66 (44; 22), Hydrangea 41, Dianthus 40

2. Number of granted in 2019

Year	Number	(2019/2018)	Ornamentals	(2019/2018)
1978 to 2019	27,731	-	21,750	-
2018	758		588	
2019	591	(78.0%)	491	(83.5%)

Top 5 of granted for Ornamentals in 2019

Chrysanthemum 127, Hydrangea 35, Dianthus 34, Petunia and Calibracoa 46 (26; 20), Rosa 33

3. National test guidelines harmonized with UPOV TGs in 2019

Genera and Species (2)
Olive, Urochloa

4. National test guidelines developed for new type of species in 2019

Genera and Species (8)
<i>Ampelopsis glandulosa</i> (Wall.) Momiy., <i>Dischidia ruscifolia</i> Warb ex K.Schum. & Lauterb., <i>Ficus natalensis</i> Hochst., <i>Ficus pumila</i> L., <i>Olea europaea</i> L., <i>Sedum japonicum</i> Sieb. Ex Miq., <i>Senna corymbosa</i> (Lam.) H. S. Irwin & Barneby, <i>Urochloa</i> P Beauv.

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

5. Other

- ✓ Japan continuously provides other UPOV members with examination reports at no charge under the Memorandum of Cooperation (MOC). We have agreed the MOC with 15 members at April 2020.
- ✓ Japan launched MAFF electric application system (national electric application system) in March 26th, 2018 for convenience of applicants and for improving effective PVP proceedings in Japan. Total number of electric applications, by the end of 2019, is 459 (30.0 percent share of total applications). This system allows users to send application form by electric system. Users are requested to send a Request Form by postal mail to PVPO for obtaining user ID and password in advance. The system accepts Japanese language only. The PVPO accepts paper application. More information is available at MAFF's website. <http://www.hinshu2.maff.go.jp/>
- ✓ Currently, the Diet is deliberating on amendments to the law to strengthen the Plant Variety Protection.
- ✓ 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 by strengthening national PVP system and by contributing to facilitate harmonization of application and examination procedures and to enhance efficient PVP cooperation under the 10-Year Strategic Plan of the Forum. Especially, Japan, Vietnam and other partners are working together on the pilot project to develop “PVP Platform under the EAPVP Forum” which would provide applicants with a single online platform for submitting application data to PVP Offices of participating countries, and would enhance DUS cooperation among participating countries.

[Annex V follows]

MEXICO

In Mexico plant varieties can be officially register by two modalities, one is through applying for National List (Catálogo Nacional de Variedades Vegetales), which does not confer exclusivity. The other is by the application of breeders rights.

From 2002 to march, 2020, 3.139 applications to breeders rights, have been submitted. 2.437 have been granted of which, 2.062 remain in force

By nationality, 251 applicants from 31 nationalities have submitted at least one application, stand out the United States of America, Mexico and the Netherlands. It is important to point out, that in Mexico, the public investigation is one of the most important innovation creator, The "Instituto Nacional de Investigaciones, Forestales, Agrícolas y Pecuarias (INIFAP)", is the most important breeder, is title holder of 324 varieties from 46 crops, followed by Pioneer Hi-Bred International, Inc. with 270 varieties of corn plant and sorghum and Seminis Vegetable Seeds, Inc. with 42 varieties of eight species.

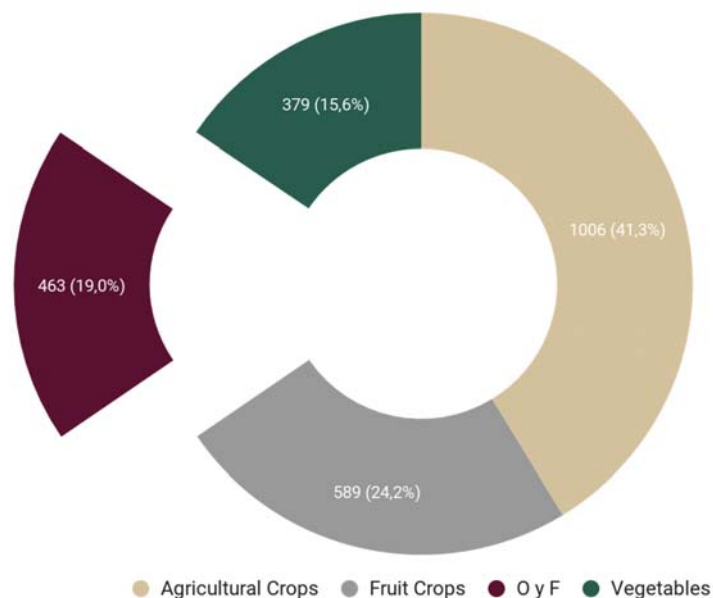


Fig.1. Mexico, titles granted by crop types

As we can see in fig.1. the Agricultural Crops, are the most important in Mexico, 41% of the titles have been granted for that type of crops and the ornamental plants and forest trees are located in the third place with 463 title granted.

Ornamental Plants and Forest Trees

Ornamental species are important for the value that their production represents for Mexico. There are 30 species with at least one title granted, rose has 183, anthurium 61, chrysanthemum 43, gerbera 42, and 134 for other 26 species.

[Annex VI follows]

NETHERLANDS

Naktuinbouw Variety Testing developments

- In 2019 and the beginning of 2020 the DUS team was enlarged with 7 more DUS colleagues. One colleague retired. The team now consists of 39 employees, 2 of them are managers. The department Variety Testing includes also a support team, a trial management team and a project team. In total there are 67 employees.
- An renewed agreement between The Dutch ministry, The Dutch Board for Plant Varieties and Naktuinbouw has been signed; the so called Tripartite-agreement. Naktuinbouw will do the DUS research for Listing and Plant Breeders' Rights for the Board for plant Varieties for another ten years.
- The responsibility for the external crop experts in relation to ornamental species has been changed from the Board for Plant varieties to Naktuinbouw.
- The new EU Plant Health regulations have been implemented at Naktuinbouw; plant material for DUS trials needs to be accompanied by a plant passport.
- European regulations for environment and hygiene demand action for Naktuinbouw as well as for the applicants. From 2020 it is forbidden to use Thiram treated seeds. Thiram is a fungicide.
- The entrustment of Naktuinbouw by CPVO has been renewed in 2020 after an audit in 2019.
- The Variety Testing Department yearly offers a number of courses around Plant Breeders' Rights and/or Listing.
- Despite the COVID-19 crises, the employees of the Variety Testing department try to do their very best to do the DUS work as good and as much as possible and also be flexible to 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 all species through UPOV PRISMA. Also it is possible now to apply for listing in the Netherlands through UPOV PRISMA. Up till now we received a limited amount of online applications for the Netherlands through UPOV PRISMA. At this moment it is possible to apply for listing/plant breeders rights in the Netherlands for 50 species through the CPVO online system. In 2019 we received 395 applications for listing/plant breeders rights in the Netherlands through the CPVO online system.
In 2019 25% of the National applications were filed by electronic means mainly due to a reduced application fee. For 2020 the planning is to increase this number to 50%.

Number of applications received

In 2019, 2794 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.

2019	NL listing	NL PBR	EU PBR	TOTAL
<i>Agriculture</i>	332	84	57	
<i>Vegetable</i>	801	510	94	
<i>Ornamental (incl. trees)</i>		175	765	
TOTAL	1133	767	916	2816

DUS projects

Below a selection of the DUS projects at Naktuinbouw.

- EU cooperation: Database Melon, Harmorescoll and INVITE
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 will be finished.
The harmorescoll project has just started and will last for 3 years. In this project the reference material for obligatory disease resistance tests will be harmonized.
The EU project on the improvement on DUS and VCU testing has started. Naktuinbouw is one of the partners in this program.
- International cooperation. Calibration manuals. Naktuinbouw cooperates since 2016 with NCSS Japan on the harmonisation of Dutch Calibration Books and Japanese Testing Manuals in a 5 years working plan. In 2019, Tomato and Gerbera were discussed. This year 2020 tulip and chrysanthemum are being discussed.

Development of DNA databases

- Database Lettuce and marker for LMV resistance
All new applications in lettuce are being tested, besides the bio-tests, with a DNA marker for LMV resistance. We now have sufficient experience with this marker and propose to use it as an additional method in the near future (TGP/15). IBEB (a group of Dutch and French lettuce breeders) supports the use of the DNA marker. With the collected DNA also the development of a new DNA-database for lettuce is started. The DNA of varieties of common knowledge (included in the DUS-trials) will also be included in this database. First, a useful set of SNP markers has to be developed. We are looking for cooperation partners.
- SNP database Onion
In 2014 a project started in which a number of onion and shallot varieties were analyzed using 93 SNP markers in order to confirm the morphological types used to group the variety collection. The markers confirmed the distinct morphological types. However, this analysis was quite general and the wish was to be able to analyze within the groups the distinctness between varieties. This will be subject in a follow up, while the search for the best distinctive SNP's continues.
- DNA database Tomato
In 2019 this IMODDUS-project has been started in by a kick-off meeting. The main goal is to find and select and international accepted SNP. The project will be followed by testing varieties in common knowledge with this set of DNA markers and storing the data in a database. After that it can be used for management of the reference collection.
- DNA database Cannabis
In 2019 a project started to develop a SNP marker set and a suitable genotyping method. It will give the possibility to manage the reference collection efficiently and minimizes the risk of wrong Distinctness decisions. The number of Cannabis applications for medical use is high and transport of seeds or plants of applications and reference varieties is a burden due to phytosanitary and opium regulations.
- SNP-markers in Perennial Ryegrass (PRG)
Naktuinbouw started a special project on the use of SNP markers in PRG based on a previous pilot project. PRG is a cross pollinating crop causing additional complexity. The results of the project are promising. SNP markers could be used to replace electrophoresis as additional characteristic in DUS testing. A presentation is foreseen this year in the framework of the CPVO Agricultural Expert Meeting
- Disease resistance testing Projects are carried out in biotesting of nematodes in pepper, *Fulvia fulva* in tomato (biotests & DNA markers), biotest of *Fusarium* Lettuce, virus tests in vegetative propagated pepper.
- Other projects: Resistance tests under LED light, Phenotyping, Hydroponics in lettuce
A project to test the preferred type of LED light and to validate each resistance test which is performed in climate chambers. In order to obtain an idea about the possibilities of phenotyping in DUS testing Naktuinbouw performs a pilot this year in *Phalaenopsis*. In Lettuce a student is testing at Naktuinbouw how to test for DUS with a hydroponic growing system.

International cooperation

- 29 projects were carried out with the focus on PVP. 17 of these activities were financed by PVP Development Program (Toolbox) (1). In 2019 there was attention to countries in Latin America, middle East, Asia and Africa.
- In cooperation with CPVO, Naktuinbouw also joined IPKey-projects and contributed to the promotion of the PVP system in the OAPI countries.
- Colleagues from Iran, Jordan, Ecuador and China did an internship at Naktuinbouw.
- Delegations from Kazakhstan and Nigeria visited the Netherlands to exchange knowledge and experiences.
- Participation in seminars and training on DUS and administrative matters in the Dominican Republic, Mexico, Togo, Jordan, United Republic of Tanzania and Benin.
- Participation in an inception mission to Rwanda, Uganda, Burundi.
- In 2019, 37 participants coming from 19 different countries attended the Plant Breeders Rights for Food security and Economic Development training course (2). This course is organized by Naktuinbouw in collaboration with the University of Wageningen. Most of participants were decision makers and Key staff for PBR in their countries.

PVP Development Program (Toolbox)

- This is a tool to help countries to develop their Plant Breeders' Rights system. The Dutch Ministry makes funds available for the implementation of this program. Naktuinbouw is charged to manage the program where they cooperate with the Dutch Agricultural Counsellors and their staff. They can propose projects aimed at the creation or development of a Plant Breeders' Right system in the territory they work for.
- For more information about this program of possible cooperation please contact: PVPToolbox@naktuinbouw.nl

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

- More information
<https://www.wur.nl/en/show/Plant-Breeders-Rights-for-Food-Security-and-Economic-Development.htm>
or contact: l.pinan.gonzalez@naktuinbouw.nl

[Annex VII follows]

NEW ZEALAND

The number of applications for ornamental varieties (31) accepted in 2019 has slightly increased in comparison with 27 applications accepted in 2018. The pattern of slow decline in application numbers seen in recent years looks to have reached the low point in 2018, with 2019 indicating a potential recovery. At the end of 2019, 77 varieties were under examination.

Roses remain the most important genus followed by *Lavandula* and other woody garden plants (such as *Rhododendron*, *Hydrangea*, *Hebe*, *Coprosma*), which together make up almost 50% of applications. Bulb crops such as Lily and Tulip comprise 7% of applications with the remainder a wide range of herbaceous perennials. Testing and examination of varieties for a wide range of genera combined with a small overall number of applications provides particular difficulties. The opportunities for testing efficiencies and economies of scale are limited because many genera only have one or two varieties under examination. The viability of centralised variety collections under these conditions is doubtful and testing arrangements need to be versatile and adaptable.

The first application has been received for a variety of *Disporum cantoniense* (Lour.) Merr. This is a new genus and preparatory work on the testing and examination process had begun, however this did not progress very far due to the withdrawal of the application. An enquiry was received from a breeder considering an application for a variety of *Diervilla xsplendens* (Carriere) G. Kirchn. This is also a new genus and some preliminary research on the genus was carried out. At this stage the application has not yet been made.

During the course of examination work it was recognised that the national PVP database was in need of updating with respect to several ornamental species nomenclature and UPOV codes. The revision of botanical nomenclature and often the corresponding change in the UPOV codes is a particular on going exercise for ornamentals due to the very large number of genera and species covered. A key consideration is when the authority should make changes or amendment to botanical names in the national records as the regulator and national record keeper. Botanical guidelines for nomenclature revisions rely on a process of publication, adoption and general consensus. The process is a gradual one and takes time, providing an often difficult decision for the PVP authority to make as to when the actual change has occurred and amendments can be made.

The New Zealand government review of the Plant Variety Rights Act 1987 has progressed steadily in 2019 and policy changes were approved late in the year. The objective of the review is to update the current law, in order to become compatible with the 1991 Act of the UPOV Convention. The aim is to submit a new law to Parliament by mid-2020 and come into force by the end of 2021.

[Annex VIII follows]

UNITED KINGDOM

Report on the activity of the United Kingdom Plant Varieties and Seeds Office in Cambridge and the examination centres of NIAB, SASA and AFBI. The Plant Varieties and Seeds Office is part of the Service Delivery Directorate of the Animal and Plant Health Agency (APHA), an executive agency of the Department for Environment, Food and Rural Affairs (Defra). Contact details and phone numbers are available on Gov.UK website where all Government departments now have their website details. www.gov.uk

Across all the United Kingdom trial stations, approximately 1500 candidate varieties were under test for Listing and/or PVR in the past year, including 320 winter oilseed rape, 291 cereals and the remainder herbage and fodder, ornamentals, vegetables, field peas, potatoes, field beans, sugar beet and fodder kale. Applications in the agricultural sector for the coming season remain stable.

Ornamental DUS testing in the United Kingdom is conducted at NIAB in Cambridge, with specialisation in Chrysanthemum, Rose and many hardy ornamental species.

During the COVID-19 pandemic, DUS trials are being done under Government health and safety guidance in a step by step approach to ensure the safety and well-being of staff. With suitable adaptation, it has so far been possible to continue almost all trials.

On the international front, Variety Testing staff at the different examination centres continue to be fully committed to working with our colleagues in Europe and within UPOV. We continue to be involved in the CPVO projects for developing a strategy to apply SNP molecular markers in the framework of winter oilseed rape DUS testing, which is now in its second phase and 'Harmorescoll' which aims to facilitate access to reference material for performing disease resistance tests within DUS examinations for vegetable crops. There is also involvement in two EU Horizon 2020 funded projects with NIAB, SASA and BioSS contributing to the INVITE project, and APHA and AFBI to INNOVAR.

The United Kingdom continues to support the UPOV online courses by providing tutors and with technical and administrative staff throughout the United Kingdom taking the distance learning opportunities through DL205 and DL305.

[End of Annex VIII and of document]