UPOV

International Union for the Protection of New Varieties of Plants

E

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REPORTS ON DEVELOPMENTS IN PLANT VARIETY PROTECTION FROM MEMBERS AND OBSERVERS

Document prepared by the Office of the Union

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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-20/104 of August 5, 2020. The following reports were received (in alphabetical order):

- Members of the Union: Annexes I to III: Japan, Netherlands and the United Kingdom

[Annexes follow]

ANNEX I

JAPAN

1. Number of applications in 2019

Year	Number	(2019/2018)
1978 to 2019	34,443	-
2018 2019	883 822	 (93.1%)

2. Number of granted in 2019

Year	Number	(2019/2018)
1978 to 2019	27,731	-
2018 2019	758 591	 78.0(%)

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)
Ampelopsis glandulosa (Wall.) Momiy., *Dischidia ruscifolia* Warb ex K.Schum. & Lauterb., *Ficus natalensis* Hochst., *Ficus pumila* L., *Olea europaea* L., *Sedum japonicum* Sieb. Ex Miq., *Senna corymbosa* (Lam.) H. S. Irwin & Barneby, *Urochloa* 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 also 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 has continuously supported 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, Viet Nam 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.

- ✓ Since 2016, based on the Memorandum of Understanding, NCSS and Naktuinbouw have established Calibration Manuals, which describe important points of observation in DUS tests. In 2019, Manuals of Tomato and Gerbera were finalized, and they were published on the website. Hereafter, the manuals for Chrysanthemum and Tulip will be developed.

- ✓ In December 2019, MAFF and NCSS participated in a kick-off meeting for a project “International harmonization and validation of a SNP set for the management of tomato reference collection”, which is leaded by Naktuinbouw. NCSS has signed a project partner agreement for the project, in March 2020.

[Annex II follows]

ANNEX II

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
Agriculture	332	84	57	
Vegetable	801	510	94	
Ornamental (incl. trees)		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 where 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 (Islamic Republic of), 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 III follows]

ANNEX III

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.

Agricultural DUS testing in the United Kingdom is conducted at NIAB in Cambridge (wheat, oilseed rape, sugar beet, barley, field bean, oats and fodder kale), at SASA, Edinburgh (potato, field pea and swede) and at AFBI in Crossnacreevy (perennial, Italian and hybrid ryegrasses, festulolium and white clover). The United Kingdom has incorporated the option to use protein electrophoresis as an additional characteristic for the testing of perennial ryegrasses following the inclusion in the CPVO test protocol.

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 of vegetable species. 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 III and of document]