



TWO/46/28

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REPORTS ON DEVELOPMENT 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 requested by the Office of the Union in Circular E13/093. The following reports were received (in alphabetical order):

Members of the Union: Annexes I to XIII: China, Denmark, European Union, France, Germany, Japan, Mexico, Netherlands, New Zealand, Poland, Republic of Korea, South Africa and the United Kingdom.

[Annexes follow]

ANNEX I

CHINA

The development of agricultural plant variety protection in China since 2012 is as follows:

Firstly, the Regulations on the protection of new varieties of plants have been modified in order to enhance the legal effect. No 635 Decree of the State Council promulgated the decision of the State Council on the revision on Regulation of the People's Republic of China on the Protection of New Varieties of Plant on January 31, 2013. Article 39(3) and Article 40 are modified, which increase amount of fine to infringement cases and counterfeiting activities of plant varieties rights. The fine infringement cases in Article 39(3) can be in value 1 times to 5 times and be less than 250,000 yuan no value or the amount under 50,000 yuan depending on the seriousness of the circumstance. The fine of counterfeiting cases in Article 40 can be in value 1 times to 5 times and be not exceeding 250000 yuan no value or the amount under 50,000 yuan, depending on the seriousness of circumstances. If the circumstances are serious, which constitutes a crime, shall be investigated for criminal responsibility according to law. The new Regulation increases the intensity of plant variety rights protection and has come into effect since March 1, 2013.

Secondly, the number of applications is still increasing. The number of applications was more than 10000 cases in December of last year. Up to February 28, 2013, the Ministry of Agriculture received applications 10556 cases and has granted 3880 cases of breeder's rights. Among those applications, 667 cases are from 17 countries, which 269 cases are from Netherlands, 167 cases are from the United States of America, 82 cases are from Republic of Korea, 50 cases are from Japan, and so on. The number of ornamental plants varieties has 15 genera or species and 729 cases, which are Chrysanthemum 201, Gerbera 111, Anthurium 114, Carnation 90, Lily 84, Guzmania 39, Cymbidium 39, New Ji Nei Ya fengxian 10, Phalaenopsis 23, Begonia 5, Limonium 4 .Gladiolus 3 , Flower of Garden Balsam, Ranunculus and Lotus are respectively 2 . 99 cases have been granted among applications of ornamental plants varieties. In general, the number of applications is still increasing, but the number of granted breeder's rights is less than before.

[Annex II follows]

TWO/46/28

ANNEX II

DENMARK

In Denmark a total of 37 applications of ornamentals and woody species are under DUS-test in 2013. All applications were received from the Community Plant Variety Office (CPVO) of the European Union. No national ornamental applications were received. 9 different species are under test this year. The most important species tested in Denmark are Poinsettia, Bougainvillea, Thuja, Schlumbergera and Rhipsalidopsis. Other species under test in 2013 are: Exacum, Anemone, Dieffenbachia, Coprosma and Ranunculus. The number of applications under test are lower than normal in the last two years. This is based on the implementation of a quality management system the Administrative Council of CPVO grant entrustment to the examination office at Aarhus University, Aarslev in February 2013.

[Annex III follows]

EUROPEAN UNION

In 2012, the Community Plant Variety Office of the European Union (CPVO) had received 2 868 applications for Community plant variety rights (CPVR), this represents a decrease of 9.9% compared with the previous year and it slightly lower than 2010. In 2012, 2 640 titles for protection have been granted.

The ornamental sector remained with 1 406 applications the largest group of applications filed for Community plant variety rights. However, in 2012, the share of ornamental applications fell for the first time below the 50% threshold (49%). Chrysanthemum (146 applications) and roses (131 applications) remained the most important crops; for roses, a drastic decline in application numbers (-108) in comparison to 2011.

In the first quarter of 2013, the CPVO received 973 applications representing an increase of some 32% as compared to the same period of last year. The increase in application numbers is observed for all crop sectors; however, ornamentals could not get back over the 50% threshold.

At the end of 2012, 20 362 Community plant variety rights were in force which are 1 463 more than at the end of 2011.

For some years applications for Community plant variety rights can be filed either on paper or electronically. During the last six month the share of applications filed electronically has risen from less than one half to nearly 2/3.

As from 1 January 2013, the application fee has been lowered from 900 to EUR 650. The decrease was officially announced in November 2012 and may - at least partly - explain the fluctuation in application numbers.

Since 2010 and the introduction of a quality audit system, examination offices of the CPVO network are free to apply for entrustment for the DUS testing of any species provided they fulfill defined quality requirements. The CPVO no longer centralizes the technical examination of ornamental species. This had for consequence hundreds of species for which there are several examination offices but very few applications (less than 5 per year). Ornamental experts asked the CPVO to make a proposal for centralization of these species to its Administrative Council. Draft principles have been issued at the beginning of 2013 and should be commented by EU Member states.

The CPVO continued participating in 2 international fairs: In January in co-operation with the German Bundessortenamt at the IPM in Essen, Germany, and in February in co-operation with the French GEVES at the Salon du Végétal in Angers, France.

At the end of 2012, all examination offices working on behalf of the CPVO have been audited once. In total 30 audits were conducted – for some examination offices twice – leaving the CPVO with 26 entrusted examination offices. Of these, 10 offices are entrusted for ornamental species.

The Administrative Council of the CPVO has adopted revised explanatory notes to its Guidelines on Variety Denominations. Furthermore, the CPVO started a co-operation with the Office of Harmonization for the Internal Market (OHIM), a European Agency similar to the CPVO so that now Community trademarks and variety denominations are mutually taken into account when assessing their suitability.

On 1 July 2013, Croatia will join the EU: all Community plant variety rights already granted will then also be valid on the territory of Croatia. The CPVO has placed a document on its website informing stakeholders on the consequences Croatia's accession to the EU may have in the area of plant variety rights.

[Annex IV follows]

TWO/46/28

ANNEX IV

FRANCE

DUS Tests on ornamental species in France are conducted by the *Groupe d'étude et de contrôle des variétés et des semences* (GEVES). They mainly concern shrubs (Hydrangea, Weigelia, Abelia, Buddleia) and aromatic (Lavender, Thymus).

Two experimental locations are concerned: Angers Brion 49 unit and Cavaillon 84 unit. They maintain large and reliable DUS reference collections (on field, glasshouse, and cold rooms for the seed lots).

The number of applications received for ornamentals in 2012 increased for Hydrangea, Buddleia and Lavender species, in total about 65 applications coming mainly from the Community Plant Variety Office (CPVO).

[Annex V follows]

TWO/46/28

ANNEX V

GERMANY

In 2012, a total of 414 requests were received for carrying out DUS tests for ornamental and woody varieties from some 60 different species. 85% of the requests were received from the Community Plant Variety Office (CPVO), 10% from other UPOV countries and 5% were requests for domestic PBR. The most important species tested in Germany are Roses, Pelargonium, Petunia, Calibrachoa, Osteospermum, Kalanchoe and New Guinea Impatiens. In the end of 2012, there were 662 titles in force for ornamental varieties and 84 for woody plants.

[Annex VI follows]

JAPAN

1. Number of applications and titles granted in 2012

Number of applications

year	No. of Applications	(2012/2011)	ornamentals	(2012/2011)
1978 to 2012	27,975	-	22,148	-
2011	1,126		884	
2012	1,110	(99%)	914	(103%)

Top 5 Applications of Ornamentals.

Chrysanthemum 170, Rosa 122, Petunia and Calibrachoa 77(44+33), Dianthus 55, Hydrangea 29

Number of titles granted

year	No. of PBR Granted	(2012/2011)	ornamentals	(2012/2011)
1978 to 2012	22,167	-	17,297	-
2011	1139		883	
2012	881	(77%)	672	(76%)

Top 5 PBR Granted of Ornamentals.

Rosa 111, Chrysanthemum 83, Petunia and Calibrachoa 63(19+44), Dianthus 34, Limonium 23

2. Average duration of the examination procedure (from application to registration)

2011	2012	2014 (target)
2.4 year	2.36year	2.3 year

3. Japanese national test guidelines have been harmonized with UPOV TGs in 2012

genera and species
TWO: <i>Bougainvillea</i> , <i>Canna</i> , <i>Gaura</i> , <i>Lilium</i> , <i>Oenothera</i> , <i>Serruria</i> , <i>Torenia</i> , <i>Vriesea</i>
Others: <i>Camellia sinensis</i> , <i>Fagopyrum esculentum</i> , <i>Malpighia emarginata</i>

Web-site: http://www.hinsyu.maff.go.jp/en/en_top.html

[Annex VII follows]

In Mexico plant varieties can be officially registered in one of two ways. One is via the General Catalogue of Plant Varieties (CNVV) not conferring exclusive use. The other is by the application of an Obtentor Title which gives an exclusive right for exploitation of that variety for a limited time. This under the rules of the Federal Law of Plant Varieties and the Federal Law for the Production, Certification and Commerce of Seeds.

During the second semester of 2012 and the first three months of 2013, 23 obtentors from six nationalities presented 92 applications corresponding to 33 plant species, 30 from seed crops, 32 from fruit species, 17 from ornamentals, and 13 from vegetable crops. Forty three percent of the applications were from Mexican citizens, 32.6 % from US citizens, 19.6 % from New Zealand, 3.3 % from Australia, and 1.1% from Germany. With these recent applications, the total accumulated increased to 1569 related to 106 species.

Up until now 172 obtentors have been registered. The highest number of applications (256) are from The Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias (INIFAP). The second place is for Pioneer Hi-Bred International, Inc. with 130 applications, Semillas y Agroproductos Monsanto, S. A. de C. V. with 120, Driscoll Strawberry Associates, Inc. with 95, Seminis Vegetable Seeds, Inc with 72, Meilland International, S. A. with 62, and 825 applications from 166 additional obtentors.

During the second semester 2012 and the first three months of 2013 195 obtentor titles have been granted: corn (41), rose (19), wheat (12), arandano (10), cotton (7), chile (7), bean (7) and for other 32 crops (92). From a total of 972 titles given up until March 31, 2013, there are 818 still active.

[Annex VIII follows]

NETHERLANDS

Number of applications received

In 2012 1660 applications were received for testing for the first year for national listing and national and European Plant breeders rights. The number in brackets shows the difference with 2011:

Ornamentals	874	(-12%)
Agriculture	131	(-5%)
Vegetables	655	(-10%)
Total	1660	(-11%)

This seems to be a drastic decrease compared to 2011, but we must bear in mind that the number in 2011 was 15% higher in relation to 2010. Furthermore, the number of applications received in 2013 up to now, shows a tendency to increase again compared to 2012.

Training in DUS related activities

The sharing of knowledge is important in order to work on a global, harmonized and strong Plant Breeders right system for the benefit of society. Naktuinbouw contributes to this principle on different levels.

- Naktuinbouw is involved in **bilateral projects to exchange knowledge** and to train staff of countries that are working in or on Plant Breeders Rights systems. In 2012, the projects with **Indonesia and Viet Nam** finished. The cooperative program on the introduction of PBR in **Ethiopia** (which is not yet a member of UPOV), including institution building, awareness sessions and a training program on DUS, was successfully finalized with the ratification of a new seed law in January 2013 soon to be followed by a law on PBR. Finally, eight employees of Naktuinbouw (Kees van Ettehoven together with 7 crop specialists) attended several meetings about exchange of views regarding DUS-examination in **India**.
- Annually, Naktuinbouw with the help of UPOV and CPVO is organizing the **PVP course in Wageningen**. In 2012, 24 participants from 19 countries participated in this two week training. The coordinator of the PVP-course, Mr. ArndJan van Wijk, retired in 2011 and this task is now taken over by Mrs. Laura Pinan Gonzales.
- Two colleagues are tutors in the **UPOV distance learning course**
- The set-up of the new distance learning course **DL-305** "Examination of Applications for Plant Breeders' Rights" (a joint effort of UPOV, Naktuinbouw and experts of other UPOV countries) resulted in the preparation of a first draft, prepared by the UPOV Office in March 2013. This second distance learning course is aimed at the DUS test itself. This more practice related course will combine the knowledge from the TGP- documents with practical examples from the actual tests.
- In 2012 Naktuinbouw received colleagues as **interns** from the Republic of Korea (2) and China. The colleagues worked together with Naktuinbouw colleagues and thus learn the details of the DUS test work as it is performed in the Netherlands. The use of the Naktuinbouw **helpdesk** stabilised. Colleagues from all over the world find this opportunity to ask DUS related questions.

Registration

- The online version of the **Netherlands Register of protected varieties (NRR)** was further optimized with the uploading of data of agricultural crops for National Listing.
- The new **i-portal** for DUS-applications at Naktuinbouw is on the air since November 2012. Now, the applicants can follow online the progress of the DUS-examination of their applications for PBR and/or National Listing.

Quality System

- The accreditation according to ISO 17020 for 20 major species was converted into the **CPVO-entrustment system** for all ca. 950 species.

Research projects (highlights).**DNA-dbases:**

- In Phalaenopsis the first results of the use of **DNA-techniques** in the management and renewal of the reference collection were positive. Naktuinbouw and other partners are

- working on the setup of a joint DNA database in this crop as well. In lettuce however, the results showed that DNA analysis was not suited for the management of the collection.
- Naktuinbouw participated in the enlargement of the **DNA-database** in potato.

Other:

- Progress was made in the use of **electronic registration** of observations and measurements in the field. In March 2013, a series of new 'handhelds' was bought for use in the field.

International Cooperation

With GEVES:

Cooperation was started for **variety documentation** in three vegetable species. Furthermore, cooperation in **resistance testing** was initiated and cooperation in possibilities for **automized RHS-measurement** of colour (also together with CPVO)

With UPOV:

in June 2012 the annual meeting of the **UPOV-TWV** was successfully organized at the Floriade in Venlo.

Ringtest:

In July 2012, The Netherlands hosted a **ringtest meeting** for DUS testing of potato organized by CPVO among the 9 entrusted Examination Offices for potato. It was an eye opener for the participants to see the different results in lightsprout observations which were expected to be more harmonized because of the highly controlled conditions.

Infringement cases

In an increasing number of cases, Naktuinbouw is asked to assist in collecting plant material in possible infringement cases under Civil Law. In several cases we are also asked to carry out morphological comparison and DNA analysis of varieties involved in these cases.

Naktuinbouw accepts these questions only under precise prerequisites:

- The request must be organized by the court.
- We can only act in a neutral way, i.e. as expert advisor who accompanies a bailiff.
- Under full payment of real costs.

As far as possible, we prefer a combination of a morphological approach and a DNA analysis. At the moment, we have about 5 of such cases per year. In the meantime, some (court) cases have been finished. Some other cases were withdrawn, as both parties finally reached mutual agreement. In general, we can conclude that these procedures are very effective in enforcement of Breeders' Rights.

Miscellaneous

- Naktuinbouw completed a **short film** about breeders' rights which can be viewed on our website <http://www.naktuinbouw.nl/en/news/film-plant-breeders-rights>.
- Mr. Krieno Fikkert, the secretary of the **Dutch Board of Plant Varieties** retired in 2012 and we welcomed his successor, Mr. Kees Jan Groenewoud.
- The board of Naktuinbouw accepted the **renewal** of the oldest part of our greenhouses. This activity will start in May 2013.
- During the annual UPOV TC meeting in March this year, it was proposed to the Council that it elect Mr. Alejandro Barrientos-Priego (Mexico) as new Chairperson and Mr. Kees Van Ettehoven (Netherlands) as new Vice-Chairperson of the TC for the forthcoming three-year term.

[Annex IX follows]

NEW ZEALAND

The Plant Variety Rights Office introduced a new information technology system in December 2012, which includes on line applications. The system has now been in operation for over four months and provides improved access to variety descriptions for granted varieties and photos for all fruit and ornamental varieties. In addition there is an improved searching function.

For all species, the application number in 2012/13 is down 10%, a similar decline to that in the 2011/12 period. This slow but steady decline in applications has now been evident for the last two years. The reason for this is not clear, but likely related to the general world economic down turn over this period. Applications for ornamental varieties in 2012/13 are 40% down in comparison with the same period in 2011/12, which has contributed significantly to the overall decrease in applications. The number of ornamental varieties under test is 184 as of April 1st, 2013.

The number of applications for rose varieties is showing an increase after several years of decline. The number of varieties tested in the 2011/12 season was the lowest recorded with the number in 2012/13 showing an increase. Applications for varieties of *Cordyline*, a New Zealand native plant are relatively small in number but consistent. This reflects an increasing interest in this genus in New Zealand and overseas and the development of managed breeding programmes. A similar number of variety applications and breeding activity exists for the exotic genus *Magnolia* (including *Michelia*). The Plant Variety Rights Office has recently published on its website, practice notes regarding the use of foreign test reports for DUS testing <http://www.iponz.govt.nz/cms/pvr/technical-notes-guidelines/use-of-foreign-test-reports-for-dus-testing-in-new-zealand>

A review of the testing arrangements and some collections of varieties will be carried out in 2013 for a number of genera. Applications numbers for *Clematis*, *Zantedeschia*, *Hydrangea*, *Petunia*, *Calibrachoa* and *Petchoa* have changed greatly in the last five years and some species require additional resources and others less. Any changes may need to be made progressively depending on testing needs. The decrease of resources for any genus is a difficult decision because ornamental plant breeding has a fashion element and that genus could again become popular with greater applications in the future.

[Annex X follows]

TWO/46/28

ANNEX X

POLAND

The number of protected varieties has risen to 1296 as of April 2013; 636 of which were agricultural crop varieties, 132 fruit and berry plant varieties, 264 vegetable varieties and 264 of which were ornamental varieties. In 2012, 36 candidate varieties for ornamentals had been tested: 47% for national protection, 39% for other UPOV member States and 14% for the CPVO. Currently, 51 ornamental varieties are in DUS trials in 2013, mainly trees and shrubs.

[Annex XI follows]

REPUBLIC OF KOREA

1. Plant Breeder's Right

The total number of application as of December 31, 2012 was 6,233, among them, 4,277 varieties were registered and 240 were rejected since the implementation of PVP system in 1998.

Last year 606 applications were received, 49 percent of which were for ornamental crops such as chrysanthemum (60 varieties), rose (55), gerbera (17), moth orchid (16), and lily (16).

2. Variety Characteristic Search System

- For selecting similar variety by comparison of variety characteristics
- protected variety, reference variety and so on (since 1998)
- input data numbers: 12,512 varieties for 151 crops

(as of March. 31. 2013)

Total	Rose	Red pepper	Chrysanthemum	Rice	Others
12,512	906	1,164	611	584	9,247

3. Plant Variety Protection Law

In the Republic of Korea, Plant variety protection had been enforced by Seed Industry Law since 1997. Recently, new Plant Variety Protection Law will be enacted in 1 June this year for reinforcing its effectiveness. Thereafter, its decree and regulations also will be enacted.

4. Molecular Techniques

Recently, the Republic of Korea is actively applying DNA analysis to seed circulation management of several crops. The representative example is analyzing about comparison of DNA profiles between registered seed and marketing seed. In addition, we are utilizing molecular markers in genetic purity assessment of national list of varieties of rice, barley and soybean.

5. International Cooperation

KSVS and KOICA will provide a PVP training course for the experts from countries which are trying to introduce PVP system and developing system for 3 weeks in June 2013.

6. The activity of Korean Forest Seed & Variety Center

Since Korea Forest Seed & Variety (KFSV) center established in 2008, the number of new varieties for Forest PVP application has reached to 168 by the end of 2012.

36 varieties are granted for protection and 3 varieties are rejected. 85 varieties are under DUS test. Among 168 varieties, 69 varieties were ornamental crops, 55 varieties were vegetable crops and 44 varieties were fruits crops.

In ornamental crop, 69 varieties consisted of 37 species have been applied. And the major species were pine tree (*Pinus densiflora*), siberian chrysanthemum (*Chrysanthemum zawadskii*), orange stonecrop (*Sedum kamtschaticum*), etc.

Until now, 110 national test guidelines were established for forest plant such as siberian chrysanthemum (*Chrysanthemum zawadskii*), orange stonecrop (*Sedum kamtschaticum*) and mountain ash (*Sorbus commixta*).

[Annex XII follows]

SOUTH AFRICA

With regards to applications and valid Plant Breeders' Rights for 2012 the following is reported:

- An additional 16 taxa have been declared in terms of the Plant Breeders' Rights Act during 2012.
- 306 PBR applications were received of which 37% were for Agricultural crops, 23% for Ornamental crops, 34% for Fruit crops and 6% for Vegetable crops.
- As of December 2012, a total of 2 449 varieties had valid plant breeder's rights in South Africa, of which 35% were for Ornamental crops, 35% for Agricultural crops, 21% for Fruit crops and 9% for Vegetable crops. The top three crops for each category are:

Agricultural Crops	Vegetable Crops	Fruit Crops	Ornamental Crops
1. <i>Zea mays</i> L. (335)	1. <i>Solanum lycopersicum</i> L. (47)	1. <i>Prunus persica</i> (L.) Batsch var. <i>nucipersica</i> Schneid. (94)	1. <i>Rosa</i> L. (345)
2. <i>Solanum tuberosum</i> L. (77)	2. <i>Phaseolus vulgaris</i> L. (Garden bean) (35)	2. <i>Vitis</i> L. (66)	2. <i>Chrysanthemum</i> L. (69)
3. <i>Triticum aestivum</i> L. (77)	3. <i>Allium cepa</i> L. (38)	3. <i>Prunus persica</i> (L.) Batsch (71)	3. <i>Aloe</i> L. (32)

Plant Breeders' rights granted only in 2012 are as follows:

Agricultural crops: 116
 Vegetable crops: 18
 Fruit crops: 73
 Ornamental crops: 52

[Annex XIII follows]

TWO/46/28

ANNEX XIII

UNITED KINGDOM

In the United Kingdom in 2013, *circa* 450 applications in Ornamental species are under DUS test at NIAB, mainly on behalf of the Community Plant Variety Office of the European Union but also for other individual UPOV member States. Chrysanthemum remains the most important crop tested, alongside garden and container plants in a wide range of species.

More broadly, NIAB has appointed two new technical experts in Agricultural crops, who will both attend the TWA on behalf of the United Kingdom in 2013. Cheryl Turnbull is responsible for the DUS testing of Oilseed Rape, and Margaret Wallace covers DUS testing for Cereals, Beans and Kale.

[End of Annex XIII and of document]