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TWC/30/36
ORIGINAL: English
DATE: June 18, 2012

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
Geneva

TECHNICAL WORKING PARTY ON AUTOMATION AND COMPUTER PROGRAMS

Thirtieth Session
Chisinau, Republic of Moldova, June 26 to 29, 2012

REPORT ON DEVELOPMENTS WITHIN UPOV AND WEB BASED TG TEMPLATE

Document prepared by the Office of the Union

1. Annex I to this document contains a copy of a presentation “Report on Developments within UPOV” prepared by the Office of the Union for the thirtieth session of the Technical Working Party on Automation and Computer Programs.

2. Annex II to this document contains a copy of a presentation “Web Based TG Template” prepared by an expert from Australia and the Office of the Union for the thirtieth session of the Technical Working Party on Automation and Computer Programs.

[Annexes follow]

The Technical Working Party
on
Automation and Computer Programs
Thirtieth Session

REPORT ON DEVELOPMENTS WITHIN UPOV

Chisinau, Republic of Moldova
June 26 to 29, 2012

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- Future event
- New website
  - general features
  - new databases (PLUTO & UPOV Lex)
  - access to information
- Electronic application form
- DUS and technical developments

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MEMBERSHIP OF UPOV

70 Members

New Members

Peru as of Aug. 8, 2011

Ratification of 1991 Act

France  as of May 27, 2012

Ireland  as of Dec. 8, 2011

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Members of UPOV (green) & initiating States & organizations (brown)

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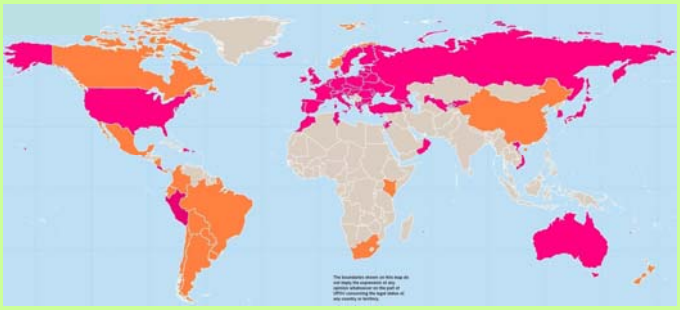
UPOV Membership: territories covered



Other Acts | 1991 Act

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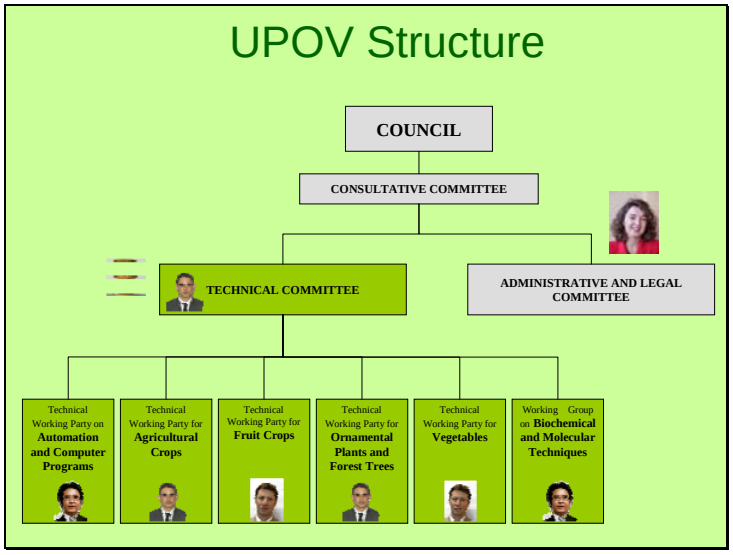
Roles within UPOV Bodies

UPOV Body	Role	Person
Council	President	Mr. Keun-Jin Choi (Republic of Korea)
Council	Vice President	Mrs. Kitisri Sukhapinda (United States of America)
CAJ	Chair	Mr. Lü Bo (China)
CAJ	Vice Chair	Mr. Martin Ekvad (European Union)
TC	Chair	Mr. Joël Guiard (France)
TC	Vice Chair	Mr. Alejandro Barrientos Priego (Mexico)
TWA	Chairperson	Mrs. Robyn Hierse (South Africa)
TWC	Chairperson	Mr. Sami Markkanen (Finland)
TWF	Chairperson	Mrs. Carensa Petzer (South Africa)
TWO	Chairperson	Mr. Nik Hulse (Australia)
TWV	Chairperson	Mr. François Boulineau (France)
BMT	Chairperson	Mr. Alejandro Barrientos Priego (Mexico)

New Staff

Leontino Taveira

Ben Rivoire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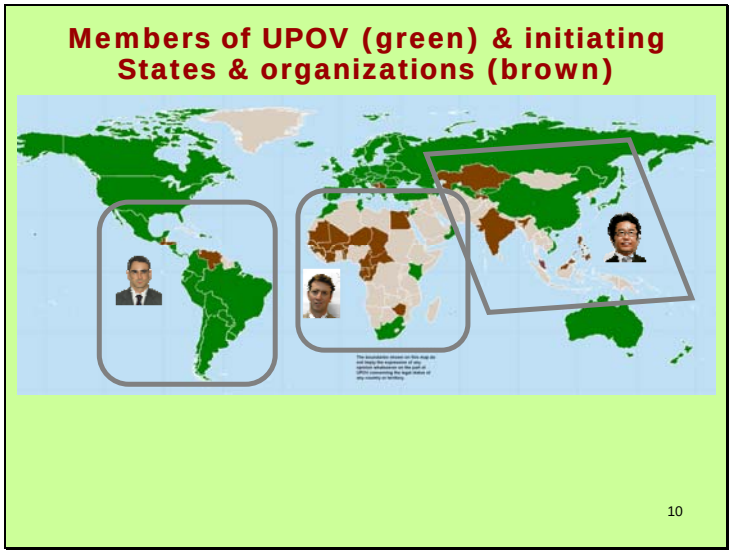
TECHNICAL COMMITTEE
ADMINISTRATIVE AND LEGAL COMMITTEE
Technical Working Party on Automation and Computer Programs
Technical Working Party for Agricultural Crops
Technical Working Party for Fruit Crops
Technical Working Party for Ornamental Plants and Forest Trees
Technical Working Party for Vegetables
Working Group on Biochemical and Molecular Techniques


Members of UPOV (green) & initiating States & organizations (brown)
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Symposium on the benefits of plant variety protection for farmers and growers

Geneva: November 2, 2012

- illustrations of how plant variety protection can improve incomes for farmers and growers by supporting the development and supply of new, improved varieties that are suited to their needs
- examples of how farmers and growers can use plant variety protection as breeders

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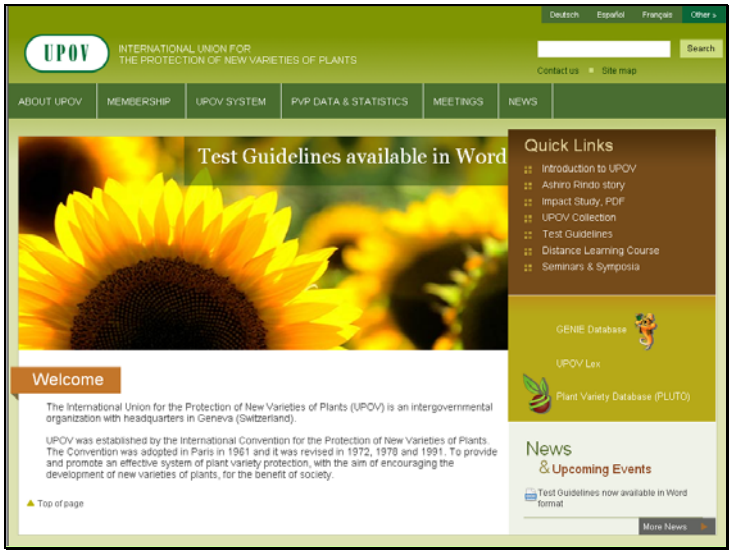

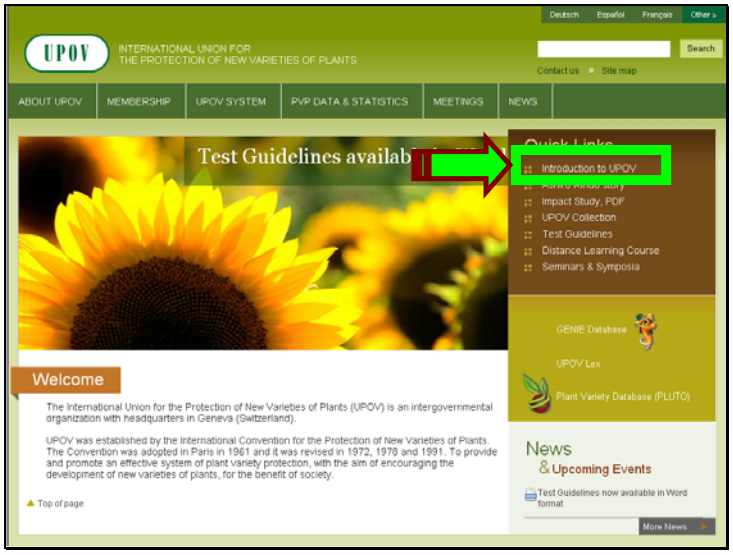
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The International Union for the Protection of New Varieties of Plants (UPOV) is an intergovernmental organization with headquarters in Geneva (Switzerland).
UPOV was established by the International Convention for the Protection of New Varieties of Plants. The Convention was adopted in Paris in 1961 and it was revised in 1972, 1978 and 1991. To provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants, for the benefit of society.
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BREEDER Who can protect a plant variety?
EXCEPTIONS Exceptions to the Breeder's Right
CONDITIONS What are the conditions for obtaining protection?
IMPACT What information is there on the impact of PVP?
Mission Statement
The mission of UPOV is to provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants, for the benefit of society.
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Dr. Shadrack R. Moephuli
(South Africa / English)
Dr. Evans Sikinyi
(Kenya/ English)
Mr. Michel Cormier
(Canada / English)
Dr. Stephen Mbithi Mwikya
(Kenya / English)
Mr. Ruaraidh Sackville Hamilton
(English)
Mr. Marcel Bruins
(English)
Dr. Choi Keun-Jin
(Republic of Korea / Korean)
Sra. Enriqueta Molina Macias
(Mexico / Spanish)
M. Yves Lespinasse
(France / French)

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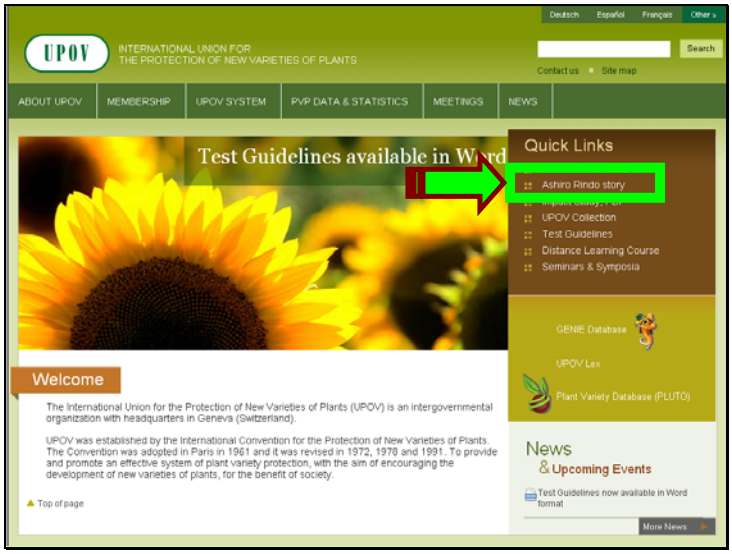
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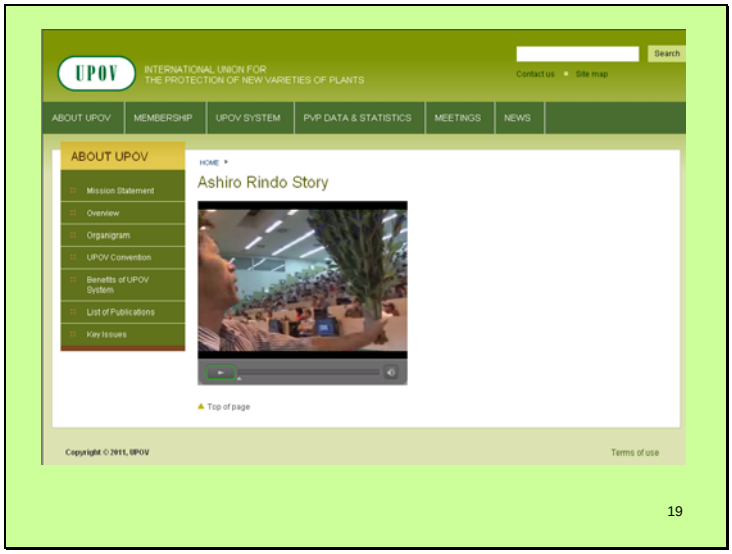
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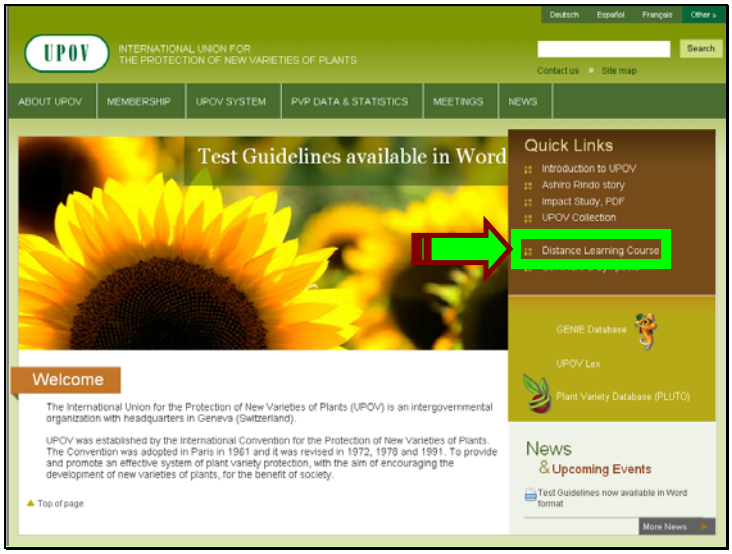
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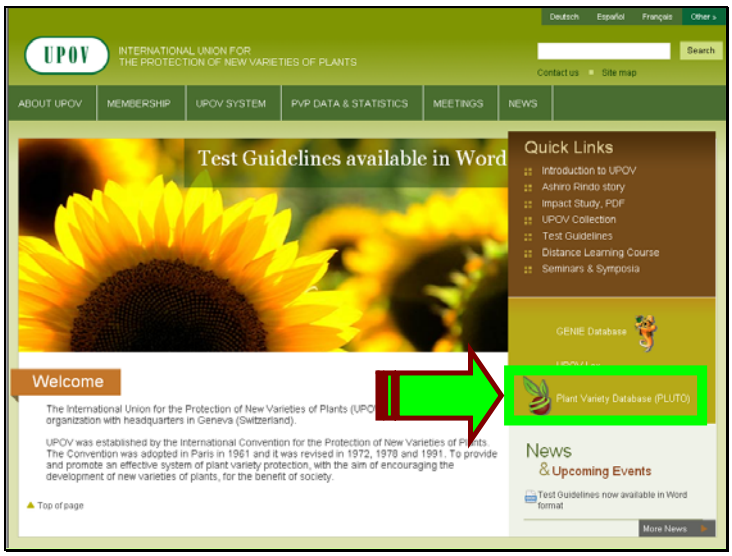


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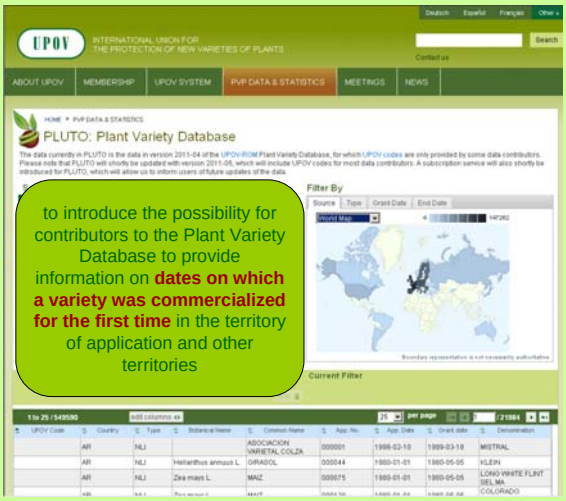
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to introduce the possibility for contributors to the Plant Variety Database to provide information on dates on which a variety was commercialized for the first time in the territory of application and other territories

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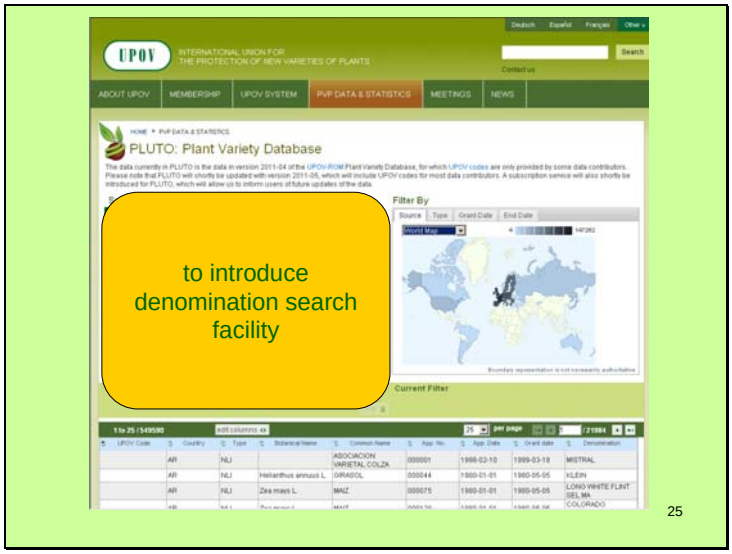
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to introduce denomination search facility
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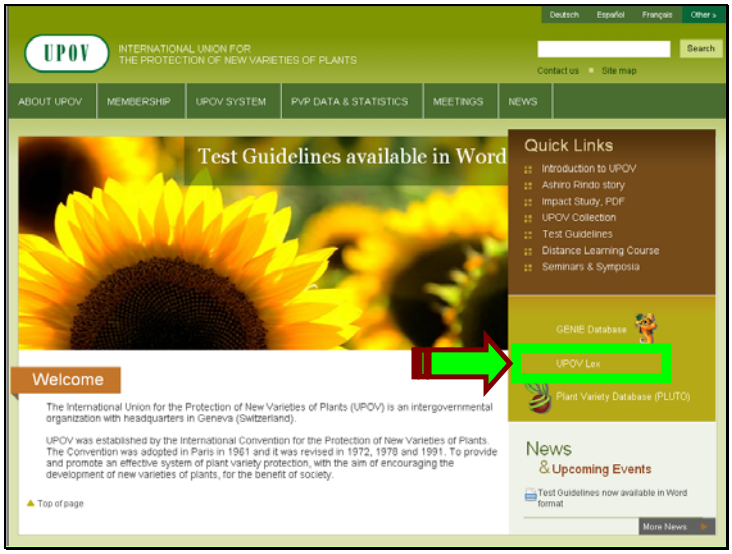
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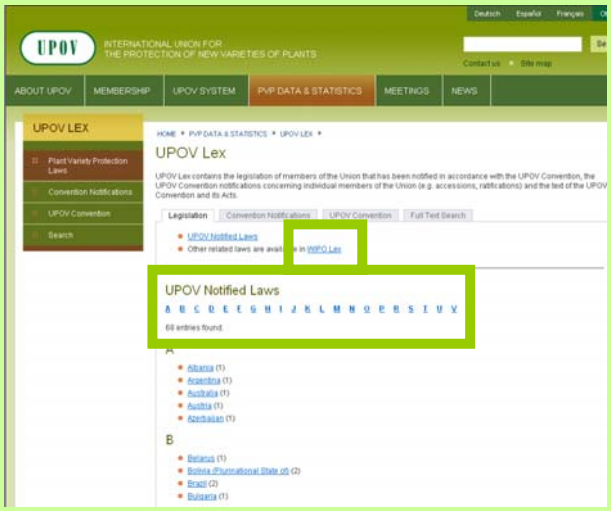

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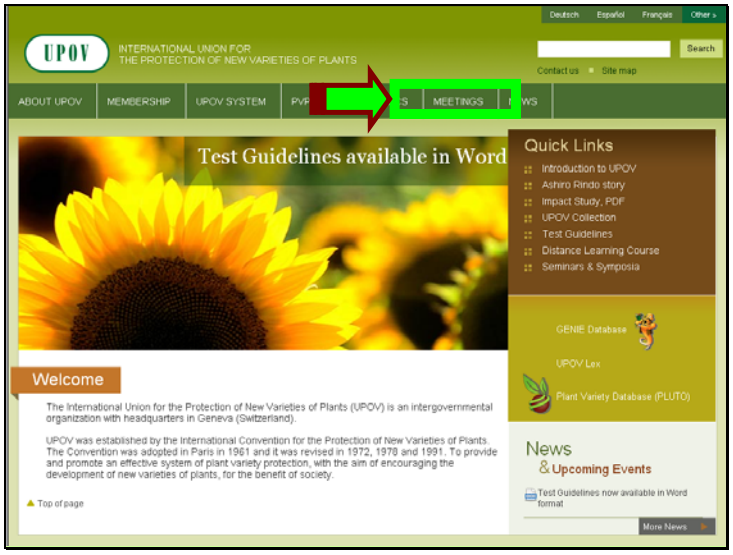
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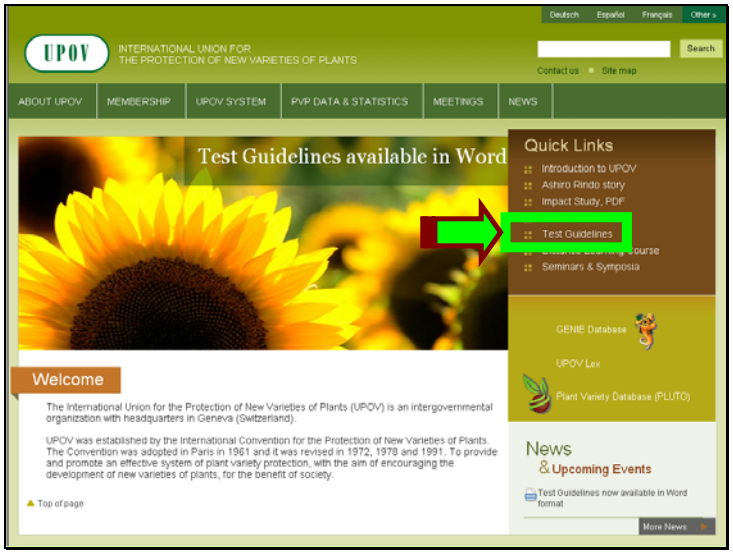
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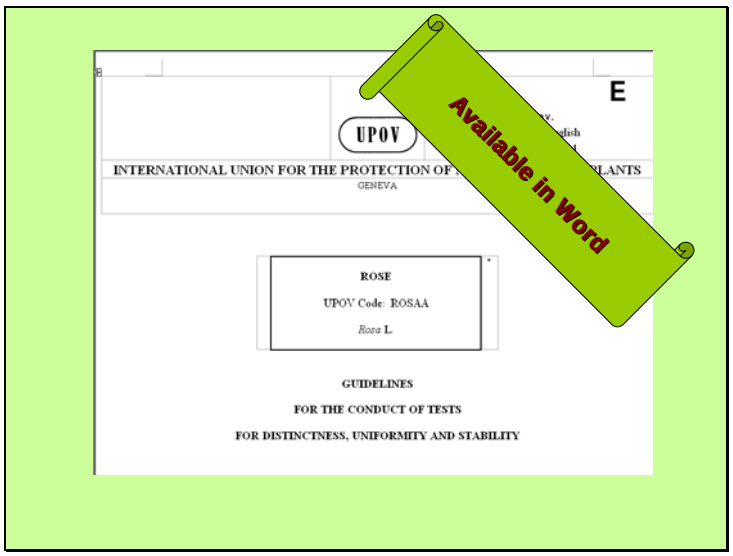
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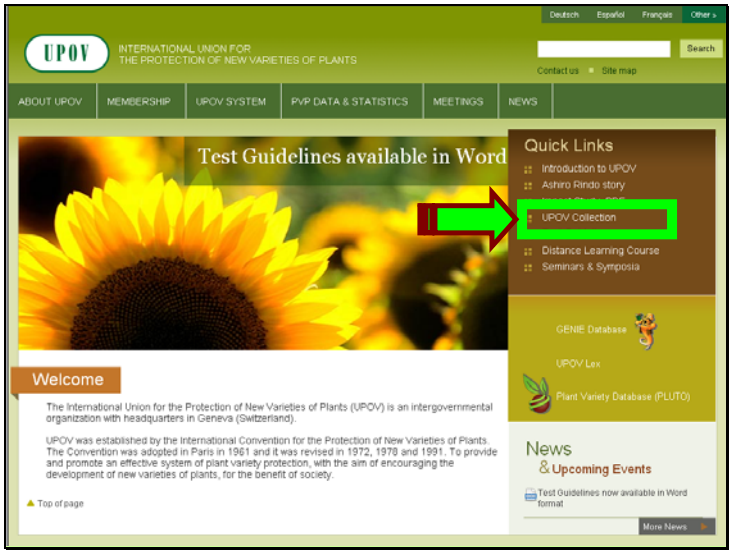
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Introduction
The purpose of the UPOV Collection is to provide a set of guidance and information materials concerning plant variety protection under the International Convention for the Protection of New Varieties of Plants (UPOV Convention). The only binding obligations on members of the Union are those contained in the text of the UPOV Convention itself, and the materials must not be interpreted in a way that is inconsistent with the relevant Act for the member of the Union concerned.
A current list of the contents and status of materials in the UPOV Collection is provided in the Table of Contents published on the UPOV website. Designated persons in UPOV bodies will receive an electronic notification each time the UPOV Collection is updated. Other users can register to receive an electronic notification each time the UPOV Collection is updated.
UPOV does not issue printed documents for the UPOV Collection. All users are invited to download updated materials from the UPOV website upon electronic notification.
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(a) UPOV Convention
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(d) General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants
(e) TGP documents
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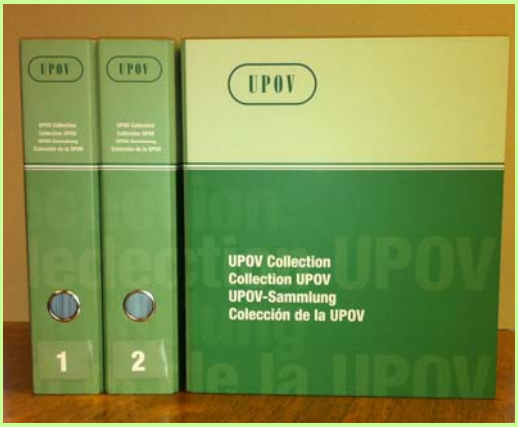
UPOV Collection: physical collection



INFORMATION MATERIALS ADOPTED OCTOBER 2011

Document reference	Title
UPOV/INF/6/2	Guidance for the preparation of laws based on the 1991 Act of the UPOV Convention (Revision)
UPOV/INF/16/2	Exchangeable Software (Revision)
UPOV/INF/18/1	Possible use of Biochemical and Molecular Markers in the Examination of Distinctness, Uniformity and Stability (DUS)
UPOV/INF-EXN/1	List of INF-EXN Documents and Latest Issue Dates
TGP/0/4	List of TGP Documents and Latest Issue Dates
TGP/5 *Section 10/2*	Experience and Cooperation in DUS Testing: *Notification of Additional Characteristics (Revision)*
TGP/7/3	Development of Test Guidelines (Revision)
TGP/11/1	Examination of Stability

INFORMATION MATERIALS UNDER DEVELOPMENT

Document reference	Status	Title	Schedule
UPOV/INF/ADS	New	Alternative Dispute Settlement Mechanisms	Council November 2012
UPOV/INF/15	Revision (PLUTO data)	Guidance for Members of UPOV on Ongoing Obligations and Related Notifications	CAJ/66 October 2012
UPOV/INF/5 (October 1979)	Revision	UPOV Model Plant Breeders' Rights Gazette	CAJ/67 March 2013
UPOV/EXN/EDV	Revision	Essentially Derived Varieties	CAJ-AG October 2012
UPOV/EXN/BRD	New	Definition of Breeder	CAJ-AG October 2012
UPOV/EXN/HRV	New	Acts in Respect of Harvested Material	CAJ-AG October 2012
	To be decided	Matters Arising after the Grant of a Breeder's Right	CAJ-AG October 2012
	To be decided	Propagation and Propagating Material	CAJ-AG October 2012

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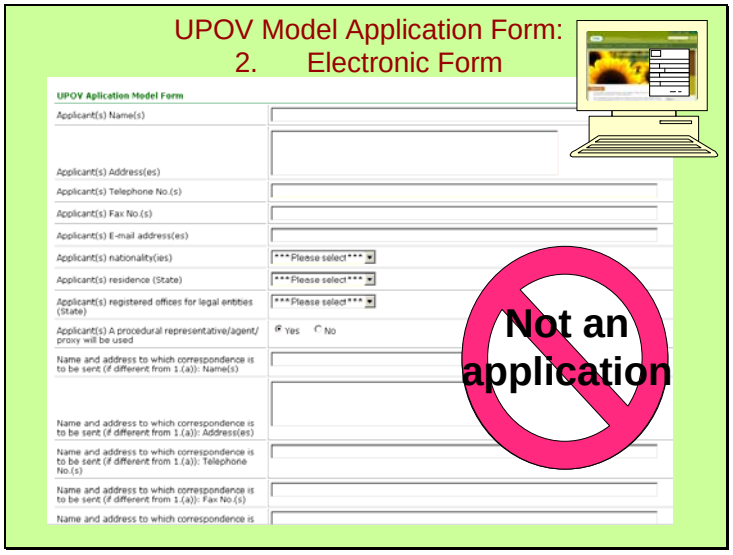
UPOV Model Application Form:
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Applicant(s) Fax No.(s)
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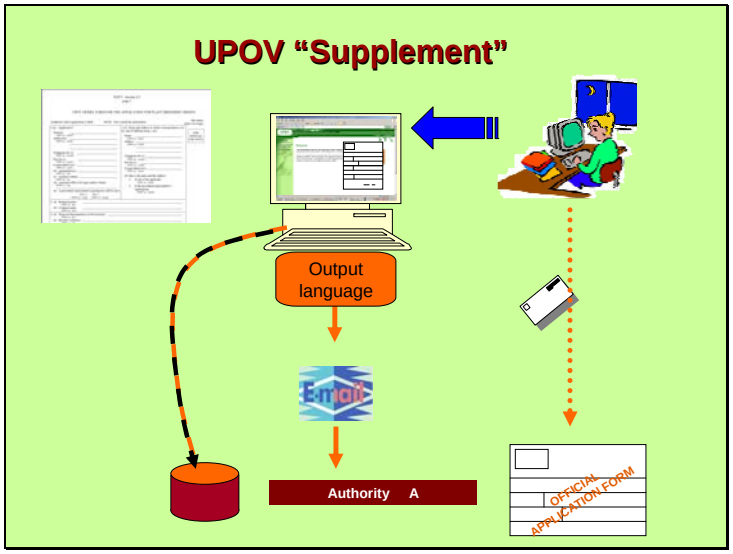
Applicant(s) nationality(ies)
Applicant(s) residence (State)
Applicant(s) registered offices for legal entities (State)
Applicant(s) A procedural representative/agent/ proxy will be used
Name and address to which correspondence is to be sent (if different from 1.(a)): Name(s)
Name and address to which correspondence is to be sent (if different from 1.(a)): Address(es)
Name and address to which correspondence is to be sent (if different from 1.(a)): Telephone No.(s)
Name and address to which correspondence is to be sent (if different from 1.(a)): Fax No.(s)
Name and address to which correspondence is
Please select
Yes
No
Not an application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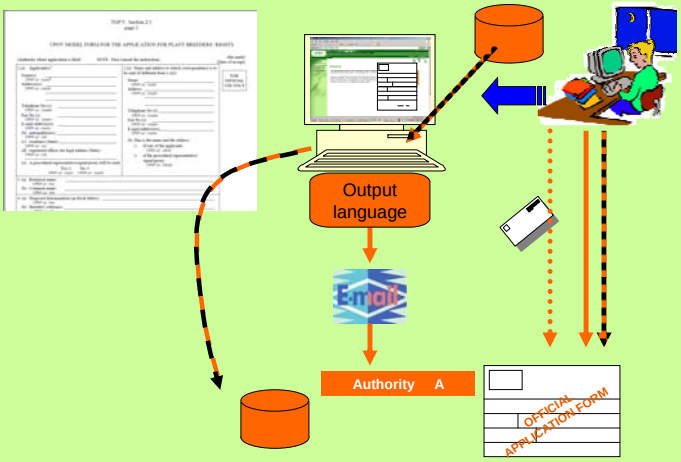
- Meetings held in August & December 2011

Enhanced UPOV "Supplement"?



Cooperation on Electronic Application Forms

UPOV ⟷ DATA ⟷ CPVO

Meetings

- UPOV
- WIPO
- CPVO
- ISF
- **CIOPORA**

- Meeting: May 10, 2012 (Geneva – WebEx)

Model Crops

Field Crops
Wheat (*Triticum aestivum* L.)
Maize (*Zea mays* L.)
Potato (*Solanum tuberosum* L.)
Ryegrass (*Lolium* L.)

TWV
Lettuce (*Lactuca sativa* L.)
Tomatp (*Solanum lycopersicum* L.)
Pea (*Pisum sativum* L.)

TWO
Rose
Chrysanthemum
Carnation (*Dianthus* L.)
Pelargonium
Petunia

TWF
Peach (*Prunus persica* (L.) Batsch)
Apple (*Malus domestica* Borkh.)

OVERVIEW

- Members & People
- Future event
- New website
  - general features
  - new databases (PLUTO & UPOV Lex)
  - access to information
- Electronic application form
- **DUS and technical developments**

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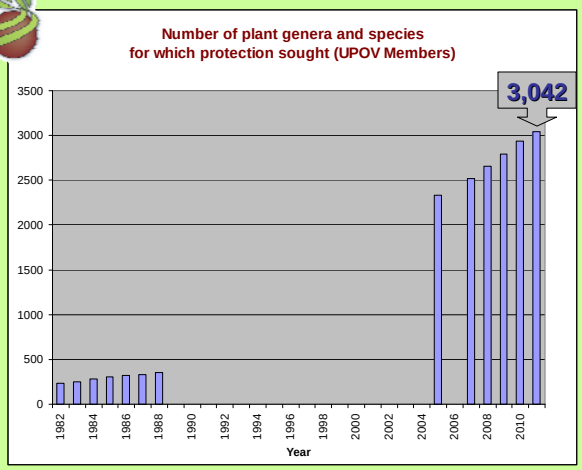
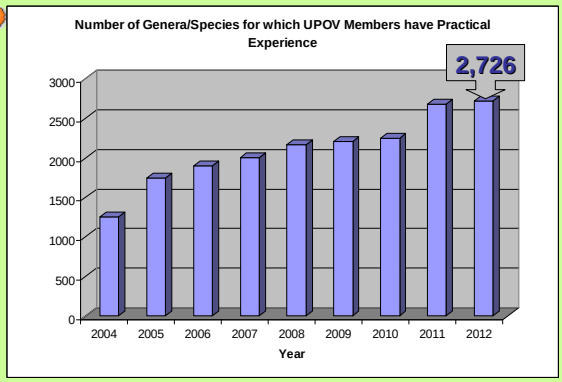
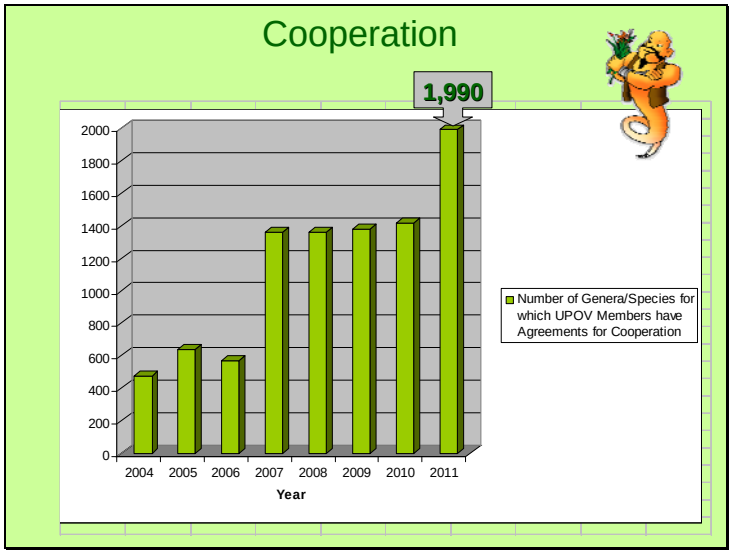
Plant Genera and Species



Practical Experience





Genera and Species

- **>3,000 genera and species** with varieties examined for PBR
- **>2,700 genera and species** for which UPOV members have practical DUS experience
- **281 Test Guidelines** adopted

Note: **281 Test Guidelines estimated to cover 90% of PBR-related varieties in UPOV Plant Variety Database**

Test Guidelines adopted in 2012

NEW TEST GUIDELINES

JP	**TWA**	**Buckwheat (*Fagopyrum esculentum* Moench)**
FR	TWO	Canna (*Canna* L.)
PL/ GB	TWO/TWV	Echinacea (*Echinacea* Moench.)
NL	**TWA**	**Hemp (*Cannabis sativa* L.)**
GB	TWO	*Heuchera* L., x*Heucherella* H. R. Wehrh.
DE	TWF	Blue Honeysuckle (*Lonicera caerulea* var. *edulis* Turcz. ex Freyn) / Honeyberry (*Lonicera caerulea* var. *kamtschatica* Sevast.)
JP	TWO	Oncidium (*Oncidium* Sw.)
FR	TWF	Pineapple (*Ananas comosus (L.)* Merr.)
JP	TWV	Shiitake (*Lentinula edodes* (Berk.) Pegler)

Test Guidelines adopted in 2012

REVISIONS

NZ	TWF	Kiwifruit (*Actinidia* Lindl.)
AU/ ES	**TWA**	**Durum wheat (Triticum turgidum L. subsp. durum (Desf.) Husn.)**
GB	TWV	Parsnip (*Pastinaca sativa* L.)
DE	TWV	Black radish, Oriental radish (*Raphanus sativus* L. var. *niger* (Mill.) S. Kerner) Radish (*Raphanus sativus* L. var *sativus*)

PARTIAL REVISIONS

FR	**TWV/TWA**	**French Bean (*Phaseolus vulgaris* L.)**
DE	TWO	Kalanchoe (*Kalanchoe blossfeldiana* Poelln. and its hybrids)
DE	TWO	New Guinea Impatiens
DE	TWF	Strawberry (*Fragaria* L.)

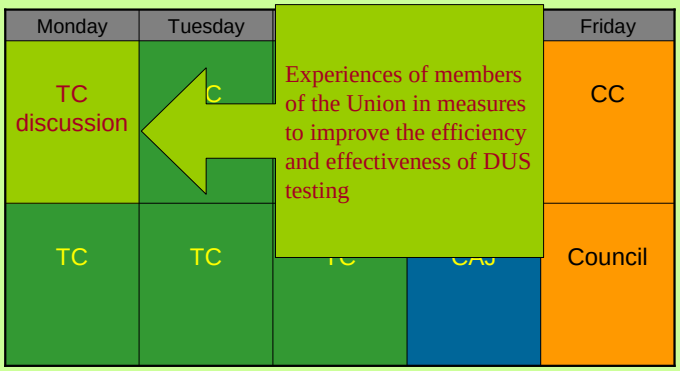
TECHNICAL COMMITTEE

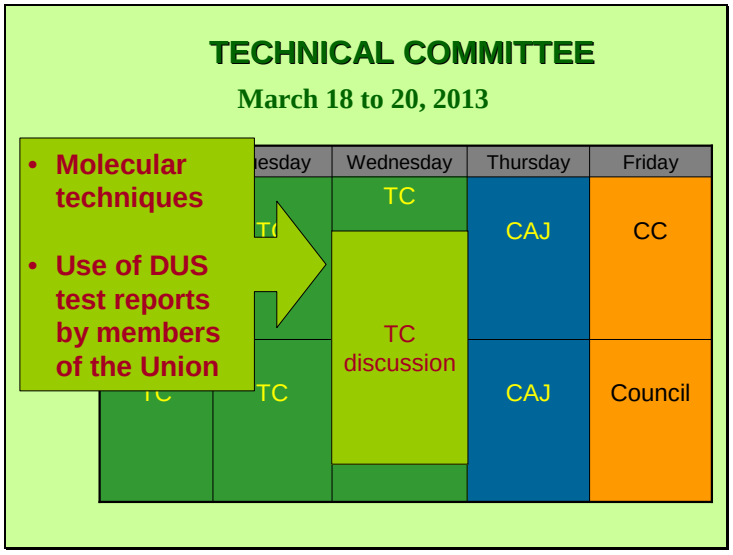
April sessions: 2002-2011

Monday	Tuesday	Wednesday	Thursday	Friday
TC-EDC	TC	TC	CAJ	CC
TC	TC	TC	CAJ	Council

TECHNICAL COMMITTEE

April session: 2012





[Annex II follows]

Technical Working Party on Automation and Computer Programs
Thirtieth Session

Web Based TG Template

Nik Hulse, Senior Examiner of PBR, Australia
Fuminori Aihara, Office of the Union

Chisinau, Republic of Moldova, June 26 to 29, 2012

IDEA

- Create a web based TG Template to facilitate work for drafters of Test Guidelines
  - Less formating work
  - No more manual update of linked chapters

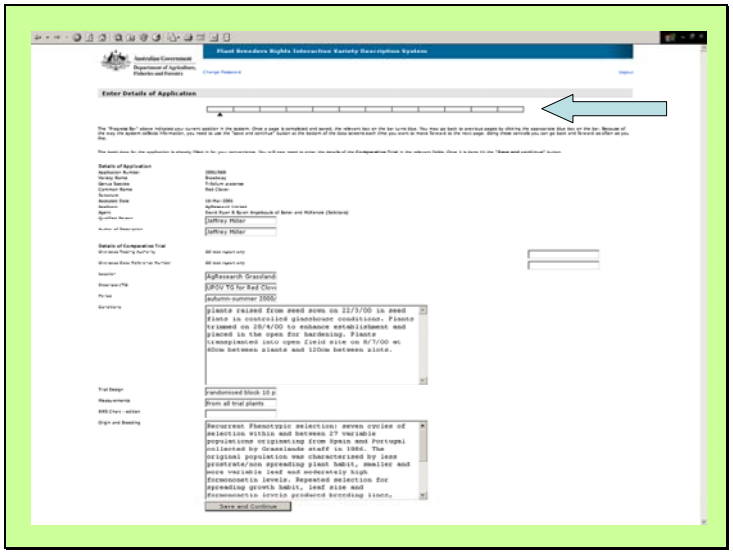
An existing example

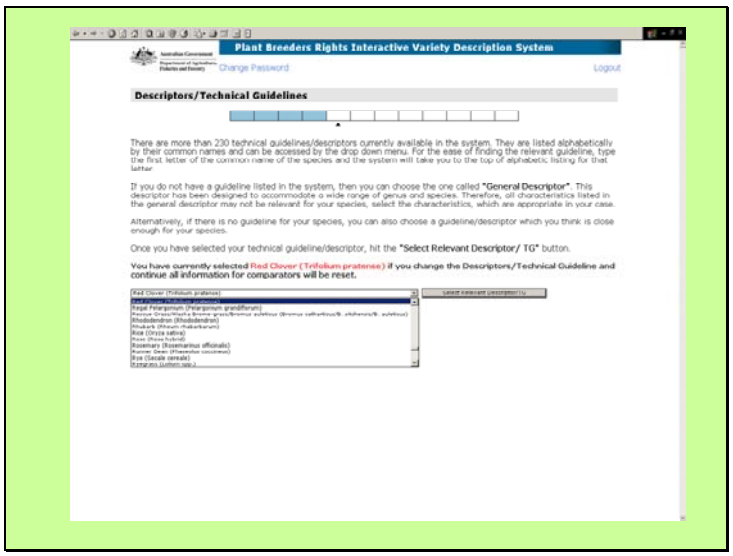
- online Interactive Variety Description System (IVDS)

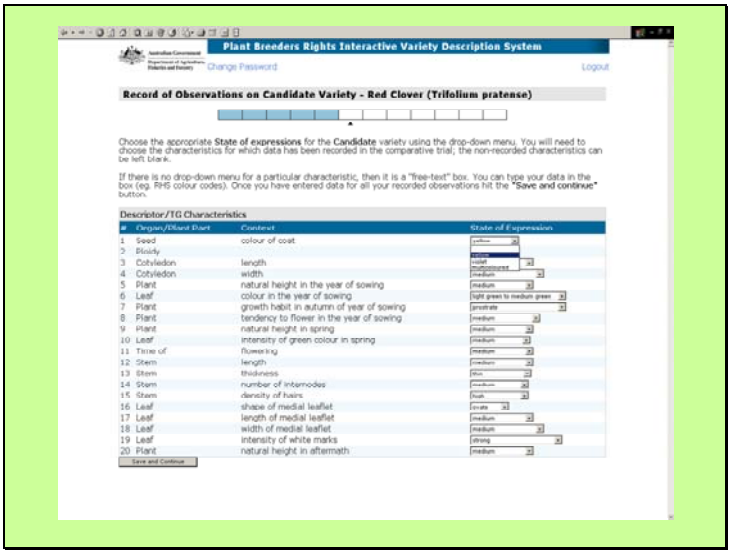
  - although this system has a different purpose, some of the features are similar and demonstrate how a Web Based TG template might operate.

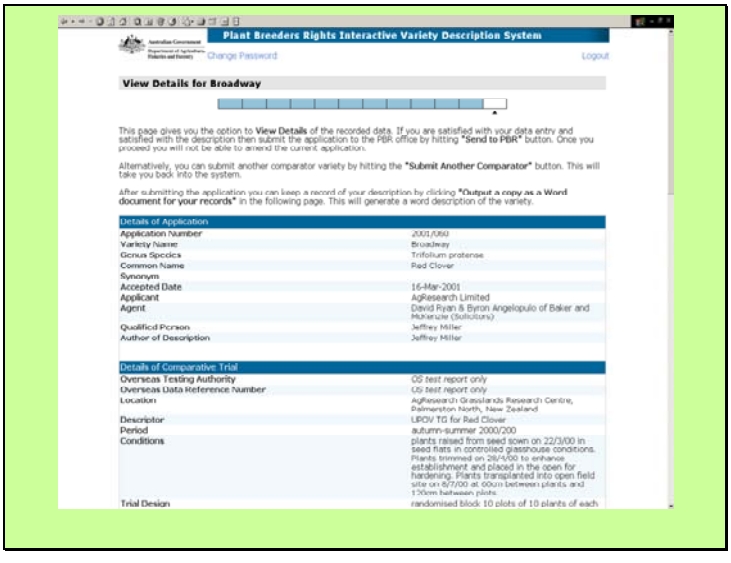
What is the IVDS?

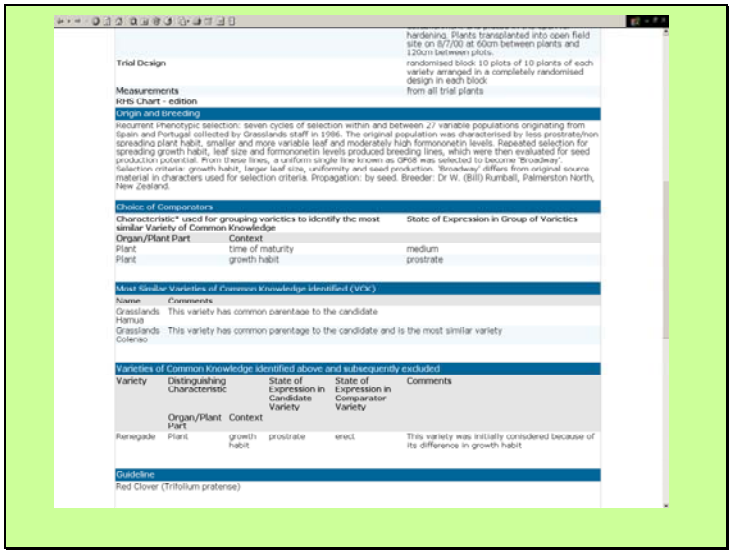
- The IVDS is an online system which allows entry of detailed descriptions of varieties in a controlled way.
- A series of screens prompts the user to enter required information
  - eg testing location, trial conditions, variety characteristics
- The system presents the characteristics from the relevant UPOV Test Guideline by way of dropdown lists.
  - the user selects the appropriate state of expression for each characteristic
- The IVDS then produces a Word document that is used for publication in the plant varieties journal
  - if changes are needed then these can be made in the IVDS and a new Word document produced incorporating the changes


Plant Breeders Rights Interactive Variety Description System
Enter Details of Application
Save and Continue


Plant Breeders Rights Interactive Variety Description System
Change Password
Logout
Descriptors/Technical Guidelines
There are more than 230 technical guidelines/descriptors currently available in the system. They are listed alphabetically by their common names and can be accessed by the drop down menu. For the ease of finding the relevant guideline, type the first letter of the common name of the species and the system will take you to the top of alphabetic listing for that letter.
If you do not have a guideline listed in the system, then you can choose the one called "General Descriptor". This descriptor has been designed to accommodate a wide range of genus and species. Therefore, all characteristics listed in the general descriptor may not be relevant for your species, select the characteristics, which are appropriate in your case.
Alternatively, if there is no guideline for your species, you can also choose a guideline/descriptor which you think is close enough for your species.
Once you have selected your technical guideline/descriptor, hit the "Select Relevant Descriptor/ TG" button.
You have currently selected Red Clover (Trifolium pratense) if you change the Descriptors/Technical Guideline and continue all information for comparators will be reset.


Plant Breeders Rights Interactive Variety Description System
Change Password
Logout
Record of Observations on Candidate Variety - Red Clover (Trifolium pratense)
Choose the appropriate State of expressions for the Candidate variety using the drop-down menu. You will need to choose the characteristics for which data has been recorded in the comparative trial; the non-recorded characteristics can be left blank.
If there is no drop-down menu for a particular characteristic, then it is a "free-text" box. You can type your data in the box (eg. RHS colour codes). Once you have entered data for all your recorded observations hit the "Save and continue" button.
Descriptor/TG Characteristics
Organ/Plant Part Context State of Expression
1 Seed colour of coat
2 Ploidy
3 Cotyledon length
4 Cotyledon width
5 Plant natural height in the year of sowing
6 Leaf colour in the year of sowing
7 Plant growth habit in autumn of year of sowing
8 Plant tendency to flower in the year of sowing
9 Plant natural height in spring
10 Leaf intensity of green colour in spring
11 Time of flowering
12 Stem length
13 Stem thickness
14 Stem number of internodes
15 Stem density of hairs
16 Leaf shape of medial leaflet
17 Leaf length of medial leaflet
18 Leaf width of medial leaflet
19 Leaf intensity of white marks
20 Plant natural height in aftermath
Save and Continue


Plant Breeders Rights Interactive Variety Description System
Change Password
Logout
View Details for Broadway
This page gives you the option to View Details of the recorded data. If you are satisfied with your data entry and satisfied with the description then submit the application to the PBR office by hitting "Send to PBR" button. Once you proceed you will not be able to amend the current application.
Alternatively, you can submit another comparator variety by hitting the "Submit Another Comparator" button. This will take you back into the system.
After submitting the application you can keep a record of your description by clicking "Output a copy as a Word document for your records" in the following page. This will generate a word description of the variety.
Details of Application
Application Number 2001/060
Variety Name Broadway
Genus Species Trifolium pratense
Common Name Red Clover
Synonym
Accepted Date 16-Mar-2001
Applicant AgResearch Limited
Agent David Ryan & Byron Angelopulo of Baker and McKenzie (Solicitors)
Qualified Person Jeffrey Miller
Author of Description Jeffrey Miller
Details of Comparative Trial
Overseas Testing Authority OS test report only
Overseas Data Reference Number OS test report only
Location AgResearch Grasslands Research Centre, Palmerston North, New Zealand
Descriptor UPOV TG for Red Clover
Period autumn-summer 2000/200
Conditions plants raised from seed sown on 22/3/00 in seed flats in controlled glasshouse conditions. Plants trimmed on 28/4/00 to enhance establishment and placed in the open for hardening. Plants transplanted into open field site on 8/7/00 at 60cm between plants and 120cm between plots
Trial Design randomised block 10 plots of 10 plants of each



	hardening. Plants transplanted into open field site on 8/7/00 at 60cm between plants and 120cm between plots.
Trial Design	randomised block 10 plots of 10 plants of each variety arranged in a completely randomised design in each block
Measurements	from all trial plants

Kirk Chart - edition

Origin and breeding

Recurrent phenotypic selection: seven cycles of selection within and between 27 variable populations originating from Spain and Portugal collected by Grasslands staff in 1986. The original population was characterised by less prostrate/non spreading plant habit, smaller and more variable leaf and moderately high formononetin levels. Repeated selection for spreading growth habit, leaf size and formononetin levels produced breeding lines, which were then evaluated for seed production potential. From these lines, a uniform single line known as GP08 was selected to become 'Broadway'. Selection criteria: growth habit, larger leaf size, uniformity and seed production. 'Broadway' differs from original source material in characters used for selection criteria. Propagation: by seed. Breeder: Dr W. (Bill) Rumball, Palmerston North, New Zealand.

Choice of Comparators

Characteristic* used for grouping varieties to identify the most similar Variety of Common Knowledge		State of Expression in Group of Varieties
Organ/Plant Part	Context	
Plant	time of maturity	medium
Plant	growth habit	prostrate

Most Similar Varieties of Common Knowledge Identified (VCK)

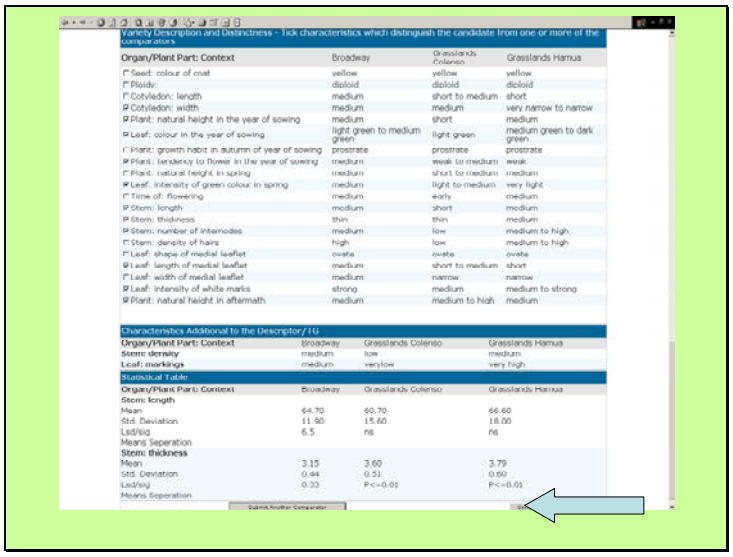
Name	Comments
Grasslands Hamua	This variety has common parentage to the candidate
Grasslands Colenso	This variety has common parentage to the candidate and is the most similar variety

Varieties of Common Knowledge identified above and subsequently excluded

Variety	Distinguishing Characteristic		State of Expression in Candidate Variety	State of Expression in Comparator Variety	Comments
	Organ/Plant Part	Context			
Renegade	Plant	growth habit	prostrate	erect	This variety was initially considered because of its difference in growth habit

Guideline

Red Clover (Trifolium pratense)



Variety Description and Distinctness - Tick characteristics which distinguish the candidate from one or more of the Comparators

Organ/Plant Part: Context	Broadway	Grasslands Colenso	Grasslands Hamua
☐ Seed: colour of coat	yellow	yellow	yellow
☐ Ploidy:	diploid	diploid	diploid
☐ Cotyledon: length	medium	short to medium	short
☑ Cotyledon: width	medium	medium	very narrow to narrow
☑ Plant: natural height in the year of sowing	medium	short	medium
☑ Leaf: colour in the year of sowing	light green to medium green	light green	medium green to dark green
☐ Plant: growth habit in autumn of year of sowing	prostrate	prostrate	prostrate
☑ Plant: tendency to flower in the year of sowing	medium	weak to medium	weak
☐ Plant: natural height in spring	medium	short to medium	medium
☑ Leaf: intensity of green colour in spring	medium	light to medium	very light
☐ Time of: flowering	medium	early	medium
☑ Stem: length	medium	short	medium
☑ Stem: thickness	thin	thin	medium
☑ Stem: number of internodes	medium	low	medium to high
☐ Stem: density of hairs	high	low	medium to high
☐ Leaf: shape of medial leaflet	ovate	ovate	ovate
☑ Leaf: length of medial leaflet	medium	short to medium	short
☐ Leaf: width of medial leaflet	medium	narrow	narrow
☑ Leaf: intensity of white marks	strong	medium	medium to strong
☑ Plant: natural height in aftermath	medium	medium to high	medium

Characteristics Additional to the Descriptor/ TG

Organ/Plant Part: Context	Broadway	Grasslands Colenso	Grasslands Hamua
Stem: density	medium	low	medium
Leaf: markings	medium	verylow	very high

Statistical Table

Organ/Plant Part: Context	Broadway	Grasslands Colenso	Grasslands Hamua
Stem: length			
Mean	64.70	60.70	66.60
Std. Deviation	11.90	15.60	18.00
Lsd/sig	6.5	ns	ns
Means Seperation			
Stem: thickness			
Mean	3.15	3.60	3.79
Std. Deviation	0.44	0.51	0.60
Lsd/sig	0.33	P<=0.01	P<=0.01
Means Seperation			

Why it is useful

- The data entered into the IVDS is maintained in a database.
  - therefore it is structured and can be queried or exported
- It includes details of every characteristic from all adopted UPOV Test Guidelines
  - as new TG's are adopted they are entered into the system

Example

Details include:	**Rose**	
TG ⇨	TG/11/8	
Char. Number	36	
Organ	Petal	
Context	undulation	
State of expression	absent or very weak	1
Note	very weak to weak	2
	weak	3
	weak to medium	4
	medium	5
	medium to strong	6
	strong	7
	strong to very strong	8
	very strong	9

So…

- A system conceptually similar to the IVDS for a Web Based TG template could improve the efficiency and quality of drafting TG's
- More on the idea……

Chapters 1 to 6

- Standard Wording: no possibility to be changed by drafter
- ASW: option to tick and choose as required
- Questions asking for information required (number of plants to be observed, assessment of uniformity etc.)
- GN could pop up by clicking on a "?" icon in respective places

Table of characteristics

- Key feature:
  - automatic update of chapters linked to t.o.c
    - 5.3, 6.5, 8.1, 8.2, TQ 5

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Table of characteristics

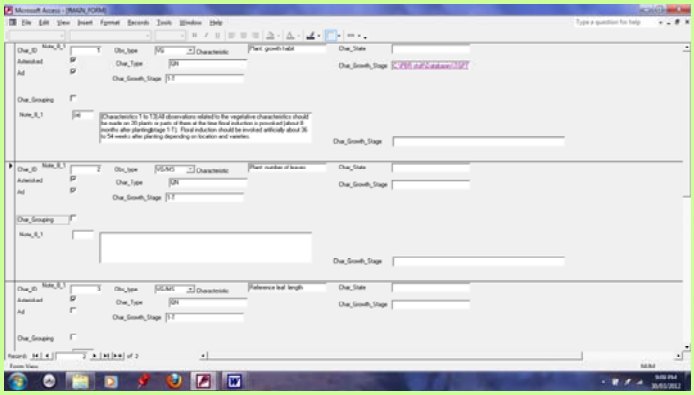

Table of characteristics

- How to create a characteristic
- Combined with a database containing existing characteristics with all states of expressions of adopted TGs
  - use keyword search (e.g. “petal” and will find all characteristics containing the word “petal” of all TGs in database)

Other Necessary Features

- Print preview
- Export into Word document

Possible Future Features

- Translation database
- Use as archiving system

Feedback

- Please send comments, proposals or critical views to:
  Nik.Hulse@ipaustralia.gov.au and
  romy.oertel@upov.int

[End of Annex II and of document]