

BMT/13/36

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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS GENEVA

WORKING GROUP ON BIOCHEMICAL AND MOLECULAR TECHNIQUES, AND DNA-PROFILING IN PARTICULAR

Thirteenth Session Brasilia, November 22 to 24, 2011

REPORT

prepared by the Office of the Union

- 1. The Working Group on Biochemical and Molecular Techniques and DNA-Profiling in Particular (BMT) held its thirteenth session in Brasilia, Brazil, from November 22 to 24, 2011. The list of participants is reproduced in Annex I to this report.
- 2. The BMT was welcomed by Mr. Hélcio Campos Botelho, Director of the Department of Intellectual Property Rights, Ministry of Agriculture, Livestock and Food Supply. A copy of his welcoming address is reproduced in Annex II to this document. Annex III to this document contains an address by Mrs. Daniela de Moraes Aviani, Coordinator, National Plant Variety Protection Service (SNPC), Ministry of Agriculture, Livestock and Food Supply.
- 3. The session was opened by Mr. Andrew Mitchell (United Kingdom), Chairman of the BMT, who welcomed the participants and thanked the hosts.

Adoption of the Agenda

4. The BMT adopted the Agenda as reproduced in document BMT/13/1 Rev. 2, on the basis that agenda item 10 "The use of molecular markers in examining essential derivation" and item 11 "The use of molecular techniques in variety identification" would be considered after agenda item 3 "Reports on developments in UPOV concerning biochemical and molecular techniques".

Reports on developments in UPOV concerning biochemical and molecular techniques

5. The Office of the Union (the Office) provided a report on developments in UPOV concerning Biochemical and Molecular Techniques, on the basis of document BMT/13/2 and a presentation, which is included in Annex IV to this document.

The use of molecular techniques in examining essential derivation

Use of Molecular Markers for Infringement Detection in Hybrid Crops

- 6. The BMT received a presentation by Mr. Rogério Alvares de Andrade (Monsanto Company), based on document BMT/13/19, a copy of which is provided in document BMT/13/19 Add..
- 7. Mrs. Anne Weitz (Community Plant Variety Office (CPVO) of the European Union) and Mr. Joël Guiard (France) requested clarifications in respect of the cases presented as misuses of a variety. They considered that, under the UPOV Convention, the use of a protected variety for the creation of another variety does not require the authorization of the breeder. Mr. Alvares de Andrade explained that his objective was to present a methodology that would identify whether a variety had been obtained by the direct use of a given parental line by using material derived from that parental line.

An EDV Court Case in Wheat in Germany

- 8. The BMT received a presentation by Mr. Marcel Bruins (International Seed Federation), based on document BMT/13/35.
- 9. Several experts considered that, taking into account the specificity of the matter and the highly technical aspects involved when dealing with matters related to plant breeders' rights, in particular with cases related to essentially derived varieties, it would be beneficial to have specialized courts.

Molecular Markers used to Distinguish Varieties Obtained by Repeated Backcrossing

10. The BMT received a presentation by Mr. Ivan Schuster (Brazil), based on document BMT/13/20, a copy of which is provided in document BMT/13/20 Add..

The use of molecular techniques in variety identification

The Use of Molecular Techniques in Variety Verification of Rosa L. Varieties

- 11. The BMT received a presentation by Mr. Carlos Godinho (Community Plant Variety Office (CPVO) of the European Union), based on document BMT/13/21.
- 12. In reply to a question, Mrs. Hedwich Teunissen (Netherlands) explained that it was a project under development and that several methods for DNA analysis were tested to identify

which would provide the best results. After this was established, the DNA of all samples would be extracted using the best performing method.

An Overview of DNA-Based Methods for Variety Identification at INRAN-ENSE (Italian Seed Certification Agency)

13. The BMT received a presentation by Ms. Chiara Delogu (Italy), based on document BMT/13/22, a copy of which is provided in document BMT/13/22 Add..

Development of Functional Markers Associated with Phenotypic Traits for Identification of Rice Varieties

14. The BMT received a presentation by Mrs. Mariela Ibarra Dutra (Uruguay), based on document BMT/13/8, a copy of which is provided in document BMT/13/8 Add..

Development of Functional Markers Associated with Phenotypic Traits for Identification in Soybean

15. The BMT received a presentation by Mrs. Mariela Ibarra Dutra (Uruguay), based on document BMT/13/9, a copy of which is provided in document BMT/13/9 Add..

SSR Markers in Brazilian Soybean (document BMT/13/13)

16. The BMT received a presentation by Mr. Ivan Schuster (Brazil), based on document BMT/13/13, a copy of which is provided in document BMT/13/13 Add..

SSR Markers in Brazilian Wheat

- 17. The BMT received a presentation by Mr. Ivan Schuster (Brazil), based on document BMT/13/14, a copy of which is provided in document BMT/13/14 Add..
- 18. In reply to a question from Mr. Jörg Schondelmaier (Saaten-Union Biotec GmbH), Mr. Schuster explained that the software used was Genotypes, which could not detect more than two alleles per marker. Mr. Joël Guiard (France) considered that the consequences in the reduction of the minimum distance between varieties should be taken into account before using molecular markers for DUS examination. Mr. Schuster explained that he was in favor of including molecular information in the application for plant breeders' rights.

The Probability of Random Identity: A Method for Molecular Data Analysis in Variety Characterization

- 19. The BMT received a presentation by Mr. Ivan Schuster (Brazil), based on document BMT/13/23, a copy of which is provided in document BMT/13/23 Add..
- 20. In reply to questions from Mrs. Letícia Jungmann Cançado (EMBRAPA), Mr. Schuster explained how the presented approach is used in practice in variety characterization and its range of application.

21. Mr. Schuster explained that the frequency of all alleles in all evaluated markers needs to be known for use of the estimator (PRI¹) in this method for variety characterization. In reply to a question from Ms. Teunissen (Netherlands) on definition of the population used in this method, Mr. Schuster noted that it is important to have a good reference collection which represents the actual population of commercial varieties.

Use of Molecular Markers to Identify Soybean Varieties: The Experience of a Public Soybean Breeding Program

22. The BMT received a presentation by Mr. Vanoli Fronza (Brazil), based on document BMT/13/25, a copy of which is provided in document BMT/13/25 Add..

Surveillance: Three Approaches to Using SNPs (Single Nucleotide Polymorphisms) to Identify Variety (Inbred Line) Usage

- 23. The BMT received a presentation by Mr. Barry K. Nelson (Pioneer Hi-Bred International Inc.), based on document BMT/13/29.
- 24. In reply to a question from Mr. Schondelmaier (Saaten-Union Biotec GmbH), Mr. Nelson exemplified some common names of methodologies used for analysis of such a small number of SNPs.

Use of Molecular Markers to Identify Sugarcane Varieties

25. The BMT received a presentation by Mr. Francisco Claudio da Conceição Lopez (Brazil), based on document BMT/13/27, a copy of which is provided in document BMT/13/27 Add..

Developments Concerning the Variety Tracer Procedure

- 26. The BMT received a presentation by Ms. Hedwich Teunissen (Netherlands), based on document BMT/13/32, a copy of which is provided in document BMT/13/32 Add..
- 27. Mrs. Teunissen explained that the improvement was triggered by comments on the methodology used to determine the similarity of plant variey in a court case. Mr. Joël Guiard (France) noted that for species with few varieties of common knowledge, the so called 'small' species, it may not be easy to fulfill all the requirements in the proposed methodology. Mrs. Teunissen explained that for gypsophila there were more than 60 varieties, which was considered sufficient number.
- 28. In reply to a question from Mr. Jörg Schondelmaier (Saaten-Union Biotec GmbH), Mrs. Teunissen explained that the main improvements following comments from the court, were in respect of the statistical calculations, in particular the standard errors.

Wheat Genome Sequencing Consortium (IWGSC): Building the Foundation for a Paradigm Shift in Wheat Breeding

29. The BMT received a remote presentation by Ms. Kellye Eversole (the United States of America) from her office in Bethesda, Maryland, USA, based on document BMT/13/34.

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¹ Probability of Random Identity

30. In reply to a question from Mr. Marcel Bruins (ISF), Ms. Eversole explained how the validation was made on work allocated to each country which constitutes the International Wheat Genome Sequencing Consortium (IWGSC).

Development of an International Seed Testing Association (ISTA) DNA-based approach for testing variety identity

- 31. The BMT received a presentation by Mrs. Elisa Serra (ISTA), based on document BMT/13/33, which is provided in document BMT/13/33 Add..
- 32. In reply to a question from Mr. Jörg Schondelmaier (Saaten-Union Biotec GmbH), Mrs. Serra explained that ISTA would also work with other techniques, such as SNPs.

Reports on the work of the Ad Hoc Crop Subgroups on Molecular Techniques (Crop Subgroups)

33. The BMT noted the report on planned meetings of the Crop Subgroups as set out in document BMT/13/2, paragraph 18.

Short presentations on new developments in biochemical and molecular techniques by DUS experts, biochemical and molecular specialists, plant breeders and relevant international organizations

34. The BMT noted the information on new developments in biochemical and molecular techniques from members and observers provided in document BMT/13/30. The BMT noted that reports submitted to the Office of the Union after November 18, 2011 would be included in an addendum to document BMT/13/30.

Report of work on molecular techniques on a crop-by-crop basis

(a) Vegetatively Propagated Crops

The Use of Molecular Techniques for Plant Variety Protection – Approved Position of CIOPORA (AGM, Rome, 12th April, 2011)

- 35. The BMT received a presentation by Mr. Jan de Riek (International Community of Breeders of Asexually Reproduced Ornamental and Fruit Plants (CIOPORA)), based on document BMT/13/18.
- 36. In reply to a question on the use of a DNA fingerprint as part of a plant passport proposed by CIOPORA in the document, Mr. de Riek explained that is not for the breeders to decide the methodology to obtain the DNA fingerprint, but breeders should be involved in selecting the methodology and that CIOPORA was willing to cooperate in this respect. Mr. Joël Guiard explained that it was important to differentiate the assessment of distinctness, which is part of the process of examining an application for breeder's rights, from variety identification which is part of the enforcement of the rights. He clarified that even though UPOV could make a recommendation in respect of variety identification and the assessment

of essentially derived varieties, it was up to the parties concerned to take into account those recommendations.

Combining Morphological and Molecular Distance in the Management of the Reference Collection of Potato

- 37. The BMT received a presentation by Ms. Hedwich Teunissen (Netherlands), based on document BMT/13/10, a copy of which is provided in document BMT/13/10 Add..
- 38. Mrs. Anne Weitz (Community Plan Variety Office (CPVO) of the European Union) proposed to consider to which extent the results of the ring-test to be carried out during 2012 could improve the application of the method. Mr. Joël Guiard (France) expressed his satisfaction to see a UPOV accepted method, initially proposed for maize, was extended to other species. He considers that the use molecular markers distances, minimized the risk of undermining the quality of protection and the problem of uniformity and stability that would appear if molecular markers were used directly. He encouraged the development of more examples on vegetatively propagated varieties. Mr. Marcel Bruins (ISF) considered useful to provide more information on the reference varieties present in the first growing trial.
- 39. The BMT agreed to propose the Technical Committee that the example presented in document BMT/13/10 be presented for consideration by the BMT Review Group, subject to further information on the reference varieties included in the field test be included. The BMT also agreed to report to the BMT Review Group that further improvements to the method could be expected from the results to be obtained from the ring test established by the CPVO.

Management of Peach Tree Reference Collections

- 40. The BMT received a presentation by Aurelia Luciani (France), based on document BMT/13/11, a copy of which is provided in document BMT/13/11 Add..
- 41. In reply to a question from Mr. Barry K. Nelson (Pioneer Hi-Bred International Inc.), Ms Luciani explained that the 16 markers have been selected from an initially larger number of makers. Mrs. Anne Weitz (Community Plan Variety Office (CPVO) of the European Union) reported that the final results of the project had been received by the CPVO and the follow-up would be discussed with the project partners in the near future.
- (b) Self-pollinated Crops

A Potential UPOV Option 2 Approach for Barley using High Density SNP Genotyping

42. The BMT received a presentation by Dr. Carol Norris (United Kingdom) based on document BMT/13/6, a copy of which is provided in document BMT/13/6 Add.. She explained that conclusions were expected soon, as the project was almost complete.

Demonstration of Significant Progress Towards an Option 1 Approach in Barley

- 43. The BMT received a presentation by Dr. Carol Norris (United Kingdom), based on document BMT/13/5, which is provided in document BMT/13/5 Add..
- 44. In reply to a question from Mrs. Anne Weitz (Community Plant Variety Office (CPVO)), Dr. Norris explained that, to improve the outcome of the project, uniformity tests

would need to be explored and possibly cloning of more of the genes. Mr. Guiard (France) noted the outcome of the project obtained so far could be positively evaluated as a first step and it could be possible to use all these markers together to improve the management of the collection identification of close varieties which must be compared in the field test.

The Use of Molecular Markers for the Lettuce Species (document BMT/13/12)

45. The BMT received a presentation by Mr. René Mathis (France), based on document BMT/13/12, a copy of which is provided in document BMT/13/12 Add..

Microsatellite Molecular Markers in the Evaluation of Soybean Seeds with Variation in Hilum Color

- 46. The BMT received a presentation by Mr. Ivan Schuster (Brazil), based on document BMT/13/15, a copy of which is provided in document BMT/13/15 Add..
- 47. In reply to a question from Mr. Tetsuya Kimura (Japan), Mr. Schuster explained that the SSR he used were not linked to color of hilum.

Organization of Soybean Official DUS Trials in Brazil based on the use of Molecular Markers

- 48. The BMT received a presentation by Mr. Luis Pacheco (Brazil), based on document BMT/13/26, a copy of which is provided in document BMT/13/26 Add..
- 49. Mr. Pacheco explained that for selecting varieties to be included in the DUS growing trials they used the GAIA methodology. In reply to a question from Mr. Diego Risso (SAA) Mr. Pacheco added that molecular markers were used for the enforcement of the breeder's right when checking live reference samples against seed samples from the market obtained by the inspectors of the Ministry from Agriculture, Livestock and Supply.

Use of DNA as Reference Samples of Protected Varieties in Brazil (document BMT/13/28)

- 50. The BMT received a presentation by Mr. Luis Claudio Augusto da Oliveira (Brazil), based on document BMT/13/28, a copy of which is provided in document BMT/13/26 Add..
- (c) Cross-pollinated Crops

Using SSR Markers for Authentication of Seed Stocks in Winter Oilseed Rape (WOSR)

- 51. The BMT received a presentation by Dr. Carol Norris (United Kingdom), based on document BMT/13/7, which is provided in document BMT/13/7 Add..
- 52. In reply to a question from Mr. Jörg Schondelmaier (Saaten-Union Biotec GmbH), Dr. Norris explained that the size of the sample necessary to analyze is about 100 pairs. Given that information, Mr. Schondelmaier mentioned the cost of the testing.

53. In reply to a question from Mrs. Anne Weitz (Community Plant Variety Office (CPVO)), Dr. Norris explained that samples have not been grown in the field for authentication this season.

Evaluation of a Germplasm Collection of Brachiaria Humidicola using Microsatellites, Morphological Markers, Cytogenetics and Geographical Origin

54. The BMT received a presentation by Mrs. Letícia Jungmann Cançado (Brazil), based on document BMT/13/16, a copy of which is provided in document BMT/13/16 Add..

International Guidelines on Molecular Methodologies

- 55. The BMT noted the information provided in document BMT/13/3. The office mentioned the possibility that the BMT would have a joint meeting in concern with harmonization in molecular markers for variety identification with International Seed Testing Association (ISTA), and possibly also with International Organization for Standardization (ISO) and Organization for Economic Co-operation and Development (OECD), taking advantage of the next meeting of the BMT. The office announced that this issue would be discussed later in agenda item 13, "Date and place of next session".
- 56. In reply to a question from Mr. Jörg Schondelmaier (Saaten-Union Biotec GmbH), the Office explained that, it has been contacting the secretary of the International Seed Testing Association (ISTA) seeking for the possibility to have the joint meeting.
- 57. Mr. Joël Guiard (France) noted that it could be considered that these organizations are working on the same issue by different speed and that exchanging information with each other would be useful for each of the organizations. Mr. René Mathis (France) noted that the target outcome of this kind of joint activity between different organizations might be, in general, generating a common position paper on the issue concerned.

Variety description databases

58. The BMT noted the information provided in document BMT/13/4.

GEMMA: A Technical Web Site to Share DUS Data

- 59. The BMT received a presentation by Mr. Joël Guiard (France), based on document BMT/13/17 [TWC/29/24], which is provided in document BMT/13/17 Add..
- 60. In reply to a question from Mrs. Anne Weitz (Community Plant Variety Office (CPVO)), Mr. Guiard was not certain at this moment if verifying varieties would be possible with the database by future development of the system. He subsequently confirmed that this is possible.

Construction of a Molecular Database for Soybean Variety Identification in Brazil

61. The BMT received a presentation by Mr. Ivan Schuster (Brazil), based on document BMT/13/24, which is provided in document BMT/13/24 Add..

- 62. Mr. Jörg Schondelmaier (Saaten-Union Biotec GmbH) noted that possibility of misuse of the data on the database by malicious third party. In response to the notation by Mr. Schondelmaier, Mr. Schuster and Mrs. Daniela de Moraes Aviani (Brazil) acknowledged the sensitivity of the data but explained that there is no concern with the possibility of misuse for technical reason.
- 63. Mr. Carlos Azambuja (Uruguay) proposed that it would be useful for harmonization of results of different laboratories to call the SSR alleles by their number of core repeats instead of the molecular weight. Mr. Jörg Schondelmaier (Saaten-Union Biotec GmbH) stated that it might not necessarily a solution since the length of molecular markers are sometimes too short.

Methods for analysis of molecular data

BioNumerics: A universal platform for databasing and analysis of biological data

- 64. The BMT received a presentation by Ms. Hedwich Teunissen (Netherlands), based on document BMT/13/31, which is provided in document BMT/13/31 Add..
- 65. In reply to a question from Mr. Tetsuya Kimura (Japan), Ms. Teunissen explained that the cost of purchasing the software varies depending on how many functions (plug-ins) are needed.
- 66. The BMT noted that the bionumeric software has been proposed to be included in document INF/16 "exchangeable software" by the TWC.

PART 2

Recommendations on the establishment of new crop specific subgroups

- 67. The BMT did not make any recommendation on the establishment of new crop specific subgroups.
- 68. Mr. Joël Guiard (France) considered that at the moment, it was more beneficial for UPOV to discuss the possible use of molecular marker in different species in the wider audience provided by the BMT than in individual *Ad-hoc* crop subgroups.
- 69. The BMT proposed the TC considering the discontinuing the meeting of the Ad-hoc crop and having the individual species discussion within the BMT sessions.

Date and place of next session

- 70. The BMT took note of the report from the Office of the Union that contact had been made between UPOV and ISTA to explore the possibility of a coordinated meeting of the BMT and the Working Group on DNA Methods of the Variety Committee of ISTA for venue the fourteenth session of the BMT in 2013.
- 71. Several experts considered useful the possibility of coordinating the work on molecular markers within UPOV and ISTA.

Future program

- 72. During its fourteenth session, the BMT planned to discuss the following items:
 - 1. Opening of the session
 - 2. Adoption of the agenda
 - 3. Reports on developments in UPOV concerning biochemical and molecular techniques
 - 4. Reports on the work of the *Ad Hoc* Crop Subgroups on molecular techniques (Crop Subgroups)
 - 5. Short presentations on new developments in biochemical and molecular techniques by DUS experts, biochemical and molecular specialists, plant breeders and relevant international organizations
 - 6. Report of work on molecular techniques on a crop-by-crop basis:
 - (a) vegetatively propagated crops
 - (b) self-pollinated crops
 - (c) cross-pollinated crops

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- 7. International guidelines on molecular methodologies
- 8. Variety description databases
- 9. Methods for analysis of molecular data
- 10. The use of molecular techniques in examining essential derivation
- 11. The use of molecular techniques in variety identification
- 12. Recommendations on the establishment of new crop specific subgroups
- 13. Date and place of next session
- 14. Future program
- 15. Report of the session (if time permits)
- 16. Closing of the session
- 73. The BMT requested the Technical Committee to consider the possibility to arrange the order of the agenda items to reflect the organization of the meeting, in particular, the items for the "breeder's day" to be placed after agenda item 5.

Medal

74. Mr. Andrew Mitchell was awarded a UPOV bronze medal in recognition of his chairmanship of the BMT from 2009 to 2011.

[Annexes follow]

ANNEX I

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REPUBLIC OF KOREA

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UNITED KINGDOM

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Carol NORRIS (Dr.), Technical Manager for Oilseeds DUS & Certification, Plant Services, NIAB, Huntingdon Road, Cambridge CB3 0LE

(tel.: +44 1223 342288 e-mail: carol.norris@niab.com)

Heather OWEN (Dr.), SASA, Roddinglaw Road, Edinburgh EH12 9FJ (tel.: +44 131 244 6353 fax: +44 131 244 8939 e-mail: heather.owen@sasa.gsi.gov.uk)

URUGUAY

Mariela IBARRA DUTRA (Ing. Agr.), Evaluación y Registro de Cultivares, Instituto Nacional de Semillas (INASE), C. Bertolotti S/n y Ruta 8, Km 29, 91001 Canelones (tel.: +598 2 2887099 Int. 113 fax: +5982 2887077 e-mail: mibarra@inase.org.uy)

II. ORGANIZATIONS

INTERNATIONAL COMMUNITY OF BREEDERS OF ASEXUALLY REPRODUCED ORNAMENTAL AND FRUIT PLANTS (CIOPORA)

Jan DE RIEK, ILVO-Plant, Applied Genetics and Breeding Institute for Agricultural and Fisheries Research, Caritasstraat 21, B-9090 Melle, Belgium (tel.: +32 9 272 2881 fax: +32 9 272 2901 e-mail: jan.deriek@ilvo.vlaanderen.be

INTERNATIONAL SEED FEDERATION (ISF)

Marcel BRUINS, Secretary General, International Seed Federation (ISF), 7, chemin du Reposoir, 1260 Nyon, Switzerland

(tel.: +41 22 365 4420 fax: +41 22 365 4421 e-mail: isf@worldseed.org)

Barry K. NELSON, Pioneer Hi-Bred International Inc., 7300 N.W. 62nd avenue, Johnston IA 50131

(tel.: 515 535 2202 fax: 515 535 2288 e-mail: barry.nelson@pioneer.com)

Rogério ALVARES DE ANDRADE, Rua dos Pica Paus 1750, Minais Gerais, Uberlândia M/G

(tel.: +34 9128757 fax: +34 30883001 e-mail: rogerio.a.andrade@monsanto.com)

Jörg SCHONDELMAIER, Saaten-Union Biotec GmbH, Hovedisser Str. 92, 33818 Leopoldshöhe, Allemagne

(tel.: +49 05 208 95 04 93 fax: +49 05 208 95 04 94 e-mail: schondel@saaten-union-biotec.de)

SEED ASSOCIATION OF THE AMERICAS (SAA)

Diego A. RISSO, Secretary General/SAA, URUPOV, Rondeau 1908 - Esc. A, C.P. 11800, Montevideo, Uruguay

(tel.: +598 2 9291565 fax: +598 2 929 15 65 e-mail: drisso@saaseed.org)

Carlos AZAMBUJA, Bvar. Artigas 922, Montevideo, Uruguay

(tel.: 598 271 19220 fax: 598 271 22154 email:azambuja@genia.com.uy)

INTERNATIONAL SEED TESTING ASSOCIATION (ISTA)

Elisa SERRA NEGRA VIEIRA (Mrs.), International Seed Testing Association (ISTA), Estrada da Ribeira, Km 111, C.P. 319, Colombo, Parana CEP 83411-000, Brazil (tel.: 41 3675 5773 e-mail: elisa@cnpf.embrapa.br)

III. OFFICER

Andrew MITCHELL, Chairman

IV. OFFICE OF UPOV

Raimundo LAVIGNOLLE, Director, 34, chemin des Colombettes, 1211 Geneva, Switzerland (tel.: +41 22 338 9565 fax: +41 22 733 0336 e-mail: raimundo.lavignolle@upov.int)

Fuminori AIHARA, Counsellor, 34, chemin des Colombettes, CH-1211 Geneva, Switzerland (tel. +41-22-338 7442 fax +41-22-733 03 36 e-mail: fuminori.aihara@upov.int)

[Annex II follows]

BMT/13/36

ANNEX II

WELCOME ADDRESS

by Mr. Hélcio Campos Botelho Director of the Department of Intellectual Property Rights Ministry of Agriculture, Livestock and Food Supply Brasilia, November 22, 2011

Mr. Andrew Mitchell, Chairman of the 13^a Session of the Working Group on Biochemical and Molecular Techniques and DNA Profiling in Particular of the International Union for the Protection of New Varieties of Plants - UPOV; Mr. Raimundo Lavignolle, Technical Director of the UPOV; Mr. Fuminori Aihara, Officer of the UPOV; Distinguished Participants; Ladies and Gentlemen. Welcome to the 13th BMT UPOV Meeting!

It is not by accident that Brasilia hosts this meeting. Distrito Federal hosts the capital of Brazil since 1960, and stands out in the development and use of new varieties and in the seed production. It hosts the headquarter of the Brazilian Enterprise for Agricultural Research – Embrapa, as well as its research centers, such as Embrapa Cerrados and the National Center for Research on Genetic Resources and Biotechnology (CENARGEN). It is also an important center of seed production of maize, soybean and tropical forage crops, and also a center of production of flowers, using the most modern technologies in irrigation and crop management.

Thank you.

[Annex III follows]

BMT/13/36

ANNEX III

Welcome Address by
Mrs. Daniela de Moraes Aviani,
Coordinator, National Plant Variety Protection Service (SNPC),
Ministry of Agriculture, Livestock and Food Supply

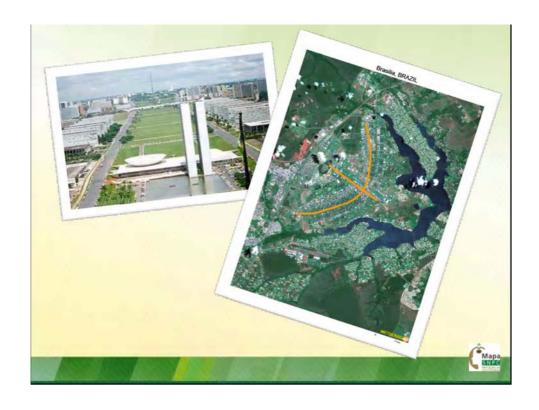


Plant Variety Protection in Brazil

DANIELA DE MORAES AVIANI
NATIONAL PLANT VARIETY PROTECTION SERVICE
Coordinator







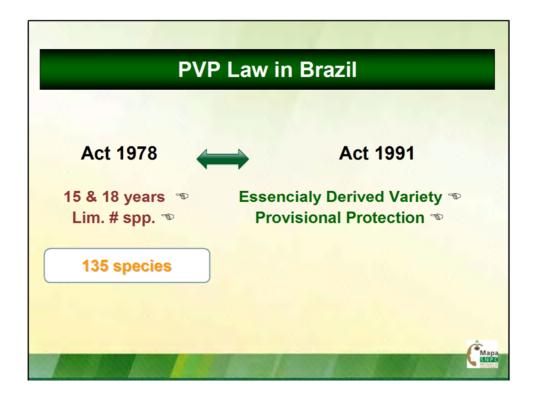
MINISTRY OF AGRICULTURE, LIVESTOCK AND FOOD SUPPY MAPA

SECRETARIAT OF AGRICULTURAL DEVELOPMENT AND COOPERATIVISM SDC

DEPARTAMENT OF INTELLECTUAL PROPERTY
AND AGRICULTURAL TECHNOLOGY
DEPTA

National Plant Variety Protection Service SNPC





PBR EXCEPTIONS

- · Save seeds (farmers' privilege);
- Use or sell as food or raw material;
- Small holders (for donation or exchange);
- Breeding programs



REVISION ON PVP LAW

- · Extend breeders' rights to harvest material;
- · Restrict the farmers' privilege;
- Provide PVP for all species;
- Increase the period of protection;
- Review DUS procedures (acreditation/DUS field inscription for inspection);
- Improve the enforcement measures



LODGE OF APPLICATIONS

DECLARATORY SYSTEM

- Electronic Application Form
- Technical Report
- Live sample
- Sworn Statement



FOREIGN TESTS AND TRIALS

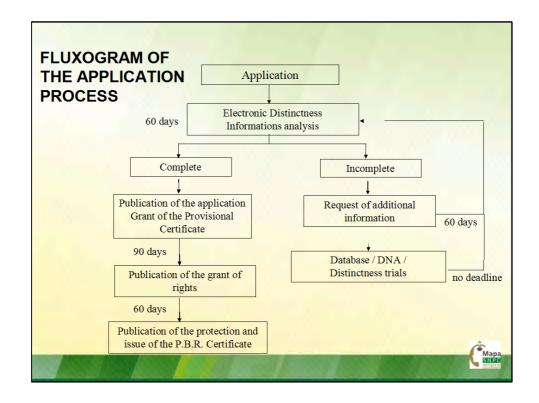
- Foreign tests and trials may be accepted when they are requested by SNPC from UPOV member countries.
- Tests may also be performed outside Brazil. In such case, it is recommended to be repeated in Brazil to confirm the characteristics.

COST OF PROTECTION

The total cost of protection is 670 USD:

- 110 USD application lodge and exam
- 340 USD certificate fee
- 220 USD annual fee for maintenance









Prepare of live samples





Distinctness test



LIVE SAMPLE

A live sample must be submitted to the SNPC.

The applicant must comply with all import procedures.

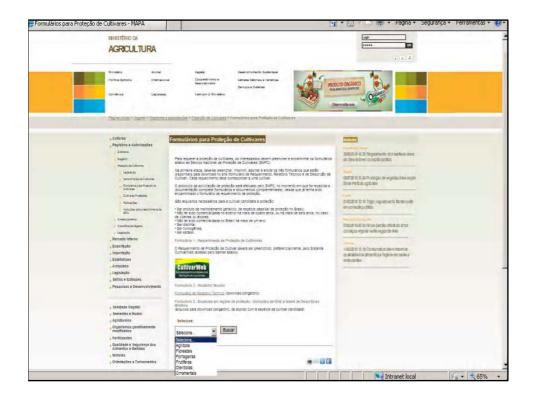
ENFORCEMENT



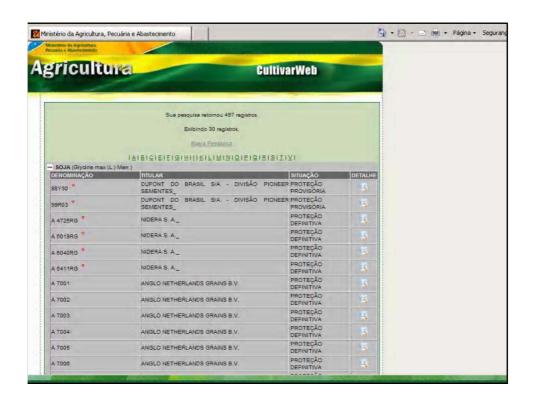
The titleholder may sue any person who infringes his rights.

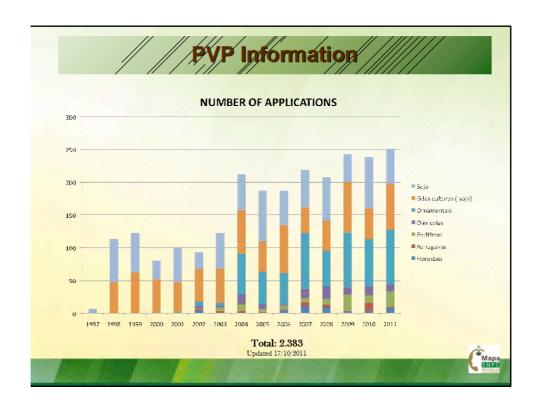
He may ask a court to issue an injunction to prevent from further violations and also might bring a suit against the infringer.

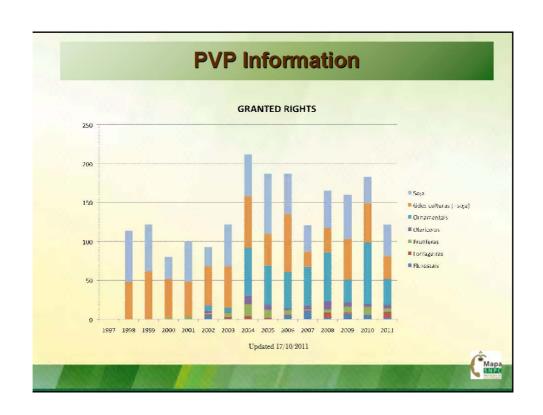






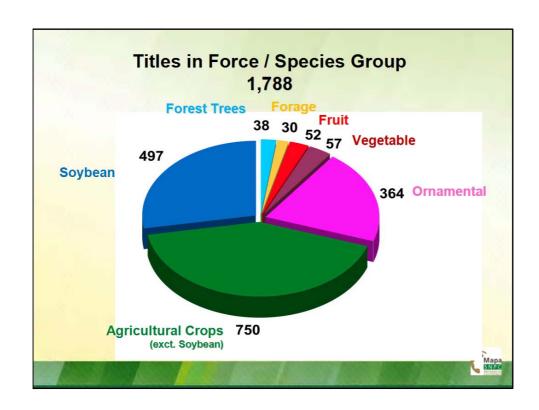


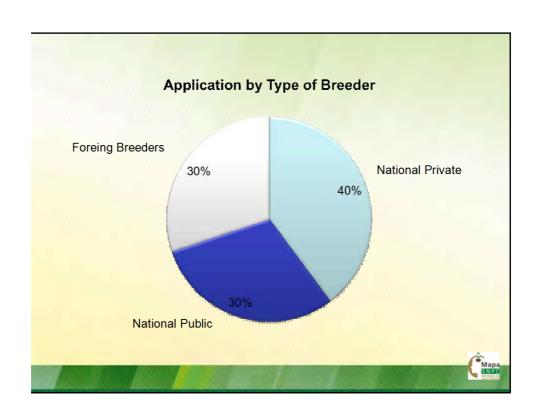




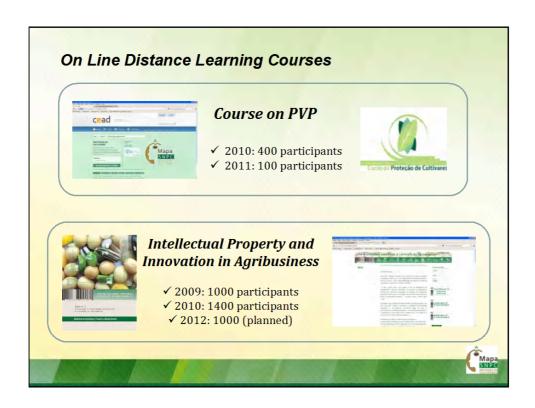
139 SPECIES ELIGIBLE FOR PLANT BREEDERS' RIGHTS

- FRUIT: pineapple, banana, apple, mango, strawberry, pear and grape
- ORNAMENTALS: amaryllis, anthurium, aster, begonia, rose, guzmania, kalanchoe, cymbidium, zantedeschia, dianthus, chrysanthemum, statice (3 species), grasses (2 species), gerbera, gypsophilla, hybiscus, hypericum, Impatiens walleriana, Impatiens x New Guinea, lilium, poinsettia, solidago and saintpaulia
- FOREST TREES: eucalyptus
- AGRICULTURAL: cotton, rice, oat, potato, sugarcane, coffee, barley, french bean, corn, soybean, sorghum, wheat and triticale
- **VEGETABLES**: pumpkin, lettuce, garlic, onion, carrot, okra, tomato, pepper and sweet pepper
- FORRAGE: brachiaria (syn. urochloa)(5 species), Panicum maximum, Pennisetum purpureum, Cajanus cajan, macrotyloma and pearl millet













[Annex IV follows]

BMT/13/36

ANNEX IV

Presentation made by the Office of the Union

Working Group on Biochemical and Molecular
Techniques and DNA Profiling in particular

Thirteenth Session

REPORT ON DEVELOPMENTS IN UPOV

Brasilia, November 21, 2011

1

OVERVIEW

- Membership / Examination of Laws
- New website
- Council
- Consultative Committee
- CAJ & CAJ-AG
- TC
- Other developments

2

UPOV: INDEPENDENT INTERGOVERNMENTAL ORGANIZATION

The International Convention for the Protection of New Varieties of Plants

established in 1961

The International Union for the Protection of New Varieties of Plants

Union internationale pour la protection des obtentions végétales

3

MEMBERSHIP OF UPOV

70 Members

New Members

Peru as of Aug. 8, 2011

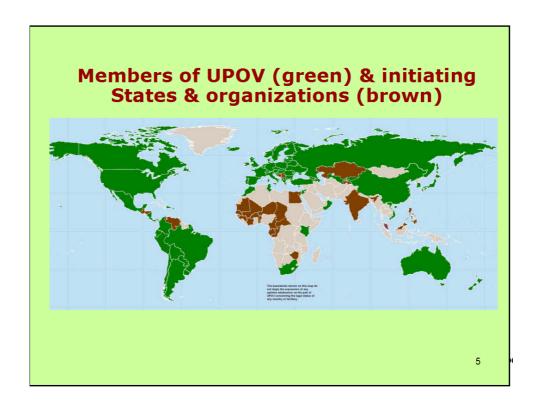
Former Yugoslav Republic of as of May 4, 2011

Macedonia

Laws examined Council session Advice

Republic of Tajikistan October 21, 2010 Positive **Republic of Serbia** April 8, 2011 Positive

4





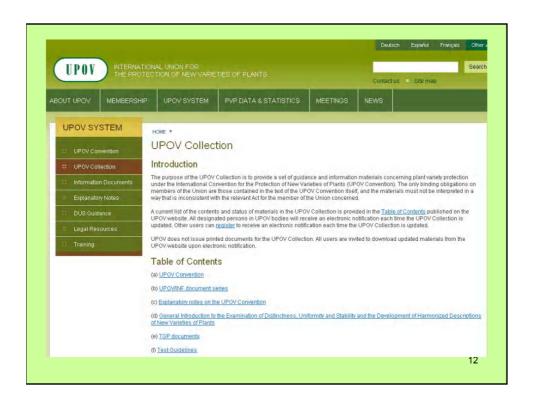












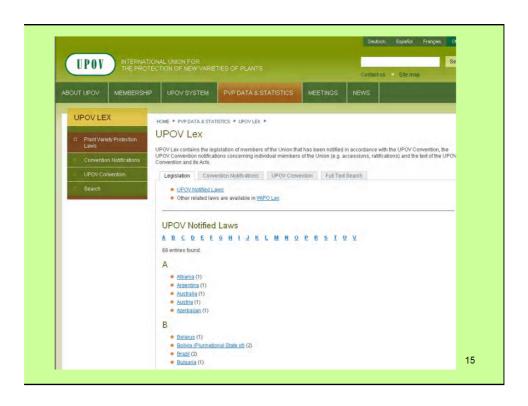
UPOV Collection: physical collection

- SET OF BINDERS with PRINTED DOCUMENTS
 - two sets per member of the Union
 - one set per observer State
 - one set per observer organization
- In the first instance only (and for new members and observers), printed versions of all documents in the "UPOV Collection", except for Test Guidelines, would be provided with the binders
- Members of the Union, observer States and observer organizations will be notified, electronically, of updates and will need to print the documents



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COUNCIL

COUNCIL

for a term of three years ending in 2013

Chair of the Administrative and Legal Committee

Mr. Lü Bo (China)

Vice-Chair of the Administrative and Legal Committee

Mr. Martin Ekvad (European Union)

Chair of the Technical Committee

Mr. Joël Guiard (France)

Vice-Chair of the Technical Committee

Mr. Alejandro Barrientos-Priego (Mexico)

17

COUNCIL

for a term of three years ending in 2014

Chair of:

TWA: Mrs. Robyn Hierse (South Africa)

TWC: Mr. Sami Markkanen (Finland)

TWF: Mrs. Carensa Petzer (South Africa)

TWO: Mr. Nik Hulse (Australia)

TWV: Mr. François Boulineau (France)

BMT: Mr. Alejandro Barrientos Priego (Mexico)



	COUNCIL				
INFORM	NATION MATERIALS ADOPTED OCTOBER 2010				
Latest reference Explanatory Notes on:					
UPOV/EXN/VAR/1	Definition of Variety under the 1991 Act of the UPOV Convention				
UPOV/EXN/CAL/1	Conditions and Limitations Concerning the Breeder's Authorization in Respect of Propagating Material under the UPOV Convention				
	INF documents				
UPOV/INF/4/1	Financial Regulations and Rules of UPOV				
UPOV/INF/10/1	Internal Audit				
UPOV/INF/12/3	Explanatory Notes on Variety Denominations under the UPOV Convention				
UPOV/INF/15/1	Guidance for Members of UPOV on Ongoing Obligations and Related Notifications				
UPOV/INF/16/1	Exchangeable Software				
UPOV/INF/17/1	Guidelines for DNA-Profiling: Molecular Marker Selection and Database Construction ("BMT Guidelines")				

COUNCIL

INFORMATION MATERIALS ADOPTED OCTOBER 2011

Latest reference	INF documents
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

21

COUNCIL

INFORMATION MATERIALS ADOPTED (reminder)

Guidance for the preparation of laws based on the 1991 Act of the UPOV Convention (document UPOV/INF/6)

PART I: EXAMPLE TEXT FOR ARTICLES
PART II: NOTES BASED ON INFORMATION
MATERIALS

(available in English, French, German, Spanish, Arabic, Chinese, Russian, Bahasa Indonesian)

COUNCIL

TGP DOCUMENTS ADOPTED OCTOBER 2010

Document reference	Title
TGP/0/3	List of TGP Documents and Latest Issue Dates
TGP/5	Experience and Cooperation in DUS Testing:
Section 2/3	UPOV Model Form for the Application for Plant Breeders' Rights (Revision)
TGP/7/2	Development of Test Guidelines (Revision)
TGP/8/1	Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability
TGP/14/1	Glossary of Terms Used in UPOV Documents

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COUNCIL

TGP DOCUMENTS ADOPTED OCTOBER 2011

Document reference	Title
TGP/0/4	List of TGP Documents and Latest Issue Dates
TGP/5	Experience and Cooperation in DUS Testing:
Section 10/2	Notification of Additional Characteristics (Revision)
TGP/7/3	Development of Test Guidelines (Revision)
TGP/11/1	Examination of Stability

COUNCIL

INTERNATIONALER
VERBAND
ZUM SCHUTZ VON
PFLANZERZÜCHTUNGEN
GENF, SCHWEIZ
GENF, SCHWEIZ
GENEVE, SUISSE

UPOV Press Release No. 85

Geneva, April 8, 2011

UPOV Council Holds Extraordinary Session

Experience of members of the Union in the Examination of New Plant Varieties

The Council welcomed the report made at the forty-seventh session of the Technical Committee, held in Geneva from April 4 to 6, 2011, that the number of genera and species for which members of the Union had practical experience in the examination of distinctness, uniformity and stability (DUS) had exceeded 2,500 in 2011. That number had increased by 19% from 2,254 in 2010, to 2,679 in 2011. The Council noted that information on members of the Union with practical experience in DUS examination was freely accessible via the GENIE database.

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CONSULTATIVE COMMITTEE

CONSULTATIVE COMMITTEE Observers

- Established a working group to review the rules concerning observers and recommend appropriate changes
- Granted observer status to:
 - Association for Plant Breeding for the Benefit of Society (APBREBES): Council, CAJ, TC, TWPs
 - European Coordination Via Campesina (ECVC): Council, CAJ, TC, TWPs
- Extended observer status to:
 - CropLife International: CAJ, TC, TWPs
 - Asia Pacific Seed Association (APSA): CAJ, TC, TWPs

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CONSULTATIVE COMMITTEE

 The Consultative Committee approved the assistance of the Office of the Union to the International Treaty on Genetic Resources for Food and Agriculture (ITPGRFA) in explaining the content and search options in the Plant Variety Database in the context of the ITPGRFA research project.

ADMINISTRATIVE AND LEGAL COMMITTEE (CAJ)

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CAJ/ CAJ-AG

OVERVIEW OF THE DEVELOPMENT OF INFORMATION MATERIALS

Latest reference	Explanatory Notes on:	Status
UPOV/EXN/BRD Draft 4	Definition of Breeder under the 1991 Act of the UPOV Convention	CAJ-AG October 2011
UPOV/EXN/HRV Draft 6	Acts in Respect of Harvested Material under the 1991 Act of the UPOV Convention	CAJ-AG October 2011
CAJ-AG/11/6/3 & UPOV/EXN/EDV/2 Draft 1	Essentially Derived Varieties under the 1991 Act of the UPOV Convention (revision)	CAJ-AG October 2011
	Matters arising after the grant of a breeder's right	CAJ-AG October 2011
	Propagation and Propagating Material	CAJ-AG October 2011
UPOV/INF/5	UPOV model plant breeders' rights gazette	To start 2012

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TECHNICAL COMMITTEE (TC)

31

TECHNICAL COMMITTEE (TC) TGs APPROVED

NEW TEST GUIDELINES (11)	
TG/ACERO	Acerola, Barbados-cherry, West Indian- cherry
TG/AGAPA	African Lily, Agapanthus, Blue Lily, Lily of the Nile
TG/BOUGA	Bougainvillea
TG/CACAO	Cacao
TG/CAMEL	Camellia
TG/DRAGON	Dragon Fruit, Strawberry pear
TG/HIBIS	Rose-of-Sharon, shrub-althaea
TG/RUMEX	Dock, Garden sorrel, sorrel, sorrel dock, sour dock
TG/SETARIA	Foxtail Millet, Italian Millet, Hungary Millet
TG/TOREN	Bluewings, Torenia, Wishbone-flower
TG/VRIES	Vriesea

TECHNICAL COMMITTEE (TC) TGs APPROVED

REVISIONS OF TEST GUIDELINES	(8)
TG/44/11	Tomato
TG/51/7	Gooseberry
TG/52/6	Red and White Currant
TG/56/4	Almond
TG/57/7	Flax, Linseed
TG/84/4	Japanese Plum
TG/99/4	Olive
TG/184/4	Cardoon, Globe Artichoke, Cardoon
PARTIAL REVISIONS OF TEST GU	IDELINES (2)
TG/13/10 Rev. (TC/47/2, TC/47/24)	Lettuce
TG/55/7 Rev. (TC/47/2, TC/47/24)	Spinach

33

TECHNICAL COMMITTEE (TC) TGs APPROVED

98. The TC agreed that the wording of document TGP/7/2, as adopted by the Council at its forty-fourth ordinary session, held in Geneva on October 21, 2010, with regard to Chapter 4.1.4 should not be followed in the Test Guidelines to be adopted at its forty-seventh session. It agreed that the Test Guidelines to be adopted by the TC should incorporate the amended wording for Chapter 4.1.4, as follows:

Alternative 1: "Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on {x} plants or parts taken from each of {x} plants and any other observations made on all plants in the test, disregarding any off-type plants."

Alternative 2: "Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on $\{x\}$ plants or parts taken from each of $\{x\}$ plants and any other observations made on all plants in the test, disregarding any off-type plants. In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be $\{y\}$."

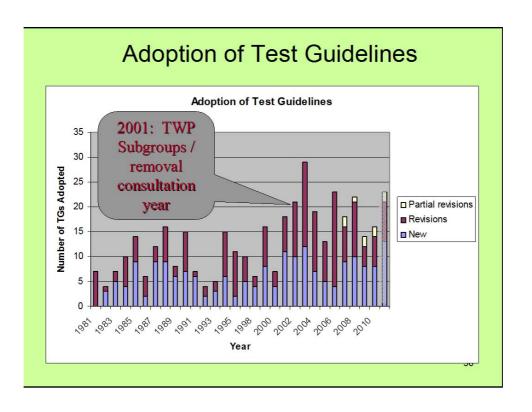
99. The TC noted that the Council, at its forty-fifth ordinary session to be held on October 20, 2011, would need to adopt the revised text for document TGP/7 before the Test Guidelines could be adopted. Therefore, it agreed to adopt the Test Guidelines subject to the Council adopting the necessary revision to document TGP/7.

TECHNICAL COMMITTEE (TC) TGs adopted

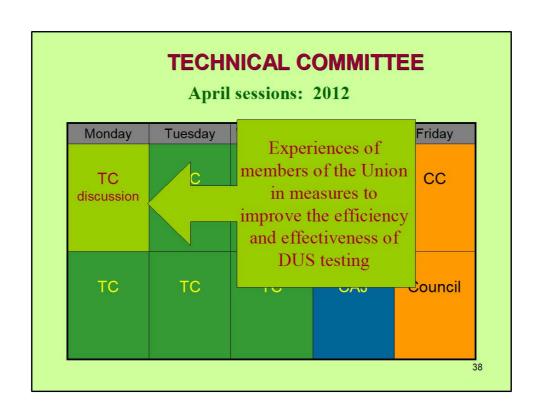
Test Guidelines for Mandarins (Citrus; Group 1) (document TG/201/1) to be referred back to the TWF for further consideration

Test Guidelines for Canna (document TG/CANNA(proj.7)) and Eucalyptus (document TG/EUCAL(proj.6)) be referred back to the TWO for further consideration.

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TECHNICAL COMMITTEE April sessions: 2002-2011				
Monday	Tuesday	Wednesday	Thursday	Friday
TC-EDC	TC	тс	CAJ	CC
TC	тс	тс	CAJ	Council



TECHNICAL COMMITTEE (TC)

In considering how to improve the effectiveness of the TC work, the following measures were agreed:

- (a) to display documents under consideration at the session on the screen in the language of the original document.
- (b) to add an indication in document reference of the language.
- (c) to consider ways of improving the quality of draft Test Guidelines submitted by the TWPs for adoption to the TC. In that regard, the TC noted the importance of all necessary information being provided by the Leading Expert by the specified date, the importance of the role of the TWP chairpersons and the importance of posting the draft Test Guidelines on the UPOV website sufficiently in advance of the TC-EDC meeting in order that comments could be made before the TC-EDC meeting.
- (d) The TC-EDC to hold a two-day meeting in January.

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GENIE Database

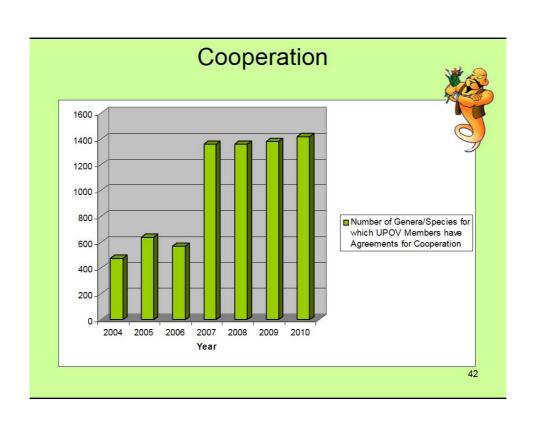
Protection offered by UPOV members

DUS information

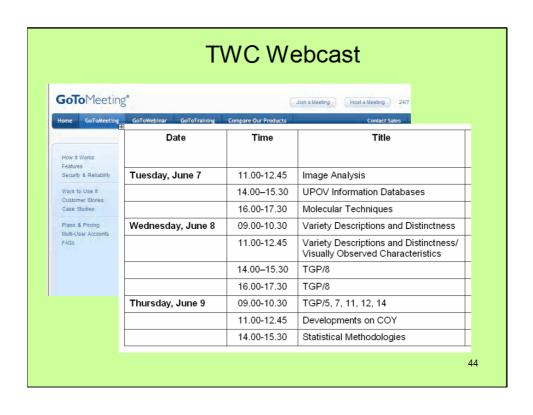
- UPOV Test Guidelines
- practical experience (UPOV members)
- cooperation in DUS examination

Variety denomination related information









Broader items

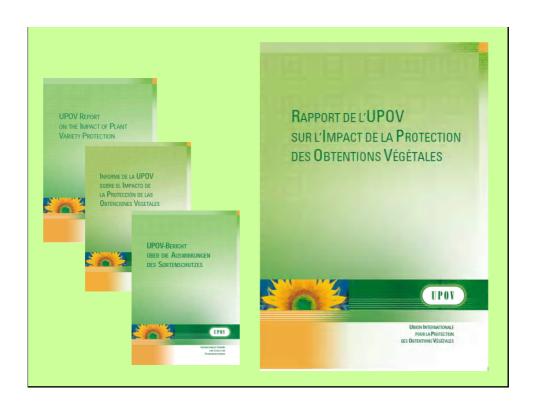
TC/47/26 page 16

Preparatory workshops

- 92. The TC considered document TC/47/10.
- 93. The TC noted the report of the preparatory workshops held in 2010 and agreed the proposed program for 2011. It agreed that consideration should be given to the inclusion of items for molecular techniques, essentially derived varieties, variety identification and the relationship between the UPOV Convention and other international treaties.

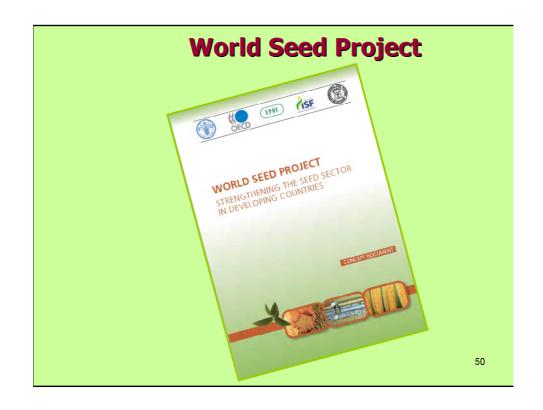
45

OTHER DEVELOPMENTS













Seminar on PVP & Technology Transfer: the Benefits of Public-Private Partnership

April 11-12, 2011

Closing remarks by the Chairs

http://www.upov.int/en/documents/pp_seminar_april_2011/upov_sem_ge_11_1_rev.html

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Use of Plant Variety Protection by National Research Centers Chair: Enriqueta Molina Conclusions – Session 1

Plant Variety Protection:

- Promotes private sector involvement in research and development
- A tool for technology transfer
- Provides a legal framework for financial investment
- Encourages innovation in breeding aims, particularly for the development of new or niche markets
- · Focuses investment on meeting the needs of farmers and consumers

1. Ryudai Oshima, NARO

Chair: Enriqueta Molina

- 2. Jenn James, Grasslanz
- 3. Shadrack R. Moephuli, ARC
- 4. Filipe de Moraes Teixeira, EMBRAPA
- 5. Yves Lespinasse, INRA

Technology Transfer by the Private Sector

Chair: Kitisri Sukhapinda Conclusions – Session 2

Private sector:

- An effective means of delivering varieties to farmers
- Assessment of the market potential of varieties
- Link between public research and the needs of farmers
- Provides a channel for income for public sector research
- Facilitates strategic associations and coordinated technology transfer
- Willi Wicki, DSP 1.

Chair: Kitisri Sukhapinda

- 2. Barry Barker, Masstock Arable
- Diego Risso, URUPOV
- Evans Sikinyi, KY

International Research Centers

Chair: David Boreham Conclusions – Session 3

- PVP provides a mechanism to facilitate dissemination of varieties to farmers: open access does not ensure widespread dissemination or use
- PVP provides a system to increase availability of varieties suited to farmers' needs
- PVP provides incentives for SME's, particularly local breeders and seed distributors
- The breeders' exemption provides a mechanism to facilitate access to germplasm
- · The use of PVP is consistent with the ITPGRFA and SMTA

Lloyd Le Page, CGIAR

Chair: David Boreham

- Ruaraidh Sackville Hamilton, IRRI
- lan Barker, Syngenta

