

**Technical Committee**

Sixty-Second Session  
Geneva, October 19 and 20, 2026

**SESSIONS/2026/6**

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**Administrative and Legal Committee**

Eighty-Third Session  
Geneva, October 21, 2026

**MOLECULAR TECHNIQUES**

*Document prepared by the Office of the Union*

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**EXECUTIVE SUMMARY**

1. The UPOV Horizon Scanning exercise reported in the Strategic Business Plan for 2026-2029 identified an increasing reliance on DNA analysis for variety identification purposes and highlighted opportunities for UPOV to develop standards in this field and explore approaches for data management and collaboration on data science activities.
2. In response to these developments, the Technical Working Party on Testing Methods and Techniques (TWM), at its fourth session, considered opportunities for the international harmonization of molecular markers for variety identification. The TWM agreed to invite UPOV members, observer organizations and interested experts to analyze and validate publicly available molecular marker sets developed by UPOV members and partner organizations and report the results of their work.
3. The document also reports on the updated inventory of molecular markers used by UPOV members. Developed through surveys conducted in 2021, 2022 and 2026, the inventory provides information on the use of molecular techniques across crops and may support future cooperation and harmonization activities.
4. The document further reports on cooperation activities with the OECD Seed Schemes and the International Seed Testing Association (ISTA), including a joint meeting held during the fourth session of the TWM and ongoing work on the possible harmonization of terminology and definitions relating to molecular techniques.
5. Discussions on confidentiality, ownership and governance of molecular information continued in 2026, although no concrete cases were proposed for discussion at the Technical Working Parties.
6. The TC and CAJ are invited to consider the information provided in this document as a basis for future work on molecular techniques and cooperation activities with OECD and ISTA.
7. The following abbreviations are used in this document:

|       |                                                                |
|-------|----------------------------------------------------------------|
| CAJ:  | Administrative and Legal Committee                             |
| ISTA: | International Seed Testing Association                         |
| OECD: | Organization for Economic Co-operation and Development         |
| TC:   | Technical Committee                                            |
| TWA:  | Technical Working Party for Agricultural Crops                 |
| TWF:  | Technical Working Party for Fruit Crops                        |
| TWM:  | Technical Working Party on Testing Methods and Techniques      |
| TWO:  | Technical Working Party for Ornamental Plants and Forest Trees |
| TWPs: | Technical Working Parties                                      |
| TWV:  | Technical Working Party for Vegetables                         |

8. The structure of this document is as follows:

|                                                                                                                                                                          |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| COOPERATION BETWEEN INTERNATIONAL ORGANIZATIONS .....                                                                                                                    | 3  |
| Background.....                                                                                                                                                          | 3  |
| Common sets of molecular markers for variety identification.....                                                                                                         | 3  |
| <i>Horizon scanning</i> .....                                                                                                                                            | 3  |
| <i>Developments at the Technical Working Party on Testing Methods at Techniques in 2026</i> .....                                                                        | 3  |
| Harmonizing terms, definitions and methods between UPOV, OECD and ISTA.....                                                                                              | 4  |
| <i>Background</i> .....                                                                                                                                                  | 4  |
| <i>Developments in 2026</i> .....                                                                                                                                        | 4  |
| Updating the list of molecular makers used per crop .....                                                                                                                | 4  |
| <i>Background</i> .....                                                                                                                                                  | 4  |
| <i>2026 survey on the use of molecular markers</i> .....                                                                                                                 | 5  |
| <i>Developments at the Technical Working Parties at their sessions in 2026</i> .....                                                                                     | 5  |
| CONFIDENTIALITY AND OWNERSHIP OF MOLECULAR INFORMATION .....                                                                                                             | 6  |
| Background.....                                                                                                                                                          | 6  |
| <i>Existing guidance</i> .....                                                                                                                                           | 6  |
| Developments at the Technical Working Parties at their sessions in 2026 .....                                                                                            | 7  |
| MATTERS FOR INFORMATION.....                                                                                                                                             | 7  |
| Cooperation between international organizations .....                                                                                                                    | 7  |
| <i>OECD Seed Schemes</i> .....                                                                                                                                           | 7  |
| <i>ISTA</i> .....                                                                                                                                                        | 7  |
| <i>UPOV</i> .....                                                                                                                                                        | 8  |
| <i>International Organisation of Vine and Wine (OIV)</i> .....                                                                                                           | 8  |
| <i>Development of molecular marker panels for variety registration and trade control</i> .....                                                                           | 8  |
| <i>Molecular markers: Public-private partnership, a Brazilian experience</i> .....                                                                                       | 8  |
| <i>Molecular markers for DUS test in Italy</i> .....                                                                                                                     | 8  |
| <i>Community Plant Variety Office of the European Union (CPVO)</i> .....                                                                                                 | 8  |
| Report of work on molecular techniques in relation to DUS examination .....                                                                                              | 9  |
| <i>CPVO R&amp;D activities</i> .....                                                                                                                                     | 9  |
| <i>Exploring the potential use of UPOV model "Combining phenotypic and molecular distances in the management of variety collections" for bread wheat in France</i> ..... | 9  |
| <i>Exploring the use of genomic prediction approaches for variety collection management in barley</i> .....                                                              | 9  |
| Management of databases and exchange of data and material .....                                                                                                          | 9  |
| <i>Construction and application of molecular fingerprint databases for vegetable varieties</i> .....                                                                     | 9  |
| <i>DUS Pheno/Geno database</i> .....                                                                                                                                     | 9  |
| <i>Progress in the use of molecular markers to support tomato DUS testing at Naktuinbouw</i> .....                                                                       | 10 |
| The use of molecular techniques in the assessment of essential derivation .....                                                                                          | 10 |
| <i>A strategy to establish Genetic Similarity (GS) thresholds to support Essentially Derived Variety (EDV) evaluation:</i> .....                                         | 10 |
| The use of molecular techniques for enforcement .....                                                                                                                    | 10 |
| <i>New developments in the use of DNA techniques for PBR enforcement in Peru</i> .....                                                                                   | 10 |
| ANNEX:      INVENTORY OF MOLECULAR MARKERS USED BY UPOV MEMBERS                                                                                                          |    |

## COOPERATION BETWEEN INTERNATIONAL ORGANIZATIONS

Background

9. UPOV, the OECD Seed Schemes and ISTA have cooperated for several years on matters concerning the use of molecular techniques. The cooperation aims to exchange information on the use of molecular techniques in each organization; promote mutual understanding of the respective systems of the three organizations, including procedures for approval of biochemical and molecular methods in each organization; and explore opportunities for harmonizing terminology, definitions and methods. Recent discussions have included the possible establishment of common sets of molecular markers for variety identification and the strengthening of coordination to support efficient and internationally accepted approaches.

10. The TC<sup>1</sup>, at its sixty-first session, endorsed the proposal from the TWM<sup>2</sup> to organize a joint meeting with participants from the UPOV, OECD Seed Schemes and ISTA Variety Committee to discuss cooperation on the use of molecular markers for the purposes of each organization. The TC agreed that the arrangements for a possible joint meeting would be consulted with future hosts of TWM sessions. A joint meeting with OECD and ISTA was held during the fourth session of the TWM in Cambridge, United Kingdom, from June 2 to 5, 2026.

11. Further background to this matter is provided in document SESSIONS/2025/6 “Molecular Techniques.”

Common sets of molecular markers for variety identification*Horizon scanning*

12. The UPOV horizon scanning exercise summarized in UPOV’s Strategic Business Plan (SBP) for 2026-2029 (document C/59/14) has identified the increasing reliance on DNA analysis for variety identification purposes. It has also made a call for action for UPOV to develop standards in this field and explore means for data management and collaborations on data science activities.

*Developments at the Technical Working Party on Testing Methods at Techniques in 2026*

13. The TWM<sup>3</sup>, at its fourth session, discussed the possible development of harmonized sets of molecular markers with OECD and ISTA. The report on the presentations made is provided under “Matters for information”, from paragraph 43 to 64 of this document.

14. The TWM agreed to invite participants at the TWM to analyze and validate, as appropriate, the following sets of publicly available molecular markers for international harmonization:

- Argentina (soybean): available as PDF file for download:  
<https://www.boletinoficial.gob.ar/detalleAviso/primera/267999/20220804>
  - Available as Excel spreadsheet for download: <https://www.argentina.gob.ar/noticias/perfiles-moleculares-verificacion-e-identificacion-de-variedades-de-soja>
  - Published list of markers:  
<https://www.boletinoficial.gob.ar/detalleAviso/primera/288656/20230622>
- European Union (tomato): <https://cpvo.europa.eu/en/about-us/what-we-do/research-and-development>
- International Organisation of Vine and Wine (OIV) (grapevine): see markers in slides 15 and 17 of document TWM/4/20 Add.
- United States of America (soybean): publication available at: <https://www.betterseed.org/wp-content/uploads/Molecular-Marker-Article.pdf?shem=rimspswouoe>
- UPOV Survey on the use of molecular markers per crop (marker sets in peer reviewed literature): see Excel spreadsheet as Annex to document TWP/10/4 “Molecular Techniques”, available at: <https://www.upov.int/en/about-upov/events/details?meeting-id=90352>

15. The TWM agreed to invite UPOV members, organizations and interested experts to report the results of their analysis at its fifth session.

<sup>1</sup> TC, sixty-first session, held in Geneva, from October 20 to 21, 2025. See document TC/61/8 “Report”, paragraph 66.

<sup>2</sup> TWM, third session, held in Beijing, China, from April 28 to May 1, 2025. See document TWM/3/29 “Report”, paragraph 27.

<sup>3</sup> TWM, fourth session, held in Cambridge, United Kingdom, from June 2 to 5, 2026. See document TWM/4/31 “Report”, paragraph 68.

16. The TWM agreed to further consider whether guidance should be developed on the use of molecular marker sets, including interpretation of results.

17. The TWM noted the invitation from ISTA to develop a performance-based approach for molecular marker tests, in partnership with interested UPOV members.

*18. The TC and the CAJ are invited to consider inviting UPOV members and relevant observer organizations to analyze and validate for possible international harmonization the sets of publicly available molecular markers set out in paragraph 14 of this document, and report results at the fifth session of the TWM.*

#### Harmonizing terms, definitions and methods between UPOV, OECD and ISTA

##### *Background*

19. The TWM<sup>4</sup>, at its third session, considered possible joint activities with OECD and ISTA and the possible harmonization of terms, definitions and methods in relation to molecular techniques. The TWM agreed to invite the expert from France to coordinate discussions to organize relevant information on terms and definitions. The TWM noted the expression of interest of the experts from Argentina, China, Germany, Netherlands (Kingdom of the), the United Kingdom, CIOFORA and ISF to contribute to the exercise.

20. The TC<sup>5</sup>, at its sixty-first session, agreed to invite France, in collaboration with Argentina, China, Germany, Netherlands (Kingdom of the), the United Kingdom, CIOFORA and ISF, to advance work towards harmonizing terms and definitions on molecular techniques used in UPOV, for consideration by the TWM and the TC in 2026.

21. The TC noted that the OECD Seed Schemes had endorsed the collaboration with UPOV for possible harmonization of definitions and terms.

##### *Developments in 2026*

22. The TWM<sup>6</sup>, at its fourth session, noted the report from Mr. René Mathis, France, on the ongoing discussions among experts considering the terminology on molecular markers used at UPOV, OECD and ISTA, including their level of convergence and possible need for harmonization. The TWM agreed to invite Mr. Mathis to report further progress at its fifth session.

*23. The TC and CAJ are invited to note developments concerning the ongoing discussions on the terminology on molecular markers used at UPOV, OECD and ISTA, including their level of convergence and possible need for harmonization, as set out in paragraph 22 of this document.*

#### Updating the list of molecular makers used per crop

##### *Background*

24. UPOV developed an inventory of molecular markers used by UPOV members to collect information on the use of molecular techniques in different crops. The inventory was established in 2021 and subsequently updated in 2022 and 2026 through surveys of UPOV members. The information collected has supported exchanges among UPOV members, providing a basis for discussions on harmonization and possible future initiatives, including common sets of molecular markers for variety identification to be possibly developed in cooperation with OECD and ISTA.

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<sup>4</sup> TWM, third session, held in Beijing, China, from April 28 to May 1, 2025. See document TWM/3/29 "Report", paragraphs 20 to 28.

<sup>5</sup> TC, sixty-first session, held in Geneva, from October 20 to 21, 2025. See document TC/61/8 "Report", paragraphs 61 to 62

<sup>6</sup> TWM, fourth session, held in Cambridge, United Kingdom, from June 2 to 5, 2026. See document TWM/4/31 "Report", paragraphs 47.

*2026 survey on the use of molecular markers*

25. At the request of the TC<sup>7</sup>, at its sixty-first session, the Office of the Union issued Circular E-26/004 on January 19, 2026, to all UPOV bodies with the survey on the use of molecular markers. The results of the survey were analyzed in collaboration with the expert from the Kingdom of Netherlands.

26. A total of 39 members of the Union responded to the 2026 survey, from which 21 reported the use of molecular markers and 18 reported not using it. The summary of responses to the 2026 survey is as follows:

| UPOV member                      | Use of Molecular markers (YES/NO) |
|----------------------------------|-----------------------------------|
| Argentina                        | YES                               |
| Armenia                          | NO                                |
| Austria                          | YES                               |
| Belgium                          | NO                                |
| Bolivia (Plurinational State of) | NO                                |
| Brazil                           | YES                               |
| Canada                           | YES                               |
| China                            | YES                               |
| Colombia                         | NO                                |
| Croatia                          | NO                                |
| Czech Republic                   | YES                               |
| Ecuador                          | NO                                |
| Egypt                            | NO                                |
| European Union                   | YES                               |
| Estonia                          | YES                               |
| Finland                          | NO                                |
| France                           | YES                               |
| Germany                          | YES                               |
| Hungary                          | YES                               |
| Ireland                          | YES                               |
| Italy                            | YES                               |
| Japan                            | YES                               |

| UPOV member                  | Use of Molecular markers (YES/NO) |
|------------------------------|-----------------------------------|
| Latvia                       | NO                                |
| Netherlands (Kingdom of the) | YES                               |
| Nigeria                      | NO                                |
| Peru                         | NO                                |
| Poland                       | YES                               |
| Republic of Korea            | YES                               |
| Serbia                       | NO                                |
| Slovakia                     | YES                               |
| Singapore                    | NO                                |
| South Africa                 | NO                                |
| Switzerland                  | NO                                |
| Tunisia                      | NO                                |
| Trinidad and Tobago          | NO                                |
| Ukraine                      | YES                               |
| United Kingdom               | YES                               |
| United States of America     | NO                                |
| Uruguay                      | YES                               |
|                              |                                   |
| YES                          | 21                                |
| NO                           | 18                                |
|                              |                                   |
| <b>TOTAL</b>                 | <b>39</b>                         |

27. The detailed information provided or updated by UPOV members as a result of the surveys conducted in 2021, 2022 and 2026 is provided as an Annex to this document.

*Developments at the Technical Working Parties at their sessions in 2026*

28. At their sessions in 2026, the TWV<sup>8</sup>, TWA<sup>9</sup> and TWO<sup>10</sup> noted the results of the survey on the use of molecular markers, as set out in document TWP/10/4 Add and available as an Excel file on the UPOV website.

29. The TWV noted that from the 53 UPOV members featured in the inventory, 23 declared the use of molecular information.

30. The TWM<sup>11</sup>, at its fourth session, agreed that the survey results provided relevant information to define priorities for future work, including the development of harmonized sets of molecular markers. The TWM agreed to propose that the survey be periodically updated.

31. The TWM noted the intervention from ISF that progress on the use of DNA-based information should be encouraged with the collaboration of breeders to ensure confidentiality of breeding strategies.

32. The TWM noted the report from United Kingdom that had recently published a study developed in collaboration with Austria and Italy on [“Genome-wide association study \(GWAS\) identifies genetic loci](#)

<sup>7</sup> TC, sixty-first session, held in Geneva, from October 20 to 21, 2025. See document TC/61/8 “Report”, paragraph 63.

<sup>8</sup> TWV, sixtieth session, held in Pacific Grove, United States of America, from May 18 to 21, 2026. See document TWV/60/8 “Report”, paragraphs 16 to 18.

<sup>9</sup> TWA, fifty-fifth session, held in Seoul, Republic of Korea, from June 15 to 18, 2026. See document TWA/55/11 “Report”, paragraphs 34 and 35.

<sup>10</sup> TWO, fifty-eighth session, held by virtual means, from July 6 to 9, 2026. See document TWO/58/8 “Report”, paragraphs 32 and 33.

<sup>11</sup> TWM, fourth session, held in Cambridge, United Kingdom, from June 2 to 5, 2026. See document TWM/4/31 “Report”, paragraph 47.

[controlling Distinctness, Uniformity, and Stability \(DUS\) traits in wheat](#)". The TWM noted that marker–trait associations for DUS characteristics had been identified, including associations for ‘seed: coloration with phenol’.

33. *The TC and the CAJ are invited to note:*

(a) *the results of the 2026 survey of UPOV members on the use of molecular markers, as reported in this document; and*

(b) *the inventory of molecular markers used by UPOV members, as set out in the Annex to this document.*

## CONFIDENTIALITY AND OWNERSHIP OF MOLECULAR INFORMATION

### Background

34. At its fifty-eighth session<sup>12</sup>, the TC noted the concerns expressed by breeders’ organizations that molecular information used during the examination of a variety should not be shared by the authority that received the application without the permission of the breeder. The TC invited members and observers to report on existing policies on confidentiality of molecular information at the TWPs, at their sessions in 2023<sup>7</sup>, 2024<sup>13</sup> and 2025<sup>14</sup>.

35. At its sixty-first session<sup>15</sup>, the TC agreed to invite the TWPs to organize future discussions on confidentiality and ownership of molecular information based on concrete cases and specific situations. The TC agreed to invite the TWPs to discuss cooperation on the use of molecular information, such as at the 2025 sessions of the TWO (joint development of molecular markers) and TWV (managing variety collections and variety identification).

### *Existing guidance*

36. The following guidance is currently provided by UPOV on confidentiality of molecular information:

(a) Document [UPOV/INF/15/4](#) “Guidance for Members of UPOV”, paragraph 38:

“38. As stated in Article 12, for the purposes of examination, the authority may require the breeder to furnish all the necessary information, documents or material. In that regard, authorities should give consideration to appropriate measures concerning confidentiality, for example in relation to pedigree information.”

(b) Document [TGP/5, Section 1/3](#) “Model Administrative Agreement for International Cooperation in the Testing of Varieties”, Article 4:

“(1) The Authorities shall take all necessary steps to safeguard the rights of the applicant.”

“(2) Except with the specific authorization of the Receiving Authority and the applicant, the Executing Authority shall refrain from passing on to a third person any material, including DNA, or molecular information, of the varieties for which testing has been requested.”

<sup>12</sup> TC, fifty-eighth session, held in Geneva, on October 24 and 25, 2022. See document TC/58/31 “Report”, paragraphs 48 to 50

<sup>13</sup> TC, fifty-ninth session, held in Geneva, on October 23 and 24, 2023.

<sup>14</sup> TC, sixtieth session, held in Geneva, on October 21 and 22, 2024.

<sup>15</sup> TC, sixty-first session, held in Geneva on October 20 and 21, 2025. See document TC/61/8 “Report”, paragraphs 57 to 60.

Developments at the Technical Working Parties at their sessions in 2026

37. At their sessions in 2026, the TWV<sup>16</sup>, TWA<sup>17</sup> and TWO<sup>18</sup> noted that the “Policy on the status of plant material submitted for DUS testing purposes” reported by the European Union would be included in a revision of document TGP/5, Section 11 “Examples of Policies and Contracts for Material Submitted by the Breeder”, to be put forward for adoption by the Council on October 23, 2026.

38. The TWV, TWA and TWO noted the request from the Technical Committee that future discussions on confidentiality and ownership of molecular information should be organized based on concrete cases and specific situations.

39. The TWV, TWA and TWO noted the request from the TC that future discussions on the use of molecular information should focus on cooperation, such as the joint development of molecular markers, selection of molecular markers for variety identification and the management of variety collections.

40. The TWM<sup>19</sup>, at its fourth session, proposed to invite papers and discuss at its fifth session the agenda item “Governance, management of databases, exchange and confidentiality of data and material”.

*41. The TC and CAJ are invited to note that no concrete cases or specific situations were proposed for discussion by the TWV, TWM, TWA and TWO at their sessions in 2026.*

## MATTERS FOR INFORMATION

42. The following section reports developments on molecular techniques at the fourth session of the TWM, held in Cambridge, United Kingdom from June 2 to 5, 2026.

Cooperation between international organizations*OECD Seed Schemes*

43. The TWM received a presentation from Mr. Christophe Rouillard, Organisation for Economic Cooperation and Development (OECD), on “Recent developments in the application of biochemical and molecular techniques: ‘Towards enhanced OECD / ISTA / UPOV cooperation’”, as provided in document TWM/4/27.

44. The TWM noted that OECD would favor the potential development of common sets of molecular markers for maize, rapeseed, soybean, wheat and grass species such as *Lolium* spp.

45. The TWM noted the existence of public sets of molecular markers for the crops mentioned by OECD, some of which were mentioned in the UPOV survey on the use of molecular markers. The TWM agreed that international harmonization work should give priority to the use of such publicly available marker sets.

*ISTA*

46. The TWM received a presentation from Ms. Marie-Claude Gagnon, International Seed Testing Association (ISTA), on “Update on the activities of the ISTA Variety Committee (VARCOM)”, as provided in documents TWM/4/23 and TWM/4/23 Add.

47. The TWM noted that ISTA had published DNA-based methods for the identification of varieties for maize, oats, pea, and wheat, and was developing a method for barley.

<sup>16</sup> TWV, sixtieth session, held in Pacific Grove, United States of America, from May 18 to 21, 2026. See document TWV/60/8 “Report”, paragraphs 16 to 18.

<sup>17</sup> TWA, fifty-fifth session, held in Seoul, Republic of Korea, from June 15 to 18, 2026. See document TWA/55/11 “Report”, paragraphs 34 and 35.

<sup>18</sup> TWO, fifty-eighth session, held by virtual means, from July 6 to 9, 2026. See document TWO/58/8 “Report”, paragraphs 32 and 33.

<sup>19</sup> TWM, fourth session, held in Cambridge, United Kingdom, from June 2 to 5, 2026. See document TWM/4/31 “Report”, paragraph 100.

*UPOV*

48. The TWM received a presentation from the Office of the Union on developments in molecular techniques in UPOV, as provided in document TWP/10/4.

*International Organisation of Vine and Wine (OIV)*

49. The TWM received a presentation from Mr. Enrico Battiston, International Organisation of Vine and Wine (OIV), on “The OIV key actions on grapevine genetic resources and the publication of the 3rd edition of the OIV ampelographic descriptors”, as provided in documents TWM/4/20 and TWM/4/20 Add.

50. The TWM noted that Japan was developing molecular markers for the identification of grape varieties with the possibility of using the OIV markers and additional markers suitable for varieties in the collection.

*Development of molecular marker panels for variety registration and trade control*

51. The TWM received a presentation from Ms. Ana Laura Vicario (Argentina) on “Development of molecular marker panels for variety registration and trade control”, as provided in documents TWM/4/21 and TWM/4/21 Add.

52. The TWM noted that Argentina had regulated the procedure for incorporating molecular markers in support of variety examination and market control activities, including selection of varieties, definition of molecular marker panel, data analysis, interpretation of results and maintenance of the markers. The TWM noted that since 2019, Argentina utilized the UPOV model “Combining Phenotypic and Molecular Distances in the Management of Variety Collections” of document TGP/15, for soybean variety examination.

53. The TWM discussed the process used in Argentina to select molecular markers in soybean and noted that more than 800 varieties had been considered, widely covering the varieties of common knowledge suitable for cultivation in the country. The TWM noted a larger set of molecular markers had been developed to support DUS examination and a smaller set of markers had been developed for variety identification in market control activities. The TWM noted the challenges faced in Argentina due to the public array of molecular markers no longer being available from a commercial provider and the solutions that allowed the continued use of the model.

54. The TWM noted that Argentina had used SNP variety data to develop PCR markers for low-cost variety identification in cotton and soybean.

*Molecular markers: Public-private partnership, a Brazilian experience*

55. The TWM received a presentation from Ms. Stefânia Araujo (Brazil) on “Molecular markers: Public-private partnership, a Brazilian experience”, as provided in document TWM/4/10.

56. The TWM noted the ongoing development of a molecular marker set for soybean in Brazil, organized in collaboration and with the same molecular markers used in Argentina and the United States of America. The TWM noted the challenges for resourcing the development of the project, which had been overcome thanks to a public-private partnership with a local plant breeders' organization.

57. The TWM agreed to invite Brazil to report developments at its fifth session.

*Molecular markers for DUS test in Italy*

58. The TWM received a presentation from Ms. Lorella Andreani (Italy) on “Molecular markers for DUS tests in Italy”, as provided in document TWM/4/30.

59. The TWM discussed the challenges of databases containing DNA-based information and agreed that relevant governance matters should be addressed as early as possible in development projects. The TWM noted the report from the European Union that a data governance policy was being prepared for the databases being developed in the region and agreed to invite the European Union to report progress at its fifth session.

*Community Plant Variety Office of the European Union (CPVO)*

60. The TWM received a presentation from Ms. Cécile Collonnier (CPVO) and Ms. Claire Kamei (Netherlands (Kingdom of the)) on “CPVO co-funded project: International validation of a SNP marker set for tomato DUS testing”, as provided in a revised version of document TWM/4/26.

61. The TWM discussed a proposal to invite UPOV members to validate the set of molecular markers selected for tomato developed by the European Union in collaboration with China, Japan and the Republic of Korea. The TWM agreed that UPOV members should contact Ms. Collonnier for further information on the set of molecular markers for tomato.

62. The TWM discussed the main elements required to define a global set of molecular markers and agreed that obtaining authorization from breeders to utilize varieties for the project would be a critical factor. The TWM agreed that the use of public sets of markers could overcome this matter.

63. The TWM agreed to propose that UPOV communicate on the molecular marker sets developed by UPOV members, such as the marker sets for tomato. The TWM agreed that training would be required to support UPOV members using the molecular marker sets and interpreting results.

64. The TWM noted that the ISTA proficiency testing program was open to all laboratories and was currently running for wheat, using two public domain varieties.

#### Report of work on molecular techniques in relation to DUS examination

##### *CPVO R&D activities*

65. The TWM received a presentation from Ms. Cécile Collonnier (CPVO), on “CPVO R&D activities”, as provided in document TWM/4/9.

66. The TWM noted that UPOV members were invited to contact the European Union for possible partnerships and future projects.

##### *Exploring the potential use of UPOV model “Combining phenotypic and molecular distances in the management of variety collections” for bread wheat in France*

67. The TWM received a presentation from Ms. Clarisse Leclair (France) on “Exploring the potential use of UPOV model ‘Combining phenotypic and molecular distances in the management of variety collections’ for bread wheat in France”, as provided in document TWM/4/24.

68. The TWM noted that France would continue developing the method, including the genotyping of the entire collection of varieties and the possible reduction of the total number of SNP markers required.

##### *Exploring the use of genomic prediction approaches for variety collection management in barley*

69. The TWM received a presentation from Ms. Vanessa McMillan (United Kingdom), on “Exploring the use of genomic prediction approaches for variety collection management in barley”, as provided in document TWM/4/17.

70. The TWM discussed the methodology used and results obtained, including the use of Random Forest models for genomic prediction and the level of correlation achieved between the SNP marker set and characteristics in Test Guidelines.

#### Management of databases and exchange of data and material

##### *Construction and application of molecular fingerprint databases for vegetable varieties*

71. The TWM received a presentation from Ms. Jun Ren (China) on “Construction and application of molecular fingerprint databases for vegetable varieties”, as provided in document TWM/4/13.

72. The TWM noted developments concerning the development of databases containing morphological and molecular data and the results obtained in support of variety examination and market control activities.

##### *DUS Pheno/Geno database*

73. The TWM received a presentation from Mr. Emerson Limberger, International Seed Federation (ISF), on “DUS Pheno/Geno database”, as provided in document TWM/4/16.

74. The TWM noted that the content of the presentation was under discussion at ISF. The TWM discussed the use of shared information in common databases and agreed that challenges related to data governance, including access to data and governance should be addressed before further action.

75. The TWM agreed to invite ISF in consultation with interested members and observers to further develop the proposal, including database governance, main use cases, database structure, operations at PVP offices and resource considerations for development and maintenance.

76. The TWM referred to the previous agreement to invite the European Union to report progress on its database governance policy at its fifth session and agreed to extend the invitation to other UPOV members.

77. The TWM recalled that document UPOV/INF/17 “Guidelines for DNA-Profiling: Molecular Marker Selection and Database Construction (“BMT Guidelines”)” provided principles for the development of databases containing molecular profiles of plant varieties.

78. The TWM agreed that significant resourcing would be required to develop a common database for UPOV members. The TWM noted that UPOV was not in a position to resource such a proposal and agreed that any future work would rely on additional resources to be provided by UPOV members and observers.

#### *Progress in the use of molecular markers to support tomato DUS testing at Naktuinbouw*

79. The TWM received a presentation from Ms. Claire Kamei (Netherlands (Kingdom of the)), on “Progress in the use of molecular markers to support tomato DUS testing at Naktuinbouw”, as provided in document TWV/60/7-TWM/4/6.

80. The TWM noted the identity verification procedures described which enabled reducing the size of growing trials and comparison of standard samples with new samples provided for maintenance purposes.

#### The use of molecular techniques in the assessment of essential derivation

*A strategy to establish Genetic Similarity (GS) thresholds to support Essentially Derived Variety (EDV) evaluation:*

81. The TWM received a presentation from Mr. Barry Nelson, International Seed Federation (ISF), on “A strategy to establish Genetic Similarity (GS) thresholds to support Essentially Derived Variety (EDV) evaluation”, as provided in document TWM/4/25.

82. The TWM noted the report from the Office of the Union that the “Explanatory Notes on Essentially Derived Varieties under the 1991 Act of the UPOV Convention” (document [UPOV/EXN/EDV](#)) had been revised in 2023 and clarified that “[...] the existence of a relationship of essential derivation between varieties is a matter for the titleholder of the breeder’s right in the initial variety concerned.”

83. The TWM noted the efforts reported by SAA and ISF to communicate and explain the concept of EDV among breeders. The TWM noted that thresholds of genetic similarity agreed and under development by the breeders for cotton, maize, lettuce, mushroom, oilseed rape, ryegrass, soybean and wheat, as provided in document TWM/4/25.

#### The use of molecular techniques for enforcement

##### *New developments in the use of DNA techniques for PBR enforcement in Peru*

84. The TWM received a presentation from Mr. Diego F. Ortega Sanabria (Peru) on “New developments in the use of DNA techniques for PBR enforcement in Peru”, as provided in document TWM/4/7.

85. The TWM noted that the new regulations updated the administrative measures for laboratories to perform DNA analysis considered in infringement cases in Peru. The TWM noted the advantages reported on the use of DNA techniques, providing right holders an expeditious measure for enforcement.

[Annex follows]

SURVEY ON THE USE OF MOLECULAR MARKER TECHNIQUES BY CROP

*Please see the Excel spreadsheet for all the responses received*

[End of Annex and of document]