

**Technical Working Party for Fruit Crops****TWF/51/10****Fifty-First Session****Nîmes, France, July 6 to 10, 2020****Original:** English**Date:** July 10, 2020

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**REPORT**

*adopted by the Technical Working Party for Fruit Crops*

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Opening of the session

1. The Technical Working Party for Fruit Crops (TWF) held its fifty-first session, hosted by France and organized by electronic means, from July 6 to 10, 2020. The list of participants is reproduced in Annex I to this report.
2. The session was opened by Mr. Jean Maison (European Union), Chairman of the TWF, who welcomed the participants and thanked France for hosting the TWF session.
3. The TWF was welcomed by Mr. Laurent Jacquiau, Head, Office of seeds and integrated crop protection, Division for quality, health and plant protection, General Directorate for Food, Ministry of Agriculture and Food. Mr. Jacquiau gave a presentation on the “Regulatory framework and situation of the fruit reproductive material sector in France”. A copy of the presentation is provided in Annex II to this report.
4. The TWF received a presentation by Mr. Fabien Masson, Head, Variety Study Department (SEV), and Ms. Carole Dirwimmer, Head of Fruits DUS testing, *Groupe d'étude et de contrôle des variétés et des semences* (GEVES), on “GEVES – Presentation and focus on Fruits DUS testing”. A copy of the presentation is provided in Annex III to this report.

Adoption of the agenda

5. The TWF adopted the agenda as reproduced in document TWF/51/1 Rev..

Short reports on developments in plant variety protection*(a) Reports on developments in plant variety protection from members and observers*

6. The TWF noted the information on developments in plant variety protection from members and observers provided in document TWF/51/3 Prov. The TWF noted that reports submitted to the Office of the Union after June 29, and before July 9, 2020, would be included in the final version of document TWF/51/3.

*(b) Reports on developments within UPOV*

7. The TWF received a presentation from the Office of the Union on latest developments within UPOV, a copy of which is provided in document TWF/51/2.

## Molecular Techniques

8. The TWF considered document TWP/4/7.

### *Developments at the eighteenth session of the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular*

9. The TWF noted the papers presented at the eighteenth session of the BMT, held in 2019, as set out in document TWP/4/7, paragraph 12.

10. The TWF noted that the BMT would hold its nineteenth session in Alexandria, Virginia, United States of America, jointly with TWC, during the week of September 21, 2020.

11. The TWF noted the draft agenda for the BMT at its nineteenth session, to be held in 2020, as set out in document TWP/4/7, paragraph 14.

### *Revision of document UPOV/INF/17 "Guidelines for DNA-Profiling: Molecular Marker Selection and Database Construction ("BMT Guidelines")"*

12. The TWF noted the proposal by the TWV for the BMT to develop guidance in document UPOV/INF/17 on elements to be included in a protocol of a DNA marker assay for a specific characteristic.

13. The TWF noted the changes agreed by the BMT to document UPOV/INF/17, as reproduced in document TWP/4/7, Annex II.

14. The TWF noted that the TC had agreed to invite the European Union, France and the Netherlands to prepare a new draft of document UPOV/INF/17 for consideration of the BMT, at its nineteenth session.

### *Cooperation between international organizations*

#### Inventory on the use of molecular marker techniques, by crop

15. The TWF noted that the TC, at its fifty-fifth session, had agreed the elements for the inventory on the use of molecular marker techniques, by crop, as set out in document TWP/4/7, paragraph 40.

16. The TWF noted that circular would be issued to request members of the Union to complete a survey as a basis to develop an inventory on the use of molecular marker techniques, by crop, in coordination with the OECD.

#### Lists of possible joint initiatives with OECD and ISTA in relation to molecular techniques

17. The TWF noted that that the TC, at its fifty-fifth session, had agreed:

- (a) for joint OECD, UPOV, ISTA workshops to be repeated in future, as a possible joint initiative in relation to molecular techniques;
- (b) to propose a joint initiative that each organization inform the others about use of molecular markers in their work; and
- (c) that information from the survey on the techniques could help to clarify techniques that were considered to be biochemical or molecular.

#### Joint document explaining the principal features of the systems of OECD, UPOV and ISTA

18. The TWF noted that that the TC, at its fifty-fifth session, had agreed that relevant elements from the World Seed Partnership and the FAQ on the use of molecular techniques in the examination of DUS, would be a suitable basis for the Office of the Union to develop a draft of a joint document explaining the principal features of the systems of OECD, UPOV and ISTA, in consultation with OECD.

*Session to facilitate cooperation in relation to the use of molecular techniques*

19. The TWF noted that the TWPs and BMT, at their sessions in 2019, had formed discussion groups to allow participants to exchange information on their work on biochemical and molecular techniques and explore areas for cooperation.

20. The TWF noted the outcomes of discussions at the TWPs and BMT on facilitating cooperation in relation to the use of molecular techniques, as presented in document TWP/4/7, Annex IV.

TGP and INF series documents

21. The TWF considered documents TWP/4/1 and TWF/51/9.

*Matters for adoption by the Council in 2020*

22. The TWF noted the matters concerning documents TGP/5, TGP/7, TGP/14, TGP/15, UPOV/INF/12, UPOV/INF/16 and UPOV/INF/22 to be proposed for adoption by the Council at its fifty-fourth ordinary session, to be held in Geneva on October 30, 2020, subject to approval by the CAJ, at its seventy-seventh session, to be held in Geneva on October 28, 2020.

23. The TWF noted the comments made by the TWO, at its fifty-second session, and agreed with the proposal by the TWO to replace “testing station” by “testing site” in a future revision of document TGP/5, Section 6, as follows:

Chapter: UPOV Report on Technical Examination

- Item 13 to read “Testing ~~station~~ site(s) and place(s)”

Chapter: UPOV Variety Description

- Item 11 to read “Testing ~~station~~ site(s) and place(s)”

*Possible future revisions of TGP documents and information documents*

24. The TWF noted the matters concerning possible future revision of document TGP/8 and information document UPOV/INF/17, which would be considered under documents TWP/4/10, TWP/4/11 and TWP/4/7, respectively.

*New proposals for revisions of TGP documents and information documents*TGP/7: Development of Test Guidelines*Links to relevant TGP documents guidance in Test Guidelines*

25. The TWF noted the invitation to the TWPs to propose relevant guidance in TGP documents that could have links displayed in Test Guidelines.

*Procedure for partial revision of UPOV Test Guidelines*

26. The TWF considered whether an accelerated procedure for partial revision of Test Guidelines would be required and noted the amount of time required to provide advance notice about new proposals. The TWF agreed that existing possibilities to propose partial revision of Test Guidelines during TWF meetings and TC meetings should be used by members, as appropriate.

27. The TWF agreed to propose that meetings via electronic means were considered for advancing discussions on Test Guidelines during the period between TWPs sessions.

Development of document UPOV/INF/23 “UPOV Code System”

28. The TWF noted that the CAJ, at its seventy-seventh session, to be held in Geneva on October 28, 2020, would consider draft document UPOV/INF/23 “UPOV Code System”.

*Program for the development of TGP documents and information documents*

29. The TWF noted the program for the development of TGP documents and information documents, as set out in document TWP/4/1 Annexes V and VI, respectively.

*TGP/8: Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability*

Data processing for the production of variety descriptions for measured quantitative characteristics

30. The TWF considered document TWP/4/10.

31. The TWF considered the different approaches to convert observations into notes for producing variety descriptions for measured quantitative characteristics, as presented in document TWP/4/10, Annexes III to VII, and information, if any, that could facilitate their application.

32. The TWF agreed with the comment made by the TWO, at its fifty-second session, that the different approaches to convert observations into notes for measured quantitative characteristics presented in document TWP/4/10 were primarily aimed at species with larger sample sizes and multi-year data sets. The TWF agreed that this was not often the case for fruit crops, especially when using small samples sizes.

33. The TWF noted that characteristics assessed on the basis of measurement of a number of individual plants or parts of plants (MS) were being included in Test Guidelines and agreed to invite members to report on the approaches used to convert observations to notes, at its fifty-second session.

The Combined Over Years Uniformity Criterion (COYU)

34. The TWF considered document TWP/4/11.

35. The TWF noted the invitation by the TWC for members who use “R” or “DUST” Software to review the new COYU package to identify possible improvement points.

36. The TWF noted the expression of interest by experts from China, Finland, France and the United Kingdom to review the new COYU package.

37. The TWF noted the invitation for editorial suggestions to be communicated to the drafter from the United Kingdom on the proposed draft revision for document TGP/8, Section 9 “The Combined Over Years Uniformity Criterion (COYU)”.

38. The TWF noted the invitation for the expert from the United Kingdom to prepare a revised version of the draft guidance, to be presented to the TWC, at its thirty-eighth session.

Variety denominations

39. The TWF considered document TWP/4/6.

*Possible revision of document UPOV/INF/12 “Explanatory Notes on Variety Denominations under the UPOV Convention”*

40. The TWF noted that the TC, at its fifty-fifth session, agreed to propose to revise the list of classes in document UPOV/INF/12/5:

(a) to split the current class 205 into two new classes: one for Endive and Salad Chicory, and another for Industrial Chicory;

(b) to add genus *Epichloe* to Class 203 (*Agrostis*, *Dactylis*, *Festuca*, *Festulolium*, *Lolium*, *Phalaris*, *Phleum* and *Poa*).

Working Group on Variety Denominations

41. The TWF noted developments in the WG-DEN, at its sixth meeting, and the CAJ, at its seventy-sixth session, concerning a possible revision of document UPOV/INF/12 “Explanatory Notes on Variety Denominations under the UPOV Convention”, as set out in document TWP/4/6, paragraphs 13 to 20.

*Revision of the ninth edition of the ICNCP*

42. The TWF noted that the Office of the Union would contribute to the revision of the ninth edition of the ICNCP on the basis of document UPOV/INF/12/5 and the work of the WG-DEN.

*Possible development of a UPOV similarity search tool for variety denomination purposes*

43. The TWF noted developments concerning a UPOV similarity search tool for variety denomination purposes, as set out in document TWP/4/6, paragraph 26.

*Expansion of the content of the PLUTO database*

44. The TWF noted that the CAJ, at its seventy-sixth session, had noted plans for the introduction of a unique identifier for variety records in the PLUTO database.

45. The TWF noted that the CAJ, at its seventy-sixth session, had agreed with the proposal to add common names in other languages to the PLUTO database.

*Working group on variety denominations*

46. The TWF noted that the CAJ, at its seventy-sixth session, had noted that there was no need for further meetings of the WG-DEN.

Information and databases*(a) UPOV information databases*

47. The TWF considered document TWP/4/4.

UPOV Code System*UPOV code developments*

48. The TWF noted that 208 new UPOV codes had been created in 2019 and a total of 9,049 UPOV codes were included in the GENIE database.

*Exceptions to UPOV codes in the "Guide to the UPOV Code System"*

49. The TWF noted that the TC, at its fifty-fifth session, had agreed to postpone the amendment to the "Guide to the UPOV Code System" and to explore alternative solutions to enable UPOV Codes to provide useful information on variety groups or types for DUS testing purposes and to invite the Office of the Union to prepare a document with proposals, for consideration at its fifty-sixth session.

50. The TWF noted the developments concerning alternative solutions to enable UPOV Codes to provide useful information on variety groups or types for DUS testing purposes.

*New proposals for updating UPOV codes**UPOV codes for Citrus*

51. The TWF considered amending the UPOV codes for Citrus, as set out in document TWP/4/4, Annex III. The TWF agreed that the reclassification of *Citrus clementina* hort. ex Tanaka (UPOV code: CITRU\_CLE) as a synonym of *Citrus aurantium* L. (UPOV code: CITRU\_AUM) should not be implemented before solutions to enable UPOV codes to provide information on variety groups were provided. The TWF noted that the remaining proposals presented in document TWP/4/4, Annex III, had no practical impact due to the absence of varieties reported in the PLUTO database and agreed to the proposed changes.

*UPOV code amendments agreed by the TC at its fifty-fifth session*

52. The TWF noted that the TC, at its fifty-fifth session, had agreed to amend the UPOV codes for the genera and species set out in document TWP/4/4, Annex IV.

*TWP checking*

53. The TWF noted the invitation to check the amendments, new UPOV codes or information, and UPOV codes used in the PLUTO database for the first time, as reproduced in document TWP/4/4, Annex V, and submit comments to the Office of the Union by December 31, 2020.

*ISTA Nomenclature Committee*

54. The TWF noted that the “ISTA List of Stabilized Plant Names” with relevant UPOV codes had been published in January 2020.

PLUTO database*Program for improvements to the PLUTO database*

55. The TWF noted that the TC and the CAJ, at their sessions in 2019, had approved the revision of the “Program for improvements to the PLUTO database” to reflect the change of the acceptable character set to accept accents and special characters in denominations in the PLUTO database (ISO/IEC Standard 8859 1: 1998).

*Summary of contributions to the PLUTO database from 2016 to 2019*

56. The TWF noted the summary of data contributions from members of the Union to the PLUTO database from 2016 to 2019, as presented in document TWP/4/4, Annex VI.

Possible developments to enable UPOV Codes to provide useful information on variety groups or types for DUS testing purposes (Plavarlis project - UPOV codes)

57. The TWF received a presentation on “Possible developments to enable UPOV Codes to provide useful information on variety groups or types for DUS testing purposes” by an expert from the European Union. A copy of the presentation is provided in document TWF/51/8.

*(b) Variety description databases*

58. The TWF considered document TWP/4/2.

59. The TWF noted that members of the Union had been invited to report to the TWPs on work concerning the development of databases containing morphological and/or molecular data.

60. The TWF noted the reports made at the BMT meeting on databases containing morphological and/or molecular data.

*(c) Exchange and use of software and equipment*

61. The TWF considered document TWP/4/5.

Document UPOV/INF/16 “Exchangeable Software”

62. The TWF noted that the Office of the Union had issued on April 14, 2020, Circular E-20/031 inviting the designated persons of the members of the Union in the TC to provide or update information regarding the use of the software included in document UPOV/INF/16.

Document UPOV/INF/22 “Software and equipment used by members of the Union”

63. The TWF noted that the Council, at its fifty-third ordinary session, held in Geneva, on November 1, 2019, had adopted document UPOV/INF/22/6 “Software and equipment used by members of the Union”.

64. The TWF noted that the Office of the Union had issued on April 14, 2020, Circular E-20/031 inviting the designated persons of members of the Union in the TC to provide or update information in document UPOV/INF/22.

65. The TWF noted that the TC, at its fifty-sixth session, would be invited to consider whether to include any proposed software or equipment in document UPOV/INF/22 or whether to request further guidance from other relevant bodies.

Availability of documents UPOV/INF/16 “Exchangeable software” and UPOV/INF/22 “Software and equipment used by members of the Union” in a searchable form

66. The TWF noted that the information in documents UPOV/INF/16 and UPOV/INF/22 had been made available in a searchable format on the UPOV website.

*(d) UPOV PRISMA*

67. The TWF considered document TWP/4/3 and noted the developments concerning UPOV PRISMA.

68. The TWF welcomed the continuous improvements to UPOV PRISMA in terms of the number of participating authorities, crop coverage and new functionalities. The TWF agreed on the importance of harmonization to make the Tool even more efficient and in particular with the machine-to-machine communication, allowing applicants to retrieve and reuse application data from one application to another or from one authority to another.

Experiences with new types and species

69. The TWF noted that no new experiences with new types and species had been reported. Nevertheless, the TWF recalled the relevance of this agenda item to allow UPOV members to report on experience with new crops at a national level, which could after be relevant for guidance at the international level. Therefore, the TWF invited all UPOV members to use this opportunity at future sessions, when relevant, in particular for possible future development of Test Guidelines (see paragraph 112 of this report).

Access to plant material for the purpose of management of variety collections and DUS examination

70. The TWF considered document TWF/51/6 and received a presentation on “Access to material for DUS trials – draft analysis of Key points” an expert from Italy, as set out in the Annex to document TWF/51/6.

71. The TWF welcomed the analysis and agreed to invite the experts from the European Union, Italy and New Zealand, at its fifty-second session to share their experiences on policies and/or model letters/contracts used for the submission of plant material to their Authority and/or DUS Examination Offices. This information could be used as a basis for possible future possible revisions of UPOV Guidance (e.g. TGP/5, Section 11 “Examples of Policies and Contracts for Material Submitted by the Breeder”) to help other UPOV members to facilitate access to plant material for the purpose of management of variety collections and DUS examination.

DUS examination of mutant varieties of apple

72. The TWF considered document TWF/51/7 and received a presentation on “DUS examination of mutant varieties of apple”, by an expert from the European Union. A copy of the presentation is provided in the Annex to document TWF/51/7. The TWF noted the observation by the expert from the European Union on the importance of receiving healthy plant material to avoid delay and additional costs in the DUS examination.

73. The TWF recalled the importance of exchanging information among PVP Offices about applications received, especially for apple mutation groups where similar varieties might be submitted in various countries. In that respect, the TWF welcomed the work done previously by the expert from the European Union to collect information on applications under analysis and existing varieties for certain apple mutation groups among UPOV members. It further agreed that access to this information would help to enable relevant varieties of common knowledge to be taken into consideration and, if appropriate, included in the growing trial for the examination of distinctness.

74. The TWF agreed that the Excel sheet collecting administrative and technical data on the ‘Gala’ and ‘Fuji’ apple mutation group (see document TWF/49/8), should be updated and circulated amongst participants of the fifty-first session of the TWF and also to the participants at previous TWF sessions with practical experience on apple DUS testing.

75. The TWF agreed that the expert from the European Union should continue to coordinate the exchange of information among authorities involved in DUS testing for apple as agreed at its forty-eighth session (see document TWF/48/13 "Report", paragraphs 101 to 105), with the following additions (highlighted in grey):

- by electronic means;
- once a year;
- requesting information on 'Gala', 'Fuji' types, and to include for future survey 'Cripps Pink', 'Jonagold' and 'Elstar';
- requesting information from breeders on possible synonyms and trademarks

76. The TWF noted that a complete variety collection was important for the DUS examination, and for encouraging cooperation and use of DUS reports between PVP Offices for apple mutant varieties. Therefore the TWF further encouraged all members involved in DUS testing of apple, and breeders to contribute to this exchange of information, and to investigate with the Office of the Union on how to make this information more easily available (e.g. link on the UPOV Website) or the potential to create a database.

77. The TWF invited the expert from the European Union to report on the work done at its fifty-second session.

#### Relevant matters for DUS examination in the fruit sector

78. The TWF received a presentation on "Ring tests for Strawberry - 2016-2019" by an expert from the European Union. A copy of the presentation is provided in the Annex to document TWF/51/5.

79. The TWF welcomed the work done and noted the value of such ring tests before discussion of Test Guidelines. In particular, it noted that the results could facilitate discussions on characteristics fulfilling criteria for DUS examination, the set of example varieties and on the scale of notes to be used due to the range of expression for each characteristic.

80. The TWF also agreed that a ring test was a useful tool for raising awareness amongst experts on differences in interpretation of characteristics and reasons for different methods of observation.

#### Guidance for drafters of Test Guidelines

81. The TWF considered document TWP/4/8.

82. The TWF noted developments on the web-based TG template, reported in document TWP/4/8, paragraphs 15 to 23.

83. The TWF noted that the Office of the Union would issue a circular to identify requirements of UPOV members for the development of individual authorities' test guidelines using the web-based TG template.

84. The TWF noted that training on the web-based TG template via electronic means could be organized upon experts' request.

#### International cooperation in examination

85. The TWF considered document TWP/4/9.

#### *Identification of contact persons for international cooperation in DUS examination*

86. The TWF noted the list of persons to be contacted for matters concerning international cooperation in DUS examination, provided in document TWP/4/9, Annex I, and on the UPOV website.

87. The TWF noted that UPOV members would be invited to update information on a person(s) to be contacted for matters concerning international cooperation in DUS examination every year when invited to provide information for document TC/[xx]/4 "List of genera and species for which authorities have practical experience in the examination of distinctness, uniformity and stability".

*Proposals to overcome technical concerns in relation to cooperation*

88. The TWF noted that the TC, at its fifty-fifth session, had considered the outcomes of discussions held at the TWPs and the proposals to address the concerns raised, as set out in document TWP/4/9, Annex II.

89. The TWF noted the synthesis of concerns and proposals by the TWPs, as set out in document TWP/4/9, paragraph 19.

90. The TWF noted that the Office of the Union would prepare a coherent plan for consideration by the TC, at its fifty-sixth session, based on the proposals in document TWP/4/9, paragraph 20, to address the concerns raised by the TWPs and to propose how to assess the impact of the plan.

91. The TWF noted that the TC had agreed that TWP sessions should be used to develop cooperation among members to a greater extent.

Organization of work of the TWC and BMT

92. The TWF considered document TWP/4/12.

93. The TWF noted the draft terms of reference for a possible single body to encompass the work of the TWC and BMT.

Revision of Test Guidelines

94. The TWF considered document TWP/4/13.

*Technical Questionnaires*

95. The TWF noted that UPOV members at the TWPs would be invited to complete the table with information on the use of the Technical Questionnaire from UPOV Test Guidelines, as provided on the website, and return it to the Office of the Union by August 1, 2020.

96. The TWF noted the comment made by the European Union that it would not be possible for the European Union to complete the full list of Test Guidelines by August 1, 2020, and that it would focus, in the first instance, on the crops for which it received the largest numbers of applications in each crop sector.

*Additional characteristics and states of expression in individual authorities' Test Guidelines*

97. The TWF noted that UPOV members at the TWPs would be invited to notify additional characteristics and states of expression to the Office of the Union using the tables provided in document TGP/5 Section 10.

Discussion on draft Test Guidelines

*Apple (fruit varieties) (Revision) (Malus domestica Borkh.)*

98. The subgroup discussed document TG/14/10(proj.3), presented by Mr. Erik Schulte (Germany), and agreed the following:

Char. 10	to check whether to use same approach as in TG Apple ornamental for red and green leaf blade color
Char. 14	to delete MS
Char. 19	to check whether to expand scale to 5 notes
Char. 21	to change explanation to read "Observations on the young fruit should be made 6 weeks after flowering."
Char. 22	to check whether to read "Fruit: caliber"
Char. 26	to delete state 3
Char. 33	to check whether to add illustrations
Char. 34	- state 1 to read "absent or weak" - to check whether to add illustrations

Char. 45	- to check whether to add "orange" - to check whether to have more than one state for red
New char. after 45	to add new characteristics "Only varieties with Fruit color pink or red: Flesh color: distribution"; with states (1) predominantly under skin; (2) predominantly around core; (3) radial; (4) mottled; (5) entire; and to add (+) and to provide an explanation in 8.2 Ad. xx: "To be observed in cross section", and to provide illustrations
Char. 46	to read "Only varieties with Fruit color pink or red: Flesh color: extent"; with states (1) very small; (2) small; (3) medium; (4) large; (5) very large
Char. 48	- to check whether to add more information to explanation - to add (*)
Ad. 1	to add "after at least one significant production of fruit"
Ad. 12	to add that observations should be done on the upper half of the leaf and amend drawings accordingly
Ad. 22	to check whether to be improved
Ad. 25	to read "A ratio in the middle of the possible range represents 1, 3, 6, 9, 11; values less than the middle would result in notes 4 and 10; values larger would be notes 2, 5, 7 or 8"
Ad. 26	- to improve drawings for states 2 and 4 - to be updated according to changes to Char. 26
Ad. 31	to be updated
Ad. 40	to be updated
Ads. 42 and 43	to be updated to refer to Ad. 40
8.3	synonyms of example varieties: to add "Royal Gala" - Synonym "Tenroy"
TQ 4.1, 4.2.	to be completed
TQ 6.	to add example

\**Apricot (Prunus armeniaca L.) (Revision)*

99. The subgroup discussed document TG/70/5(proj.4), presented by Mr. Zsolt Szani (Hungary), and agreed the following:

1.	to read "These Test Guidelines apply to all varieties of <i>Prunus armeniaca</i> L. for fruit production. For the examination of rootstock varieties, the Test Guidelines for Prunus Rootstock TG/187 should be applied."
2.3	- to check whether to delete "one year old grafts" (if deleted 2.2 to read "The material is to be supplied in the form of trees, budsticks or dormant shoots for grafting.")
4.1.4	third paragraph to read "...should be made on 8 plants or parts taken from each of 8 plants ..."
Table of Chars.	- to check whether to add new characteristic "Kernel: size" - to indicate all notes for QN characteristics (3, 7, 8, 9, 14, 18, 19, 21, 32, 33, 34, 35, 48, 53, 54)
Char. 14	- state 2: to delete "absent or" - to add example variety "Playa Cot" for state 8
Char. 18	to add MS
Char. 19	- to add illustration - to add MS
Char. 22	to add VG
Char. 27	- to read "Petal: color" - state 2 to read "pinkish white" and have example varieties "Magyar kajszzi, San Castrese" - state 3 to read "light pink" and have example variety "Harcot" - to add state 4 "dark pink" with example varieties "Cheyenne, Ninja" - to delete (c)
Char. 36	to correct spelling of example variety for state 7: "IPS 660" to add illustrations for states 3 and 7
Char. 41	- to check whether to read: "Fruit: shape of pistil end" - to check whether to be observed in ventral or lateral view - to check approach in TG Peach - to check whether there is a correlation with Char. 42

Char. 46	to check whether to clarify what ground color not visible is (The ground color is the first color to appear chronologically during the development of the plant part. (see TGP/14))
Char. 49	to check whether to add example variety "Cheyenne" for state 8
Char. 54	to check whether to add example variety "Flamengo" for state 9
Char. 55	- to check whether to delete example variety "Flamengo" for state 9 - state 2 to read "very weak to weak"
Char. 57	to check whether to be excluded from grouping characteristics
8.1	to delete underlined texts and to read "Observations should be made ..."
8.1 (d)	add "tip" and "apex" on the drawing
Ad. 7	to check whether to read: "..., when the intensity of anthocyanin coloration ..."
Ad. 27	to read "Observations should be made on the petals at balloon stage."
Ad. 29	to add that this character is assessed after thinning
Ad. 31	to check whether illustrations should show the suture to make clear that observations are made in ventral view
Ad. 41	To add illustration for state 4
Ad. 41	to be improved: (e.g. photos of full fruits or clearer drawings)
Ad. 59	- to read "The assessment should be made when ..." - to check whether to keep the second sentence

*Goji (Lycium L.)*

100. The subgroup discussed document TG/LYCIUM\_BAR(proj.1), presented by Ms. Chuanhong Zhang (China), and agreed the following:

Coverage	to be extended to <i>Lycium barbarum</i> L., <i>Lycium chinense</i> Mill., <i>Lycium cylindricum</i> Kuang, <i>Lycium dasystemum</i> Pojark., <i>Lycium ruthenicum</i> Murr., <i>Lycium truncatum</i> Y. C. Wang, <i>Lycium yunnanense</i> Kuang
2.3	minimum quantity of plant material, to be supplied by the applicant, to read "vegetatively propagated varieties: 5 plants"
3.3.2	to be deleted
3.4.1	5 instead of 10 plants
4.1.4	5 instead of 10 plants; no. of parts of plants should be 2
5.3 (b)	to delete "Gr.1: white, Gr.2 ..."
Table of Chars.	to delete MS throughout the Table of Characteristics
NEW Chars.	to add the following new characteristics: - "Plant: number of basal shoots" (few, medium, many) - "Basal shoot: thickness" (thin, medium, thick) - "Only for varieties with thorns: present: Basal shoot: length of thorns" (short, medium, long) - "Leaf: ratio length/width" (low, medium, high); - "Fruit stalk: length" (short, medium, long); - "Fruit stalk: color (including calyx)" (only green, only bluish green, green and purple, only blue) - "Time of beginning of fruit maturity" (early, medium, late) - "Plant: growth habit" (upright, upright to spreading and spreading) - "Corolla: diameter" - to check whether to add "Calyx: attachment" (central, lateral)
Chars. 1 to 6	- to read "...current-year's ..." - to add more explanations
Char. 5	- to read "Current-year's branch: density of fruits" with states (1) sparse; (2) medium; (3) dense - to delete blanks before and after the hyphen; - to be indicated as MG/VG - to be moved after Char. 14
Char. 6	- to read "Bark: color" - to add explanation that to be observed on the middle third of the main branch and whether in summer or during the dormant season
Char. 8	to be indicated as MG/VG

Char. 9	- to be indicated as VG/VS - to check whether to be deleted (too much influenced by environment)
Char. 10	to read "Leaf blade: shape"
Char. 11	- to read "Leaf blade: color" with states (1) light green; (2) medium green; (3) dark green; (4) yellow green - to be indicated as PQ
Char. 13	to read "...: length of tube"
Char. 14	to read "...: color of lobe"
Char. 17	state 3 to read "circular"
Char. 18	to have states (1) white; (2) yellow orange; (3) orange; (4) orange red; (5) purple; (6) black
Char. 19	to check if UPOV criteria are fulfilled
8.1 (c)	to read "... of a current-year's fruiting shoot."
8.1 (d)	to read "Observations should be made on the fully ripened fruits taken from the middle third of a current-year's fruiting shoot."
Ad. 7	- to replace "Plant" by "Leaf blade" twice - "length" not in capital letters
Ad. 17	to use illustrations of Goji
9.	to add Shi Zhi-gang, Du Hui-ying, Men Huiqin, 2012: Description specification and data standard of germplasm resources for <i>Lycium barbarum</i> . Chinese Forestry Publishing House
TQ 6.	to add example "Leaf blade: shape"; "linear"; "lanceolate"

*Guava* (*Psidium guajava* L.) (Revision)

101. The subgroup discussed document TG/110/4(proj.1), presented by Ms. Ling Gao (China), and agreed the following:

2.2	to delete repetition of "The material is to be supplied in the form of"
Table of Chars.	- to add example varieties - to check whether to add new characteristic on remains of calyx (see Ad. 40, illustration for state 2)
Char. 2	- to read "Young shoot: color" - to check whether there is a correlation with anthocyanin coloration (see illustrations in Ad. 2)
Chars. 3 and 4	to be combined to read "Young leaf: anthocyanin coloration" with states (1) absent or very weak; (3) weak; (5) medium; (7) strong
Char. 10	to check whether wording of states (check shapes and whether they correspond to example varieties) (state 1 to read "elliptic?"; state 3 to read "obovate?"; state 6 to read (narrow ovate?) (see Ad. 10 and TGP/14 for guidance on shapes)
Chars. 20 and 21	to be combined to read "Leaf blade: undulation of margin" with states (1) absent or very weak; (3) weak; (5) medium; (7) strong
Chars. 22 and 23	to add illustration
Chars. 26 and 28	to have notes 1, 2, 3
Char. 32	to check whether wording of states (state 1 to read "truncate?"; states 3 to read "sunken" or "cordate?") (see Ad. 32 and TGP/14 for guidance on shapes)
Char. 33	to check whether to reduce range of colors
Char. 34	to add illustration
NEW Char. after 34	to add a new characteristic "Fruit: color of outer flesh in relation to inner flesh" with states (1) same color 1; (2) other color 2
Char. 43	to add illustration
Chars. 44, 45	to add explanation
Char. 47	to add illustration
Char. 49	to add explanation
Char. 54	Harvest or consumption maturity? Suggestion: Time of harvest maturity or ripening (early 3, medium 5, late 7).

8.1 (b)	to read "Observations on the young leaf and young shoot should be made during a period of active growth (flush), on leaves at the outside of the upper canopy completely exposed to sunlight."
8.1 (c)	to read "Observations on shoot and leaf should be made in the middle third of the current season's shoot, after the period of active growth at the outside of the upper canopy completely exposed to sunlight."
8.1 (d)	to replace "well developed flowers" by "fully developed flowers".
8.1 (e)	to read "Observations on the fruit should be made on fruits from the outside of upper canopy at the time of maturity for consumption."
Ad. 5	to check whether to have a picture with same perspective for state 3 as for 5 and 9
Ad. 10	- to check whether remove photos and have drawings only - to check whether to present shapes in a grid
Ad. 33	to check whether to reduce number of illustrations
Ad. 40	to improve illustration (without remains of calyx) for state 2

### Grapevine (*Vitis L.*) (Revision)

102. The subgroup discussed document TG/50/10(proj.3), presented by Mr. Luca Aggio (Italy) and Mr. Roberto Carraro (Italy), and agreed the following:

Coverage	- to indicate that the Test Guidelines cover table grapes, wine grapes and rootstocks - to check whether to introduce groups for table grapes and wine grapes with indication of which characteristics to be observed in which group and indication of group for example varieties - to add table grape varieties as example varieties (Chars. 1, 2, 3, 4, 6, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 30, 31, 32, 33, 34, 36, 38, 39, 40, 41, 42)
3.1.3	to read "In particular, it is essential that the plants, excluding rootstock varieties which do not produce fruit, ..."
Table of Chars.	- to check whether to add new characteristics: "Young leaf: erect hairs between main veins on lower side of blade" "Young leaf: prostrate hairs on main veins on lower side of blade" "Mature leaf: erect hairs between main veins on lower side of blade" "Mature leaf: prostrate hairs on main veins on lower side of blade" "Mature leaf: teeth on petiole sinus" "Bunch: shape" with states (1) cylinder (Italian Riesling); (2) cone (Muscat Hamburg); (3) branch (Plestine) "Shoot: thorn" with states (1) absent ( <i>Vitis rupestris</i> ); (9) present (Ziqiu) "Shoot: glandular" with states (1) absent ( <i>Vitis rupestris</i> ); (9) present (Xianzhiputao) - to display all states of expression for QN characteristics (Chars. 1, 3 to 9, 14, 15, 17, 19, 21, 24, 25, 27 to 29, 31 to 35 and 39) - to check spelling of "Cabernet Sauvignon" (with or without hyphen) - to remove indication of species from names of example varieties (e.g. <i>Rupestris</i> , <i>Riparia</i> ; if needed, information can be given in brackets after name of example variety)
Char. 1	state 5: to replace "Cabernet Sauvignon" with "Grenache noir"
Char. 3	- state 1: to replace "Autumn royal seedless" with "Sultanina" and "Afuz ali" - state 5: to replace "Crimson seedless" with "Italia"
Char. 4	state 9: to replace "Cina" with "Dabouki"
Char. 5	state 9: to replace " <i>Riparia tomentosa</i> " with "1616 Couderc"
Char. 6	to check whether to split in two characteristics: main color of the upper side of the blade and secondary color of the upper side of the blade
Char. 8	state 9: to replace " <i>Riparia Scribner</i> " with " <i>Riparia Gloire de Montpellier</i> "
Char. 9	- state 3 to read "semi-erect" (add hyphen) - state 7 to read "semi-drooping" (add hyphen) - state 9: to replace "Albillo real" with "Dabouki"
Char. 13	- state 1: to replace "3309 Couderc" with "Sauvignon blanc" - state 2: to replace "Börner" with "Palomino fino" - state 3: to replace "Kober 5BB" with "Dabouki"
Char. 14	- state 7: to replace " <i>Riparia Scribner</i> " with "Fercal" - state 9: to delete " <i>Riparia Tomentosa</i> "

Char. 15	- state 3: to replace "King Husainy" with "Alphonse Lavallée" - state 7: to add "Macabeu" - state 9: to add "Meunier"
Char. 16	state 4: to replace "Ohanes" with "Moscatel rosado"
Char. 17	- to check whether to have notes 1 to 11 - state 9: to replace "Bobal, Emperor" with "Alphonse Lavallée, Macabeu"
Char. 18	- state 2 to read "wedge-shaped" (add hyphen) - state 5 to read "kidney-shaped" (add hyphen)
Char. 19	state 9: to replace "Brancellao" with "Alvarelhao", to add "Gewürztraminer"
Char. 20	state 5: to replace "Hebron" with "Xinisteri", to add "Vilana"
Char. 21	state 7: to replace "Chasan" with "Malvasia di Sardegna"
Char. 22	state 1: to replace "Folle blanche" with "Malbec"
Char. 23	- to reduce scale to 5 notes - state 6: to replace "Aubun" with "Cabernet franc" - state 8: to replace "Clairette" with "Agiorgitiko, Marsanne" - state 9: to replace "Domina" with "Clairette"
Char. 24	state 9: to add "Ahmeur bou Ahmeur, Sangiovese"
Char. 25	state 1: to replace "Berlandieri Ressequier 2" with "Marsanne"
Char. 26	- state 1: to add "Petit Verdot" - state 6: to replace "Conegliano precoce" with "Alphonse Lavallée, Cinsaut"
Char. 27	- state 3: to replace "Autumn royal seedless" with "Semillon" - state 5: to replace "Dornfelder" with "Chenin, Flame seedless" - state 7: to replace "Deckrot" with "Dolcetto" - state 9: to check whether to replace "Cabernet Mito" with "Tintorera" or other variety
Char. 28	state 3: to replace "Blush seedless, Gamay" with "Italia"
Char. 29	- state 5: to replace "Muscat Ottonel" with "Riesling" - state 7: to replace "Early muscat" with "Tempranillo"
Char. 30	state 9: to replace "Olivette noire" with "Aledo"
Char. 32	state 9: to replace "Ruby seedless" with "Sultanina"
Char. 33	- state 3: to delete "Kyoho" - state 9: to add "Chenin blanc"
Char. 34	- state 5: to replace "Barbera" with "Cabernet franc" - state 7: to add "Barbera".
Char. 36	- state 4: to replace "Olivette noire" with "Italia, Sultanina" - state 5: to replace "Khalili bely" with "Afuz Ali" - state 7: to replace "Bicane" with "Dabouki" - state 8: to add "Muscat d'Alexandrie" - state 9: to read "horn-shaped" (add hyphen) - state 10: to read "broad finger-shaped" (add hyphen) - state 11: to read "narrow finger-shaped" (add hyphen) - to check whether reorder of states (see Ad. 36)
Char. 37	- state 1: to replace "Chardonnay" with "Afuz Ali" - state 9: to add "Ahmeur bou Ahmeur"
Char. 38	- to check whether to use RHS Colour Chart - state 1: to replace "King Husainy" with "Afuz Ali"
Char. 40	- to add explanation on how to assess firmness of flesh - to add MG
Char. 41	- to check whether to add more flavours - to check whether to have separate characteristics with states "absent and present for each flavour" - to check wording of state 5
Char. 43	to be deleted
Char. 44	- growth stage to be indicated as 91 - state 6: to replace "Cabernet Mito" with "Cinsaut, Semillon"
8.1	To delete <u>shoot</u> : and <u>mature leaf</u> : from the text
Ad. 6	to change colors in second sentence: - "green with anthocyanin spots" with "green with reddish brown speckles" - "light copper red" with "light brownish red" - "dark copper red" with "medium brownish red" - "wine red" with "dark brownish red"
Ads. 25, 26	to read "See Ad. 24"

Ad. 31	to read "Observations should be made..."
Ad. 32	to read "To be observed at ...."
Ad. 33	to add explanation for even states
Ad. 37	to use the same shape for both states
9.	to review format
TQ 7.3	to add request for information on sensitivity to <i>Phylloxera vastatrix</i> (see Chapter 2.2)

*Hazelnut (Corylus americana Marshall)*

103. The subgroup discussed document TG/71/4(proj.1), presented by Mr. Flavio Roberto de Salvador (Italy), and agreed the following:

1.	to add information that the TG only applies to varieties for fruit production, not for ornamental varieties
2.3	- minimum quantity of plant material, to be supplied by the applicant, should be indicated as 5 plants - to delete last sentence
3.3.3	to be deleted
4.1.4	second paragraph: to read "... the number of parts to be taken from each of the plants should be 2."
5.3	- to delete (a), (b), (c), and (l) - to add Char. 9
Table of Chars.	- to move indications like "dormancy", "flowering", "full vegetation", and "ripening" to Chapter 8.1; each characteristic to indicate with a letter (a), (b), (c), (d) with explanations to read as follows: - to delete "A" from methods of observation - all QN to display all possible states including the in between ones (2 to 6, 11, 18, 20, 21, 23 to 26, 28, 31, 35. 37 to 40, 43, 49, 50, 52 to 54)
Char. 4	- state 1: to delete "Corylus columna" and to replace with "Tonda Bianca" - to check whether to reduce scale to 5 notes
Char. 5	to be indicated as MG/VG
Chars. 8 and 9	to be indicated as PQ
Char. 10	- to be indicated as MG - to move to the end of the Table of Chars.
Char. 13	to be indicated as PQ
Chars. 14 to 16	- to be indicated as MG - to move to the end of the Table of Chars.
Char. 17	to add explanation (photographs)
Chars 18 and 20	to be indicated as MG/VG
Char. 22	to be indicated as QL
Char. 23	- to be indicated as MG/VG - to read "Involucre: ratio length to length of nut"
Char. 24	to be indicated as QN
Char. 25	- to be indicated as QN - to read "Involucre: serration" - state 1 to read "absent or weak" - to have notes 1, 3, 5
Char. 26	- to be indicated as QN - to read "Involucre: size of basal support" - to have notes 1, 3, 5 - to add explanation
Char. 27	- to be indicated as QL
Char. 28	- to have states from "sparse" to "dense" - to check whether to be combined with Char. 27 with state 1 "absent or very sparse"
Char. 29	- to be indicated as QN - state 2 to read "on one side only"
Char. 30	- to read "Infructescence: number of nuts" - to have state: (1) one; (2) two; (3) four; (4) more than four

Chars. 31 to 42	to read "Nut: ..."
Char. 32	- to read: "Nut: shape in lateral view" - to check whether to have states: (1) circular; (2) triangular; (3) ovate; (4) oblong
Char. 33	- state 1 to read "elliptic" - to check whether to delete state 4
Char. 35	- to read: "Nut: conspicuousness of stripes on shell" - to adjust wording of states
Char. 36	- to read "Nut: shape of apex" - state 4 to read "truncate"
Char. 37	- to be indicated as QN - to read "Nut: mucron" - to check whether to reduce scale
Char. 38	to be indicated as QN
Char. 39	- to read "Nut: hairiness at base" - to check whether example variety in state 7 "Apolda" to correct to "Apoldaer Zellernuss"
Char. 41	state 2 to read "even"
Char. 42	to be deleted
Char. 43	to be indicated as MG/VG
Char. 44	- to read "Kernel: shape in lateral view" - to have states (1) circular, (2) ovate, (3) oblong
Char. 45	- to read "Kernel: shape in cross section" - state 1 to read "elliptic"
Char. 46	- to read "Kernel: shape of apex" - state 3 to read "truncate"
Char. 47	state 3 to read "truncate"
Char. 48	to be indicated as QL
Char. 49	- to check whether to read "Kernel: presence of fiber" or "Kernel: fiber" - to check whether to have states (1) absent or weak; (2) medium, (3) strong - to add explanation on fiber - to check whether to read "Kernel: surface" with states from "smooth" to "rough"
Char. 50	- to be indicated as QN - to read "Kernel: inside presence of cavity" - to have notes (1) absent or small; (2) medium; (3) large
Char. 51	- to read "Time of harvest maturity" - to be indicated as MG - to be moved to the end of the Table of Chars.
Char. 52	- to be indicated as QN - to read "Nut: adherence to involucre" - to be moved after Char. 29 - to check whether to reduce scale to 5 notes
Char. 53	- to read "Nut: percentage of kernel" - to be indicated as MG/VG - to add explanation to read "Should be assessed by weight as ratio between weight of 50 nuts and weight of 50 kernels."
Char. 54	to be deleted
8.1	to add Chapter 8.1 with the following explanations: (a) Observations should be made in the dormant season. (b) Observations should be made during blooming. (c) Observations should be made on fully development leaves. (d) Observations should be made at the time of harvest maturity.
8.2	general: to improve illustrations by using drawings or close-up photos of the relevant parts to be observed
Ad. 10	to read "The time of leaf bud burst is reached when 10% of buds are showing green tips"
Ad. 29	- to be improved - to add state 1 photo
Ad. 32	to be improved
Ad. 33	state 4: to improve illustration or to be deleted (see comment on Char. 33)
Ad. 36	- to improve photo for state 3 - state 4 to read truncate

Ad. 37	state 5: photo to be changed
Ad. 41	to add photo for state 1
Ad. 51	to check whether to read "The time of harvest maturity is reached when at least 50% of nuts are dropping" (not all nuts drop)
TQ 4.2	to be completed
TQ 5.5 to 5.8	- to check wording, state and notes according to Table of Characteristics - to display full range of the states of expression
TQ 6	to add example

*Mulberry (Morus L.)*

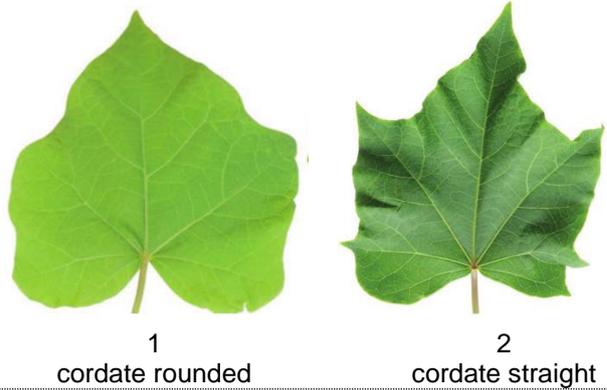
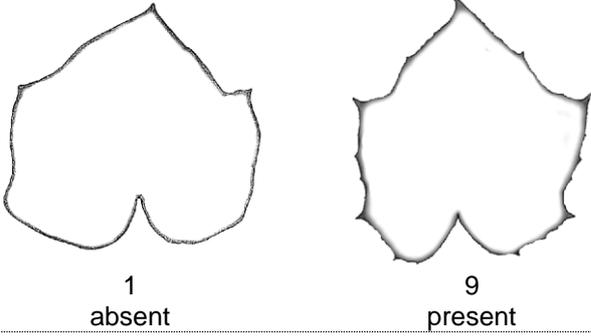
104. The subgroup discussed document TG/MORUS(proj.2), presented by Mr. Yosuke Abe (Japan), and agreed the following:

3.1	to check whether to information on ornamental crops/trials
3.1.3, 3.1.5	to be combined to read "In particular, it is essential that the plants produce a satisfactory crop of fruit in each of the two growing cycles. In the case of male varieties, it is essential that the plants produce a satisfactory number of flowers in each of the two growing cycles".
3.4	to read: 3.4.1 In the case of varieties resulting from crossing, each test should be designed to result in a total of at least 5 plants. 3.4.2 In the case of varieties resulting from mutation, each test should be designed to result in a total of at least 10 plants.
4.2.3	- to read "For the assessment of uniformity of varieties resulting from crossing, ..." - to add new paragraph 4.2.4 to read "For the assessment of uniformity of varieties resulting from mutation, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 10 plants, 1 off-type is allowed."
6.5	6 to read (a)-(d)
Char. 8	to have notes 1, 3, 5
Char. 14	to be deleted
Char. 19	to check to split in two characteristics: - "Leaf blade: tip" with states (1) absent; (2) caudate (Fukayuki, Takinokawa); (3) acuminate (Kenmochi); and to be indicated as PQ and VG - "Leaf blade: shape of apex" (1) acute (Ichinose); (2) obtuse (Jikunashi); (3) obcordate (Niken); and to be indicated as PQ and VG
Char. 20	to check whether to be deleted; if not, to add illustration
Char. 22	to have states (1) absent or very shallow (Rohachi, Takinokawa); (2) shallow (Akagi, Shin-Ichinose, Shukakuich); (3) medium (Ichinose); (4) deep (Kenmochi); (5) very deep
Char. 24	- to be indicated as QN - to check whether to have "Kokuso 27" as example variety for state 2 - to have "Ichibei" as example variety for state 3
Char. 25	- example varieties to be checked
Char. 28	to check whether suitable characteristic for DUS examination
Char. 33	- to check whether to be deleted - to check method of observation
Char. 41, 42	to be indicated as MG
8.1 (b)	to replace "branch" by "shoot"
Ad. 19	to be updated
Ad. 41	to read "... should be assessed ..."
Ad. 42	to read "Acidity should be assessed by determination of titratable acids."
TQ 1.	to add 1.3 for indication of species
TQ 4.2	to be completed
TQ 5.	- to review number of characteristics in TQ 5 - 5.5 to be updated
TQ 6.	to be completed

TQ 7.3	to add: Use: fruit [ ] Ornamental [ ]
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\**Physic Nut (Jatropha curcas L.)*

105. The subgroup discussed document TG/JATRO\_CUR(proj.3), presented by Mr. Alejandro Barrientos-Priego (Mexico), and agreed the following:

Cover page	- to add English common names: Barbados-nut, Bubblebush, Purgenut, Purgeningnut - to add French common names: Fève d'enfer, Grand pignon d'Inde, Gros ricin, Médecinier, Pignon d'Inde, Purgère - to add German common names: Purgiernuss, Termitenbaum - to add Spanish common names: Piñón mexicano, Piñón, Piñón blanco, Frailejón, Tártago
4.2	to add following SW paragraph as 4.2.2: These Test Guidelines have been developed for the examination of vegetatively and seed propagated varieties. For varieties with other types of propagation the recommendations in the General Introduction and document TGP/13 "Guidance for new types and species", Section 4.5 "Testing Uniformity" should be followed.
Char. 1	state 2: to delete "absent or"
Char. 3	state 2 to read "upright to spreading"
Char. 6	- state 1 to read "cordate rounded" with example varieties "ALJC-01" and "Ladda 1" - state 2 to read "cordate straight" with example varieties "Sevangel" and "Doña Aurelia" - to add illustration:
	
Char. 7	to add illustration
	
Char. 10	to have notes 1 to 5
Char. 11	state 2: to delete "absent or"
Char. 19	to have notes 1 to 5
Char. 23	to have notes 1 to 5
Char. 24	to change order of states (see Ad. 24): (1) obovate; (2) elliptic; (3) oblong
8.1	to delete underlined text
Ad. 13	"at base" to read "below middle"
Ad. 18	to read: "Observations should be made on the middle part of the fruiting area just before fruit maturity."

Ad. 24	- to delete empty row at the bottom and empty column at the right - to update order of states (see Char. 24)
TQ 4.1	to use standard breeding scheme

*\*Pistachio (Pistacia vera L.)*

106. The subgroup discussed document TG/PISTA(proj.4), presented by Ms. Urszula Braun-Mlodecka (European Union), and agreed the following:

1.	to delete "and its hybrids" and add GN 3 wording to read "Guidance on the use of Test Guidelines for interspecific hybrids that are not explicitly covered by Test Guidelines is provided in document TGP/13 "Guidance for New Types and Species".
6.2.2	The chapter needs adaptation as the table of char. contains all states of expression (no abbreviated scale used)
6.5	to add (f) = female varieties; (m) = male varieties
Char. 2	to have states "weak", "medium", "strong"
Char. 32	to have states "weak", "medium", "strong"
Char. 37	to read "Time of harvest maturity"
8.1 (c), (d)	to read "Observations should be made..."
Ad. 17	explanation for state 1: to delete "absent or"
Ad. 20	- to add definition of over color - state 5 to read "very large"
Ad. 35	to check whether to read "The time of beginning of vegetative burst is reached..."
Ad. 36	to check whether to read "The time of beginning of flowering is reached when: ..."
Ad. 37	to check whether to read "The time of harvest maturity is reached when..."
TQ 1.	to add 1.3 for indication of interspecific hybrids
TQ 4.1	breeding scheme to be completed (full standard breeding scheme)

*Seabuckthorn (Hippophae rhamnoides L.) (Partial revision: Ad. 21)*

107. The subgroup discussed document TWF/51/4, presented by Mr. Ľubomir Basta (Slovakia), and agreed the following:

Ad. 21	- first sentence to read "For female plants, the time of beginning of flowering is reached when ..." - second sentence to read "For male plants, the time of beginning of flowering is reached when..."
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*Strawberry (Fragaria L.) (Revision)*

108. The subgroup discussed document TG/22/11(proj.2), presented by Mr. Erik Schulte (Germany), and agreed the following:

2.3	information for seed-propagated varieties to read "sufficient seed to produce 20 plants, or 20 young plants, raised from seed"
3.1.2, 3.1.3	to be combined
3.4.1, 3.4.2	to be combined
4.1.4	to check number of plants (19 plants instead of 20)
4.2.2	to check whether to read "These Test Guidelines have been developed for the examination of vegetatively propagated and seed-propagated varieties."
5.3	to check whether to reduce number of grouping characteristics
Table of Chars.	to add/update example varieties
Char. 5	to delete (*)
Char. 6	to read "Stolon: intensity of anthocyanin coloration"
Char. 9	to check whether blistering or rugosity

Char. 11	- to delete MS - to read "Terminal leaflet: length in relation to width" - to check wording of states of expression ((1) shorter than broad; (2) as short as broad; (3) longer than broad; (4) much longer than broad) - to check whether to add illustrations
Char. 18	to be deleted
Char. 19	- state 4 to read "weak to medium" - state 6 to read "medium to strong" - to read "Stipule: intensity of anthocyanin coloration" - to check whether to reduce scale to have notes 1 to 5
Char. 24	to check whether to add new state "transverse elliptic"
Char. 27	- state 3 to read "medium" - to check whether to reword (see comment on Char. 11)
Char. 29	- state 4 to read "ovate" - state 5 to read "oblong" - state 6 to read "rhombic" - state 7 to read "oblate" - state 8 to read "circular"
Char. 33	- to replace "whitish" with "pinkish white" and "yellowish white" - "Honeoye" to be deleted or moved to state 8 - "Mannyeonseol" to check if correct for state 5 (pink) or to move to new state "pinkish white"
Char. 35	to check whether state 3 to be split in two states "strongly below surface" and "slightly below surface"
Char. 36	to add (+) and to move wording "at sunny side" to 8.2, Ad. 36
8.1 (c)	- to be moved before (b) - to delete "which" - to add explanation for day-neutral varieties
8.1 (d)	wording to be amended
Ad. 2	to have notes 3, 5, 7
Ad. 3	to be improved to clarify difference between characteristics 2 and 3
Ad. 6	to delete bracket before "Stolon"
Ad. 7	- to read "... petiole and stipules." - to delete lines and arrows from illustration
Ad. 9	to add illustration for state 2
Ad. 14	to delete wording in brackets
Ad. 15	to rotate illustration for state 1 by 180°
Ad. 17	to update wording of states
Ad. 18	to be deleted
Ad. 24	- state 1 to read "elliptic" - to add illustration for new state
Ad. 28	explanation on how to observe fruit size to be improved
Ad. 29	to be updated according to changes to Characteristic 29
Ads. 30, 31, 32	to be updated according to corresponding characteristics
Ad. 37	to be updated (measurement)
Ad. 42	to read "See Ad. 41"
9.	to be updated
TQ 1.	to add 1.3 for indication of species
TQ 4.2	to be completed (runners, in-vitro propagation, other)
TQ 5.18	to check whether to be moved to TQ 7.3
TQ 6.	to add example
TQ 7.	to add request for information on chilling requirements

Recommendations on draft Test Guidelines

(a) *Test Guidelines to be put forward for adoption by the Technical Committee*

109. The TWF agreed that the following draft Test Guidelines should be submitted to the TC for adoption at its fifty-sixth session, to be held in Geneva on October 26 and 27, 2020, on the basis of the following documents and the comments in this report:

<u>Subject</u>	<u>Basic Document(s) (2020)</u>
Common Sea Buckthorn ( <i>Hippophae rhamnoides</i> L.) (Partial revision: Ad. 21)	TG/240/1, TWF/51/4
*Pistachio ( <i>Pistacia vera</i> L.)	TG/PISTA(proj.4)
*Physic Nut ( <i>Jatropha curcas</i> L.)	TG/JATRO_CUR(proj.3)

(b) *Test Guidelines to be discussed at the fifty-second session*

110. The TWF agreed to discuss the following draft Test Guidelines at its fifty-second session:

<u>Subject</u>	<u>Basic Document(s) (2020)</u>
Apple (fruit varieties) (Revision) ( <i>Malus domestica</i> Borkh.)	TG/14/10(proj.3)
*Apricot ( <i>Prunus armeniaca</i> L.) (Revision)	TG/70/5(proj.4)
Argania ( <i>Argania spinosa</i> (L.) Skeels)	TG/ARGAN(proj.5)
Date Palm ( <i>Phoenix dactylifera</i> )	TG/PHOEN_DAC(proj.1)
Grapevine ( <i>Vitis</i> L.) (Revision)	TG/50/10(proj.3)
Guava ( <i>Psidium guajava</i> L.) (Revision)	TG/110/4(proj.1)
Goji ( <i>Lycium</i> L.)	TG/LYCIUM_BAR(proj.1)
Hazelnut ( <i>Corylus americana</i> Marshall) (Revision)	TG/71/4(proj.1)
Lemon (Lemons and Limes ( <i>Citrus</i> L. - Group 3)) (Partial revision: deletion of Characteristics 53, 56 and 67; changes to Characteristics 29, 68, 73	TG/203/1 Rev.
Mandarin ( <i>Citrus</i> L. – Group 1) (Partial revision: deletion of Characteristics 9 to 12, 15, 18, 19, 27, 35, 36, 38 to 40, 42, 43, 45 to 47, 50, 51, 58, 60, 65, 66, 68 to 70, 75, 90, 91, 93 and 104; changes to Characteristics 25, 67, 73, 91 and 98)	TG/201/1 Rev.
Mulberry ( <i>Morus</i> L.)	TG/MORUS(proj.2)
Raspberry ( <i>Rubus idaeus</i> L.) (Revision)	TG/43/7
Sour Cherry ( <i>Prunus cerasus</i> L.); Duke Cherry ( <i>Prunus xgondouinii</i> (Poit. & Turpin) Rehder) (Revision)	TG/230/1
Strawberry ( <i>Fragaria</i> L.) (Revision)	TG/22/11(proj.2)
Sweet Cherry ( <i>Prunus avium</i> L.) (Revision)	TG/35/8(proj.1)
Trifoliate Orange ((Poncirus) ( <i>Citrus</i> L. - Group 5)) (Partial revision: deletion of Characteristics, 4, 20, 86; changes to Characteristics: 25, 100, 101	TG/83/4 Rev.

111. The leading experts, interested experts and timetables for the development of the Test Guidelines are set out in Annex IV to this report.

(c) *Possible Test Guidelines to be discussed in the future*

112. The TWF agreed that it should consider the development of Test Guidelines for the following at a future session:

<u>Subject</u>	<u>Basic Document(s)</u>
Carambola ( <i>Averrhoa carambola</i> L.)	NEW
Cape Gooseberry ( <i>Physalis peruviana</i> L.)	NEW
Soursop ( <i>Annona muricata</i> L.)	NEW

Chairperson

113. The TWF thanked Mr. Jean Maison for being Chairperson of the TWF from 2018 to 2020 and noted that he was awarded a UPOV bronze medal in recognition of his outstanding contribution.

Date and place of the next session

114. At the invitation of China, the TWF agreed to hold its fifty-second session in Zhengzhou, China, from July 12 to 16, 2021.

Future program

115. The TWF agreed to include an agenda item for its fifty-second session on international cooperation in examination and welcomed the offer from the expert from Canada to present their procedure on accepting DUS reports from other members of the Union. The TWF agreed to invite presentations from other members of the Union to help in improving international cooperation in DUS examination.

116. The TWF agreed to add an agenda item for its fifty-second session on the assessment of characteristics on the basis of measurement of individual plants or parts of plants for small samples. The TWF requested the Office of the Union to provide a summary of existing UPOV guidance. The TWF noted the offer from an expert from France to present their experience on that topic and agreed to invite presentations from other members of the Union.

117. The TWF proposed to discuss the following items at its fifty-second session:

1. Opening of the Session
2. Adoption of the agenda
3. Short reports on developments in plant variety protection
  - (a) Reports from members and observers (written reports to be prepared by members and observers)
  - (b) Reports on developments within UPOV (oral report by the Office of the Union)
4. Molecular Techniques (document to be prepared by the Office of the Union)
  - (a) Developments in UPOV (document to be prepared by the Office of the Union)
  - (b) Presentation on the use of molecular techniques in DUS examination (presentations invited from members of the Union)
5. TGP documents (documents to be prepared by the Office of the Union)
6. Variety denominations (document to be prepared by the Office of the Union)
7. Information and databases
  - (a) UPOV information databases (documents to be prepared by the Office of the Union)
  - (b) Variety description databases (documents to be prepared by the Office of the Union)

- (c) Exchange and use of software and equipment (document to be prepared by the Office of the Union)
- (d) UPOV PRISMA (document to be prepared by the Office of the Union)
- 8. Experiences with new types and species (oral reports invited)
- 9. Access to plant material for the purpose of management of variety collections and DUS examination (presentations invited from European Union, Italy, New Zealand and others presentations invited from members of the Union)
- 10. DUS examination of mutant varieties of apple (document to be prepared by the European Union)
- 11. Matters relevant in DUS examination for the fruit sector (presentations invited from members and observers)
- 12. International cooperation on examination (document to be prepared by the Office of the Union and presentations invited from Canada and other members of the Union)
- 13. Assessing characteristics on the basis of measurements of individual plants or parts of plants for small samples (document to be prepared by the Office of the Union and presentations invited from France and other members of the Union)
- 14. Guidance for drafters of Test Guidelines
- 15. Matters to be resolved concerning Test Guidelines put forward for adoption by the Technical Committee (if appropriate)
- 16. Discussion on draft Test Guidelines (Subgroups)
- 17. Recommendations on draft Test Guidelines
- 18. Date and place of the next session
- 19. Future program
- 20. Adoption of the Report of the session (if time permits)
- 21. Closing of the session

*118. The TWF adopted this report at the end of the session.*

[Annex I follows]

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**MINISTÈRE  
DE L'AGRICULTURE  
ET DE L'ALIMENTATION**

*Liberté  
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## REGULATORY FRAMEWORK AND SITUATION OF THE FRUIT REPRODUCTIVE MATERIAL SECTOR IN FRANCE

UPOV TWF Meeting

July 6<sup>th</sup> 2020

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Division for quality, health and plant protection

General Directorate for Food

Ministry for Agriculture and Food



**MINISTÈRE  
DE L'AGRICULTURE  
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## Keys figures about the French agricultural production



- Polyculture system  
(cereals and livestock  
farming)
- Extensive livestock farming
- Intensive livestock farming  
(pork and poultry)
- Field crops
- Specialized crops  
(viticulture, fruit growing,  
ornamental horticulture)

**Utilised agricultural area (UAA):  
290 000 km<sup>2</sup> in 2018  
(52.8 % of the metropolitan territory  
area)**

**Global income of 73 billions € (17%  
of the European market)**

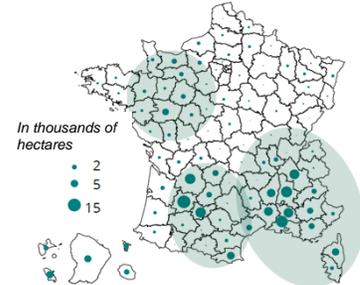
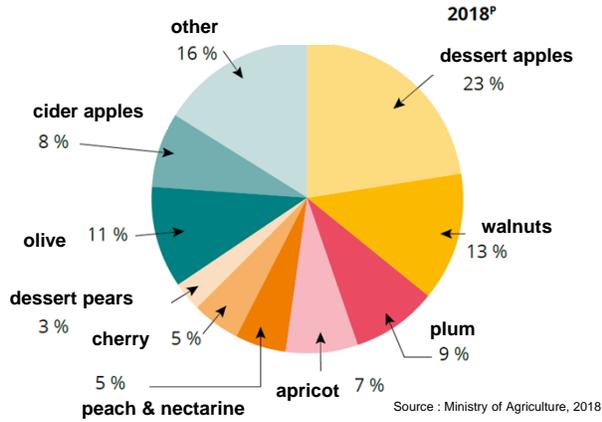
**6.7% of the gross domestic product**

**Permanent crop (fruit growing &  
viticulture) : 3.4% of the UAA**

Source : Ministry of Agriculture, 2018

## The French orchard : diversification and structure

Total cultivation area : 166 000 ha



- Apple trees : nearly 25% of the total cultivation area > walnut trees (13%) > olive trees (11%)
- 50% of the french orchard located in the Rhône valley and Mediterranean basin area, 25% in the South-West area and 7% in the « Val de Loire »
- A concentrated orchard based on big-size farms: 5% of fruit growers for 30% of the orchard cultivation area

## Socio-economic figures

- 27 600 fruit farms for 166 000 ha
- 220 000 jobs (2/3 seasonal work)
- Total production of **2.4 millions of tons** in 2018 for a global income of 3 billions € (= 3.4 USD billions)
- **4<sup>th</sup> largest European producer** in volume
- Exportation of 1.1 millions of tons for a global income of 1.4 billions € (= 1.6 USD billions)
- Almost 80% of volume export in the European Union

Source : FranceAgriMer, 2018

## Official indications of quality and origins



Rouge du Roussillon



Figue de Solliès



Kiwi de l'Adour



Châtaigne d'Ardèche



Noix du Périgord



Clémentine de Corse



Fraises de Nîmes

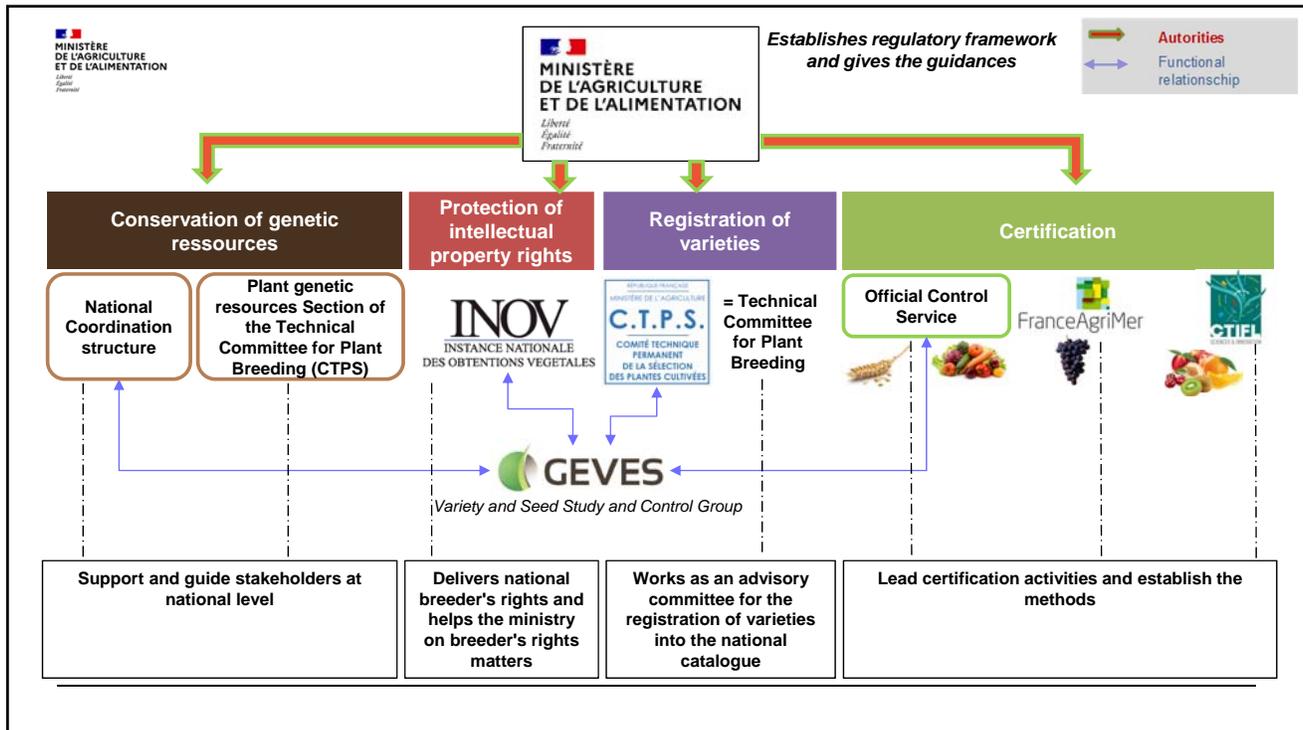
## The institutional framework at national level



## The General Directorate for Food (DGAL)

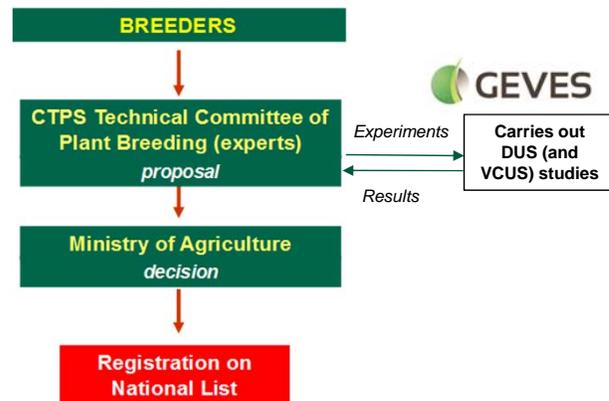
The DGAL watches over the **quality and safety of food** at every point in the food chain **from the basic commodities required for growing crops and farming livestock up to and including the delivery of food to consumers.**

### The scope of its activity is very wide-ranging



## The Technical Committee for Plant breeding (CTPS) : an unique multi-stakeholders consultative committee supporting and guiding the genetic progress

- Created in 1942
- A parity composition between public (administration and research) and private sectors (seed companies, users...)
- A Steering Committee, a Scientific Committee, 14 specialized sections and about 800 experts of all species
- An objective evaluation based on observations and measurements obtained according to clearly defined and controlled protocols
- Decision rules in conformity with technical regulations published in the Government Gazette
- An advisory board enabling the State to define, implement and evolve its "varieties, seeds & plants" policy



## Key figures : national listing

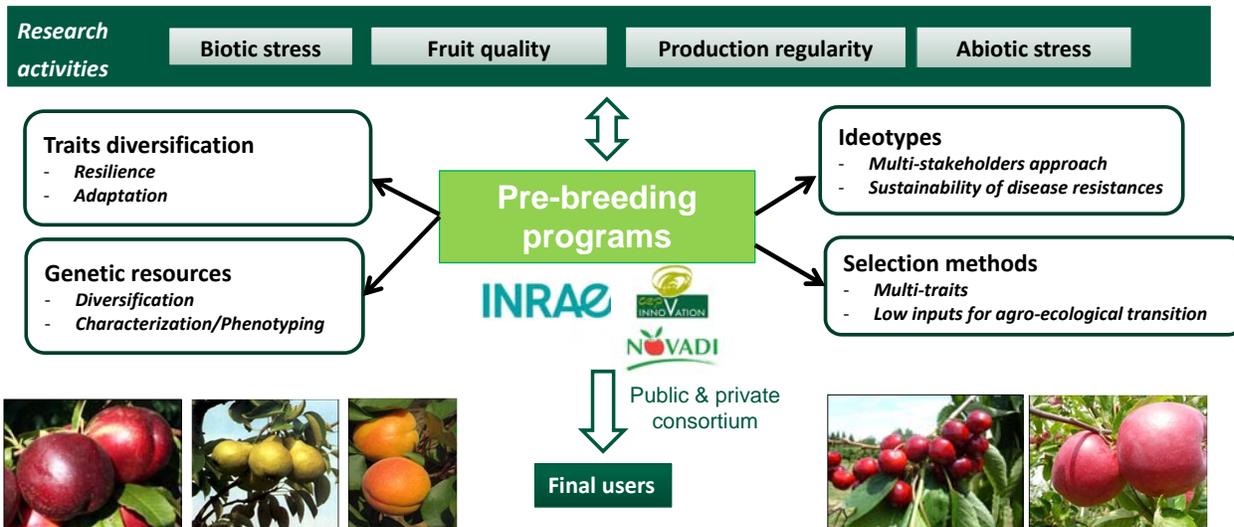
French national catalogue :

- created in 1932
- more than 9 000 varieties of 190 different species
- agricultural species : 4 200 varieties
- vegetable species : 2 700 varieties
- grape vine : 380 varieties
- **fruit species : 1 650 varieties (50 registered with an officially recognized description)**

EU Catalogue : 56 500 varieties (12 500 of fruit plants)

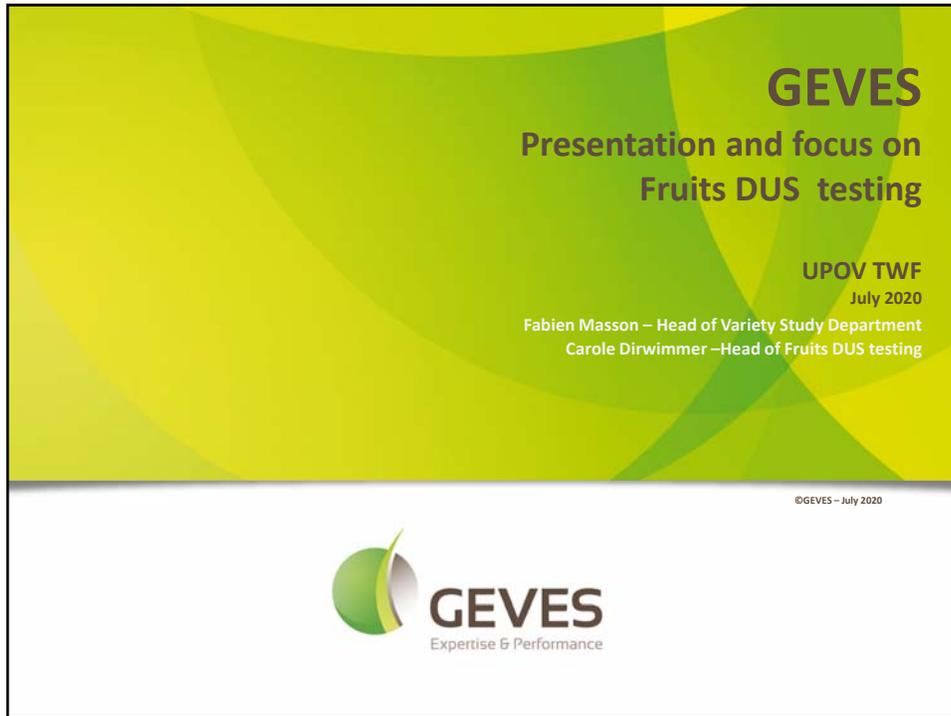
## Fruit breeding : a public-private scheme of partnership

5 species : apricot, peach, cherry, apple, pear + *Prunus* & *Pyrus* rootstocks



## Have a nice and fruitfull meeting !





**GEVES**  
Presentation and focus on  
Fruits DUS testing

UPOV TWF  
July 2020

Fabien Masson – Head of Variety Study Department  
Carole Dirwimmer – Head of Fruits DUS testing

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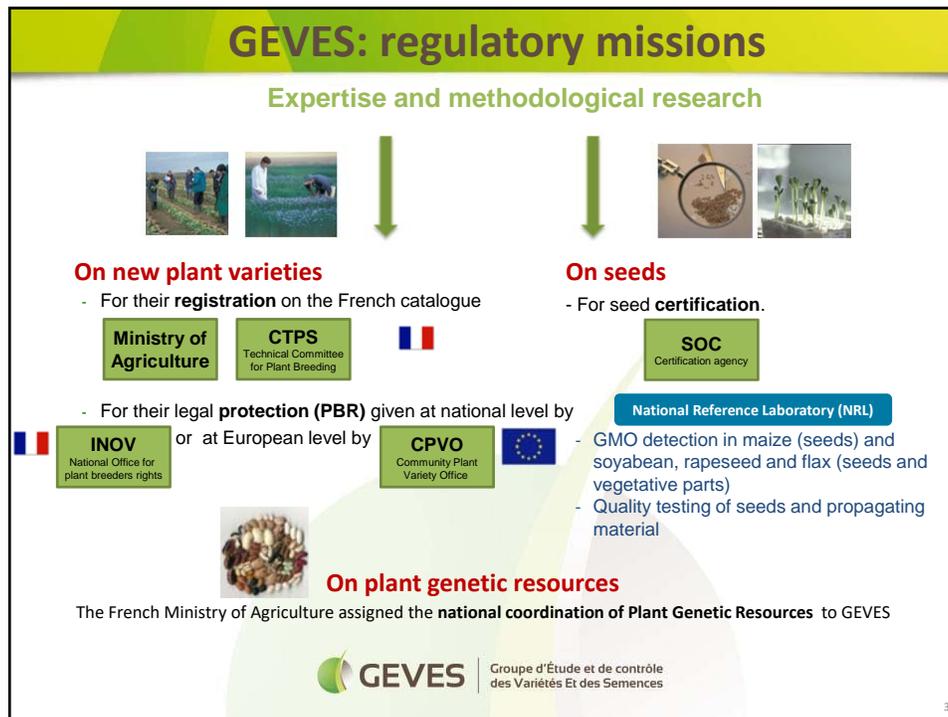
**GEVES:**

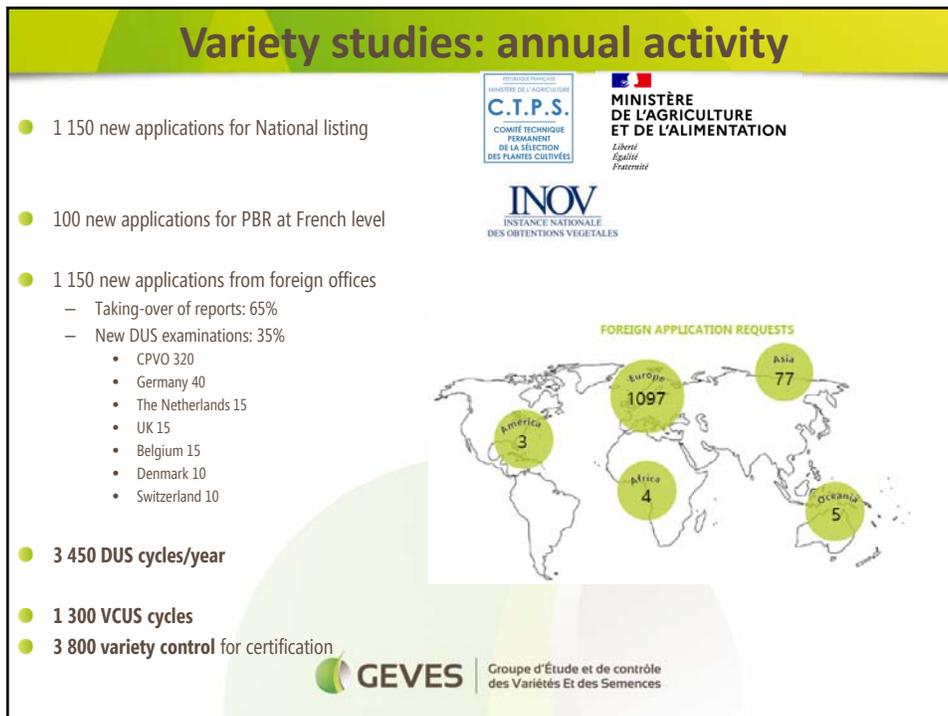
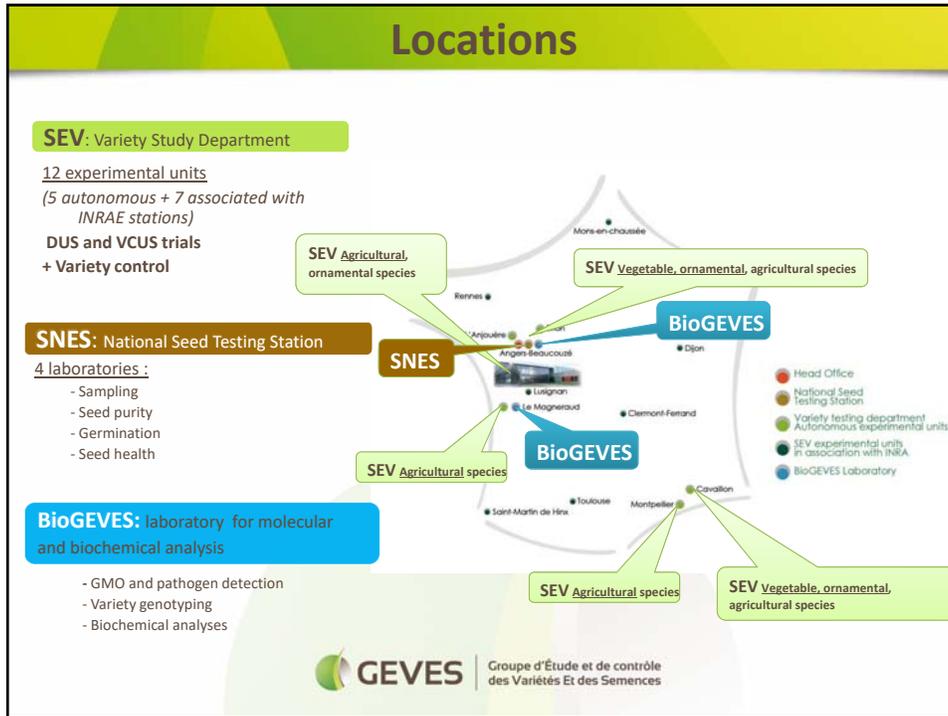
**The French Variety and Seed Study and Control Group:**

- A public structure (Public Interest Group)
- Founded from three partner organizations:

	– INRAE (French National Research Institute for Agriculture, Food and Environment), 60%
	– The Ministry in charge of agriculture, 20%
	– GNIS (French Interprofessional Organisation for Seeds and Plants), 20%







## DUS studies

- Number of DUS studies per year and per group of species

Species group	Studies conducted by GEVES	Studies delegated (or other French organisations)	Studies contracted abroad	Total studies
Forest trees		6		6
Fruit species	7	282	1	290
Vegetable species	492	6		498
Ornamental plants	234	3		237
Beet and industrial chicory	17	173		190
Cereals	434	1	14	449
Rapeseed and other crucifers	345		8	353
Flax and hemp	24			24
Maize and sorghum	706			706
Forage plants and turfgrasses	107		223	330
Protein plants	49			49
Potatoes			13	13
Sunflower and soyabean	228			228
Vine		82		82
<b>TOTAL 2019</b>	<b>2 647</b>	<b>563</b>	<b>256</b>	<b>3 462</b>
<b>Total 2018</b>	<b>2 675</b>	<b>496</b>	<b>274</b>	<b>3 445</b>

- Reference collection

Total no. varieties in collection	2019
Beet and industrial chicory	1 653
Cereals	4 857
Rapeseed and other crucifers	2 451
Flax and hemp	327
Maize and sorghum	9 975
Forage plants and turfgrasses	934
Protein plants	801
Sunflower and soyabean	3 067
<b>Total agricultural species</b>	<b>23 965</b>
Vegetable species	28 422
Ornamental species maintained in vitro at GEVES	3 818
<b>TOTAL GENERAL</b>	<b>56 205</b>

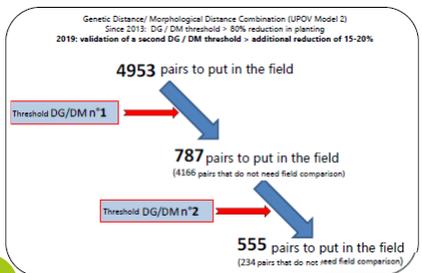

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## Research on DUS

- Use of **molecular markers** for management of reference collection

**BioGEVES:**  
Biotechnologies

*Example: maize DUS testing*



Genetic Distance/ Morphological Distance Combination (UPOV Model 2)  
Since 2013: DG / DM threshold > 80% reduction in planting  
2019: validation of a second DG / DM threshold > additional reduction of 15-20%

- Use of new tools of phenotyping













## FRUIT SPECIES: DUS TESTING

Specie	Number of varieties under examination (2020)	Reference collection	Location
Peach	89	> 800	INRAE Avignon
Apple	72	> 1 200	INRAE Angers
Grapevine	71	> 3 800	INRAE Montpellier
Apricot	41	> 450	INRAE Avignon
Sweet Cherry	33	> 160	INRAE Bordeaux
Japanese plum	21	> 70	INRAE Avignon
Pear	3	> 200	INRAE Angers
Malus rootstocks	4	> 250	INRAE Angers
Prunus rootstocks	1	> 200	INRAE Avignon INRAE Bordeaux





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## FRUIT SPECIES: DUS TESTING





Agricultural Research for Development



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Have a nice 51<sup>st</sup> **UPOV** e-TWF !

Nîmes is still waiting for you !



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[Annex IV follows]

TWF/51/10

ANNEX IV

LIST OF LEADING EXPERTS

**DRAFT TEST GUIDELINES TO BE SUBMITTED  
TO THE TECHNICAL COMMITTEE IN 2020**

All requested information to be submitted to the Office of the Union

**by August 21, 2020**

Species	Basic Document(s)	Leading expert(s)
Common Sea Buckthorn ( <i>Hippophae rhamnoides</i> L.) (Partial revision: Ad. 21)	TG/240/1, TWF/51/4	Mr. Lubomir Basta (SK)
*Pistachio ( <i>Pistacia vera</i> L.)	TG/PISTA(proj.4)	Ms. Urszula Braun- Mlodecka (QZ)
*Physic Nut ( <i>Jatropha curcas</i> L.)	TG/JATRO_CUR (proj.3)	Mr. Alejandro Barrientos-Priego (MX)

**DRAFT TEST GUIDELINES TO BE DISCUSSED AT TWF/52**

(\* indicates possible final draft Test Guidelines)

**(Guideline date for Subgroup draft to be circulated by Leading Expert: April 2, 2021  
Guideline date for comments to Leading Expert by Subgroup: April 30, 2021)**

New draft to be submitted to the Office of the Union  
**May 28, 2021**

Species	Basic Document(s)	Leading expert(s)	Interested experts (States/Organizations) <sup>1</sup>
Apple (fruit varieties) (Revision) ( <i>Malus domestica</i> Borkh.)	TG/14/10(proj.3)	Mr. Erik Schulte (DE)	AU, BR, CA, CL, CN, CZ, FR, HU, JP, KR, MX, NL, NZ, PL, QZ, RU, ZA, CIOFORA, Office
*Apricot ( <i>Prunus armeniaca</i> L.) (Revision)	TG/70/5(proj.4)	Mr. Zsolt Szani (HU)	AU, BG, CN, CZ, ES, FR, HU, IL, IT, JP, KR, MA, NZ, PL, QZ, RO, ZA, CIOFORA, Office
Argania ( <i>Argania spinosa</i> (L.) Skeels)	TG/ARGAN(proj.5)	Ms. Ibtihaj Belmehdi (MA)	IL, Office
Date Palm ( <i>Phoenix dactylifera</i> )	TG/PHOEN_DAC (proj.1)	Mr. Ben-Zion Zaidman (IL)	BR, MA, MX, OM, TN, Office
Grapevine ( <i>Vitis</i> L.) (Revision)	TG/50/10(proj.3)	Mr. Luca Aggio (IT)	AU, BR, CA, CL, CN, CZ, DE, ES, FR, HU, JP, KR, MX, NZ, QZ, RU, SK, ZA, CIOFORA, Office
Guava ( <i>Psidium guajava</i> L.) (Revision)	TG/110/4(proj.1)	Ms. Ling Gao (CN)	BR, MX, QZ, Office
Goji ( <i>Lycium</i> L.)	TG/LYCIUM_BAR (proj.1)	Ms. Chuanhong Zhang (CN)	DE, KR, QZ, Office
Hazelnut ( <i>Corylus americana</i> Marshall) (Revision)	TG/71/4(proj.1)	Mr. Flavio Roberto de Salvador (IT)	TWO, CN, CZ, DE, ES, HU, QZ, Office
Lemon (Lemons and Limes ( <i>Citrus</i> L. - Group 3)) (Partial revision: deletion of Characteristics 53, 56 and 67; changes to Characteristics 29, 68, 73	TG/203/1 Rev.	Ms. Nuria Urquía Fernández (ES)	BR, FR, IL, JP, MA, MX, QZ, Office
Mandarin ( <i>Citrus</i> L. – Group 1) (Partial revision: deletion of Characteristics 9 to 12, 15, 18, 19, 27, 35, 36, 38 to 40, 42, 43, 45 to 47, 50, 51, 58, 60, 65, 66, 68 to 70, 75, 90, 91, 93 and 104; changes to Characteristics 25, 67, 73, 91 and 98)	TG/201/1 Rev.	Ms. Nuria Urquía Fernández (ES)	BR, FR, IL, JP, KR, MA, MX, NZ, QZ, Office
Mulberry ( <i>Morus</i> L.)	TG/MORUS(proj.2)	Mr. Yosuke Abe (JP)	TWO, BR, CN, HU, IT, KR, QZ, Office
Raspberry ( <i>Rubus idaeus</i> L.) (Revision)	TG/43/7	Mr. Erik Schulte (DE)	CA, CN, CZ, IT, JP, MX, NZ, QZ, CIOFORA, Office
Sour Cherry ( <i>Prunus cerasus</i> L.); Duke Cherry ( <i>Prunus xgondouinii</i> (Poit. & Turpin) Rehder) (Revision)	TG/230/1	Ms. Márkné Deák Szilvia (HU)	CA, CN, CZ, DE, QZ, Office

<sup>1</sup> for name of experts, see List of Participants

Species	Basic Document(s)	Leading expert(s)	Interested experts (States/Organizations) <sup>1</sup>
Strawberry ( <i>Fragaria</i> L.) (Revision)	TG/22/11(proj.2)	Mr. Erik Schulte (DE)	AU, CA, CL, ES, JP, KR, MA, NZ, PL, PT, QZ, CIOPORA, Office
Sweet Cherry ( <i>Prunus avium</i> L.) (Revision)	TG/35/8(proj.1)	Ms. Carole Dirwimmer (FR)	AU, BG, CA, CZ, DE, ES, HU, IT, JP, KR, NZ, PL, QZ, RO, SK, ZA, CIOPORA, Office
Trifoliate Orange (( <i>Poncirus</i> ) ( <i>Citrus</i> L. - Group 5)) (Partial revision: deletion of Characteristics, 4, 20, 86; changes to Characteristics: 25, 100, 101)	TG/83/4 Rev.	Ms. Nuria Urquía Fernández (ES)	FR, JP, MA, NZ, QZ, Office

**POSSIBLE TEST GUIDELINES TO BE DISCUSSED IN THE FUTURE**

Species	Basic Document(s)
Carambola ( <i>Averrhoa carambola</i> L.)	NEW
Cape Gooseberry ( <i>Physalis peruviana</i> L.)	NEW
Soursop ( <i>Annona muricata</i> L.)	NEW

[End of Annex IV and of document]