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|  |  | E  TWC/31/32  **ORIGINAL:**  English  DATE:  June 7, 2013 |
| INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS | | |
| Geneva | | |

Technical working party on automation and computer programs

Thirty-First Session  
Seoul, June 4 to 7, 2013

report

adopted by the   
Technical Working Party on Automation and Computer Programs

Opening of the Session

The Technical Working Party on Automation and Computer Programs (TWC) held its thirty-first session in Seoul, from June 4 to 7, 2013. The list of participants is reproduced in Annex I to this report.

The TWC was welcomed by Mr. Shin Hyun Kwan, Director General, Korean Seed and Variety Service (KSVS), Ministry of Agriculture, Food and Rural Affairs (MAFRA). A copy of the welcome address is provided in Annex II to this report.

The TWC received a presentation on the plant variety protection (PVP) system in the Republic of Korea from Mr. Lee Sang Hyug, Director, Plant Variety Protection Division, KSVS, MAFRA. A copy of the presentation is provided in Annex III to this report.

The session was opened by Mr. Sami Markkanen (Finland), Chairperson of the TWC, who welcomed the participants and thanked the Republic of Korea for hosting the TWC session.

Adoption of the agenda

The TWC adopted the revised agenda as presented in document TWC/31/1 Rev., according to the order of agenda items agreed at the session.

Short reports on developments in plant variety protection

*(a) Reports from members and observers*

The TWC noted the information on developments in plant variety protection from members of the Union provided in document TWC/31/31 Prov.. The TWC noted that reports submitted to the Office of the Union during or after the session would be included in document TWC/31/31.

*(b) Reports on developments within UPOV*

The TWC received a presentation from the Office of the Union on the latest developments within UPOV, a copy of which is provided in document TWC/31/27.

Molecular techniques

The TWC considered document TWC/31/2.

The TWC noted the program for the adoption of document TGP/15/1 “Guidance on the Use of Biochemical and Molecular Markers in the Examination of Distinctness, Uniformity and Stability (DUS)”.

The TWC noted the discussion on molecular techniques at the forty-ninth session of the Technical Committee (TC).

The TWC noted that the TC had proposed to hold a coordinated meeting of the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT) with the International Organization for Standardization (ISO), the International Seed Trade Association (ISTA) and the Organization for Economic Co-operation and Development (OECD) and including breeders; and that if it was not possible to organize a coordinated meeting in 2014, a meeting of the BMT would be organized in the meantime.

The TWC received a presentation from experts from China on the research on the construction of DNA fingerprint database in Maize and suggested that the information be made available to the BMT. A copy of the presentation is provided in document TWC/31/2 Add..

TGP documents

The TWC considered the TGP documents below on the basis of documents TWC/31/3 and TWC/31/3 Add..

The TWC noted the agreement of the TC and the Legal and Administrative Committee (CAJ) to submit document TGP/15/1 “Guidance on the Use of Biochemical and Molecular Markers in the Examination of Distinctness, Uniformity and Stability (DUS)” for adoption by the Council, at its forty-seventh session, to be held on October 24, 2013.

The TWC noted the agreement of the TC and the CAJ to invite the Council to adopt document TGP/14/2 “Glossary of Terms Used in UPOV Documents” at its forty-seventh session, to be held on October 24, 2013, and noted that the Council would be invited to adopt document TGP/0/6, in order to reflect the adoption of documents TGP/15/1 and TGP/14/2.

The TWC noted the matters approved by the TC for future revision of documents TGP/7, TGP/8 and TGP/9, as set out below:

*(a) TGP/7: Development of Test Guidelines*

1. *Coverage of Types of Varieties in Test Guidelines*
2. *Selection of Asterisked Characteristics*
3. *Standard References in the Technical Questionnaire*
4. *Applications for Varieties with Low Germination*
5. *Procedure for the Development of Test Guidelines*
6. *Quantity of Plant Material Required*
7. *Minimum Quantity of Plant Material*
8. *Guidance on Number of Plants to be Examined (for Distinctness)*
9. *Guidance for Method of Observation*
10. *Example Varieties*
11. *Providing Photographs with the Technical Questionnaire*
12. *Duration of Test*
13. *Number of Plants Required for Description*

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

*Part I: DUS Trial Design and Data Analysis*

1. *New Section 2: “Data to be recorded”*
2. *New Section: “Reduction of Size of Trials”*

*Part II: Techniques Used in DUS Examination*

1. *Section 3: “The Combined-Over-Years Criteria for Distinctness (COYD)”*
2. *Section 3, Subsection 3.6: “Adapting COYD to special circumstances”*
3. *Section 4: “2x1% Method-Minimum Number of Degrees of Freedom for the 2x1% Method”*

*(c) TGP/9: Examining Distinctness*

1. *Guidance on Number of Plants to be Examined (for Distinctness)*
2. *Providing Photographs with the Technical Questionnaire*

The TWC noted the agreement of the TC that a draft revision of document TGP/5 Section 10 “Notification of Additional Characteristics and States of Expression” be presented for consideration by the TC at its fiftieth session, subject to the conclusion of discussions on disclaimers on UPOV documents in the Consultative Committee.

The TWC noted the program for the development of TGP documents, as set out in the Annex to document TWC/31/3.

The TWC also noted the matters for discussion on future revision of documents TGP/7, TGP/8 and TGP/14 that would be considered on the basis of documents TWC/31/9, TWC/31/10, TWC/31/11, TWC/31/12, TWC/31/13, TWC/31/14, TWC/31/15 Corr., TWC/31/15 Add., TWC/31/16, TWC/31/17, TWC/31/18, TWC/31/18 Add., TWC/31/19, TWC/31/20, TWC/31/20 Add., TWC/31/21 and TWC/31/23 Rev., respectively.

The TWC considered the TGP documents below on the basis of documents TWC/31/3, TWC/31/3 Add. and the documents listed above.

*Revision of TGP documents*

TGP/7: Development of Test Guidelines

*(i) Revision of document TGP/7: Additional Standard Wording for Growing Cycle for Tropical Species*

The TWC considered document TWC/31/9.

The TWC considered the proposed Additional Standard Wording (ASW) for growing cycle of tropical species and agreed with the proposed wording and the modifications proposed by the Technical Working Party for Fruit Crops (TWF), as follows:

*New (after (b)): ~~Tropical fruit species~~ Evergreen species with indeterminate growth*

The growing cycle is considered to be the period ranging from the beginning of flowering of an individual flower or inflorescence, through active flowering and fruit development, and concluding with the harvesting of fruit.

*(ii) Revision of document TGP/7: Source of Propagating Material*

The TWC considered the proposed guidance on source of propagating material, as presented in Section IV “Guidance for drafting Test Guidelines” of the Annex to document TWC/31/10 and noted the document provided useful information on the effects of the source of propagating material, and agreed with the request for the preparation of a condensed version as a source of general guidance for drafters of Test Guidelines, for inclusion in document TGP/7.

The TWC requested the drafter to avoid the reference to Wikipedia (page 7) in order to make sure to refer to a reliable information source.

*(iii) Revision of document TGP/7: Indication of Growth Stage in Test Guidelines*

The TWC considered document TWC/31/11 and agreed that there was no need to amend the existing guidance in document TGP/7 with regard to the indication of the growth stage at which to observe characteristics in the Test Guidelines.

*(iv)* *Revision of document TGP/7: Providing Illustrations of Color in Test Guidelines*

The TWC considered the guidance proposed in paragraph 6 of document TWC/31/12.

The TWC agreed with the following guidance proposed by the Technical Working Party for Ornamental Plants and Forest Trees (TWO), at its forty-sixth session, and the TWF, at its forty-fourth session, with the inclusion of the word “observed” at the last sentence, to be included in a future revision of document TGP/7:

“~~Particular caution is needed when considering the~~ It is generally not appropriate to use ~~of~~ illustrations of color, as such, in the Test Guidelines because the color in photographs can be affected by the technology of the camera, ~~and~~ the facilities used to display the photograph (including printer, computer and screen~~, etc.~~) and lighting conditions under which the photograph is taken. Furthermore, the expression of color may vary according to the environment in which the variety is grown. For example, a photograph of a “~~light~~ weak intensity” of anthocyanin coloration provided by the Leading Expert in one UPOV member may not represent a “weak ~~light~~ intensity” of anthocyanin coloration observed in another UPOV member.”

The TWC considered the wording “light intensity” to be inappropriate.

*(v) Revision of document TGP/7: Presence of Leading Expert at Technical Working Party Sessions*

The TWC considered document TWC/31/13 and agreed with the proposed guidance on the presence of leading experts at Technical Working Party sessions, for inclusion in a future revision of document TGP/7, section 2.2.5.3, as set out below:

“2.2.5.3 Requirements for draft Test Guidelines to be considered by the Technical Working Parties

“Unless otherwise agreed at the TWP session, or thereafter by the TWP Chairperson, the timetable for the consideration of draft Test Guidelines by the Technical Working Parties is as follows:

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| Action | Latest date  before the TWP session |
| Circulation of Subgroup draft by Leading Expert: | 14 weeks |
| Comments to be received from Subgroup: | 10 weeks |
| Sending of draft to the Office by the Leading Expert: | 6 weeks |
| Posting of draft on the website by the Office: | 4 weeks |

“In cases where *either* of the deadlines for circulation of the Subgroup draft or for the sending of the draft to the Office by the Leading Expert is not met, the Test Guidelines would be withdrawn from the TWP agenda and the Office would inform the TWP accordingly at the earliest opportunity (i.e. not later than 4 weeks before the TWP session). In those cases where draft Test Guidelines are withdrawn from the TWP agenda because of failure by the Leading Expert to meet the relevant dates, it would be possible for specific matters concerning those Test Guidelines to be discussed at the TWP session. However, to consider specific matters it would be necessary for a document to be provided to the Office at least 6 weeks before the TWP session.”

“In order to be considered by a Technical Working Party, the Leading Expert of the draft Test Guidelines should be present at the session, unless a suitable alternative expert can be arranged to act as the Leading Expert sufficiently in advance of the session, or unless the Leading Expert is able to participate by electronic means.”

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

*(i) Revision of document TGP/8: Part I: DUS Trial Design and Data Analysis, New Section: Minimizing the Variation due to Different Observers*

The TWC considered document TWC/31/14.

The TWC noted that the drafter from the Netherlands was no longer participating in the TWC meetings and that it was not possible to indicate another expert(s) from the TWC to continue the work. However, the TWC noted that the TWO and Technical Working Party for Vegetables (TWV) had proposed experts to help to develop further guidance, on the proposed text to be included in TGP/8 Part I: DUS Trial and Design and Data Analysis, New Section: Minimizing the Variation due to Different Observers, in a future revision of document TGP/8, with regard to guidance on PQ and QN/MG characteristics.

The TWC noted that the TWF had proposed that an expert from New Zealand would report at its forty-fifth session, on the work done on the “Publication of harmonized variety description for apple for an agreed set of varieties”, in order to consider if it could be relevant to further develop the study.

*(ii) Revision of document TGP/8: Part II: Selected Techniques Used in DUS Examination, Section 3: Method of Calculation of COYU*

The TWC noted that a revision of document TGP/8: Part II: Selected Techniques Used in DUS Examination, Section 3: Method of Calculation of COYU would be considered on the basis of documents TWC/31/15 Corr. and TWC/31/15 Add. under agenda item 11 “Development of COY: possible proposals for improvements to COYU”.

*(iii) Revision of document TGP/8: Part II: Selected Techniques Used in DUS Examination, Section 10: Minimum Number of Comparable Varieties for the Relative Variance Method*

The TWC considered document TWC/31/16.

The TWC noted the comments made by the TWPs at their sessions in 2012 and the TC, at its forty‑ninth session in 2013.

The TWC agreed that all mentions to “threshold limit” should be replaced by “threshold” including the title of section 10.2, which should read “10.2 Threshold for different sample sizes”. The TWC proposed that the second sentence of paragraph 10.2.1 should read:

“For example, if the ~~actual sample size of the~~ number of comparable varieties is ~~60~~ 1, and the ~~number of comparable varieties is limited for that species~~ sample size is 60 for that variety, then the threshold ~~limit~~ is 1.84 (df1 =60, df2 =60)”.

*(iv) Revision of document TGP/8: Part II: Selected Techniques used in DUS Examination, New Section: Examining DUS in Bulk Samples*

The TWC considered document TWC/31/17.

The TWC noted that the TC had agreed to replace the proposed text for new Section 11 “Examining DUS in Bulk Samples” in the Annex to document TC/49/28 with guidance on the use of characteristics examined on the basis of bulk samples, in order to ensure that the characteristics fulfill the basic requirements for a characteristic.

The TWC agreed that Leading Experts of Test Guidelines could be requested to provide data from different years to demonstrate that the expression of the characteristic was “sufficiently consistent and repeatable in a particular environment”.

*(v) Revision of document TGP/8: Part II: Selected Techniques Used in DUS Examination”, New Section: Data Processing for the Assessment of Distinctness and for Producing Variety Descriptions*

The TWC considered document TWC/31/18.

The TWC considered the developments on a practical exercise with a common data set to produce variety descriptions of self-pollinated and/or vegetatively propagated varieties, in order to determine the aspects in common and divergence between methods, with a view to developing general guidance. The TWC welcomed the data set of Flax varieties offered by the experts from France for the practical exercise.

The TWC received a presentation by an expert from the United Kingdom on a preliminary use of the Flax data set to illustrate two different methods from the United Kingdom, as contained in document TWC/31/18 Add.. The TWC noted that the document had been prepared to illustrate the way in which the different methods could be applied and noted that in the United Kingdom one of the methods was currently applied to herbage crops, and so might not be suitable for Flax, and would need to be evaluated.

The TWC noted that there was no guidance on the production of variety descriptions for cross pollinated, self-pollinated or vegetatively propagated crops.

The Office of the Union reported that data sets of Chrysanthemum and Pea had been received from Japan and the Netherlands, respectively, and would be made available for the experts participating in the practical exercise.

The TWC agreed that the Office of the Union should seek to ensure that the crops and data in the practical exercise would enable all methods for self-pollinated and/or vegetatively propagated varieties mentioned to be included.

*(vi) Revision of document TGP/8: Part II: Selected Techniques Used in DUS Examination, New Section: Guidance of Data Analysis for Blind Randomized Trials*

The TWC considered document TWC/31/19 and noted that the draft guidance should be described in general terms to become suitable for crops tested in plots or as individual plants and for the observation of the different types of characteristics (QN, PQ, QL).

The TWC agreed that the section describing the method of preparation of the trial should be further developed to clarify the procedure for coding the varieties to be used. The TWC requested an improvement to the example used in paragraph 4 with random allocation of codes and the duplication of all samples used, including “C” (Mixture).

The TWC agreed that the guidance should include statistical consideration on the design of the trial, such as that the number of replications should be sufficiently large to ensure that there was only a small probability (e.g.<0.05 or 0.01) that the candidate variety was correctly labelled by chance.

The TWC agreed that the draft guidance should provide information about analysis of the results.

*(vii) Revision of document TGP/8: Part II: Selected Techniques Used in DUS Examination, New Section: Examining characteristics using image analysis*

The TWC noted that the revision of document TGP/8: Part II: New Section: Statistical Methods for Visually Observed Characteristics would be considered on the basis of documents TWC/31/20 and TWC/31/20 Add. under agenda item 9 “Image analysis”.

*(viii) Revision of document TGP/8: Part II: New Section: Statistical Methods for Visually Observed Characteristics*

The TWC considered document TWC/31/23 Rev..

TWC noted that the TC had agreed that it would not be appropriate to continue the development of a section on “Statistical Methods for Visually Observed Characteristics”, unless new guidance was provided beyond the methods already provided in document TGP/8.

The TWC agreed that the method proposed in Annex II to document TC/49/32 was new and considered that it had advantages over the Chi-square test already provided in document TGP/8 for multinomial distributed data, such as visually observed characteristics, whereas COYD for normally distributed data is not suitable for multinomial distributed data.

The TWC agreed that it would be beneficial to further develop the method for multinomial data and to compare the decisions made using the two methods based on real data from Finland and the United Kingdom (Timothy, Red Clover and Meadow Fescue: growth habit).

The TWC noted that Finland planned to use the new method for multinomial data, once it had been established and potentially also the United Kingdom.

TGP/14: Glossary of Terms Used in UPOV Documents

*Revision of document TGP/14: Section 2: Botanical Terms, Subsection 3: Color, Definition of "Dot"*

The TWC considered document TWC/31/21.

The TWC agreed with the TWO, TWF and TWV that “dot” was a small “spot” and that only the term “spot” should be used in the future, according to the guidance provided in document TGP/14: Section 2: Botanical Terms, Subsection 3: Color. The TWC noted that the TWO, TWF and TWV had proposed that the Test Guidelines should be revised whenever the use of these terms could cause confusion, but noted the view of experts that there might be a need to use the terms separately in some languages.

Information and databases

*(a) UPOV information databases*

The TWC considered document TWC/31/5.

The TWC noted the amendments to UPOV codes and the plan of the Office of the Union to prepare tables of UPOV code additions and amendments, for checking by the relevant authorities, for each of the TWPs sessions in 2013.

The TWC noted the developments concerning the program for improvements to the Plant Variety Database (“Program”) since the thirtieth session of the TWC, as set out in paragraphs 10 to 22 to document TWC/31/5.

The TWC noted the plans of the Office of the Union to conduct a survey of members of the Union on their use of databases for plant variety protection purposes and on their use of electronic application systems.

The TWC received a demonstration of the video tutorial on how to use PLUTO database, which is available from the UPOV website at: <http://upov.int/pluto/en/>.

*(b) Variety description databases*

The TWC considered documents TWC/31/6 and TWC/31/25.

The TWC noted the developments on variety description databases and congratulated the experts from France on the study on the Pea Database. The TWC agreed on the possible use of image analysis for reducing distortion in some characteristics, while noting that image analysis had its own sources of distortion.

The TWC welcomed the offer from China to make a presentation on variation of variety descriptions over years in different locations, to be presented the TWC, at its thirty-second session.

*(c) Exchangeable software*

The TWC considered documents TWC/31/7, TWC/31/29 and TWC/31/30.

The TWC noted that the TC had concluded that the title of document UPOV/INF/16 “Exchangeable Software” and Section 1. “Requirements for exchangeable software” should remain unchanged, but that it would be useful to develop a separate information document that would allow members of the Union to provide information on the use of non-customized software and equipment that was used by members of the Union.

The TWC noted that the TC had:

(a) agreed with the inclusion of “Information System (IS) used for Test and Protection of Plant Varieties in the Russian Federation” and the AIM software from France in document UPOV/INF/16;

(b) requested the Office of the Union to investigate the possibility of the translation of “Information System (IS) used for Test and Protection of Plant Varieties in the Russian Federation” into English on the basis that the Russian Federation would verify the translation provided by the Office of the Union; and

(c) requested the Office of the Union to translate the AIM software to English on the basis that France would verify the translation provided by the Office of the Union.

The TWC noted that the TC had agreed with inclusion of the information contained in the Annex II to document TWC/31/5 for a revision of document UPOV/INF/16 by the Council at its forty-seventh session, to be held in Geneva on October 24, 2013.

The TWC received a presentation by an expert of France on the development of a color analysis process using AIM software which would be used in DUS testing in France, as presented in the Annex to document TWC/31/29. The TWC agreed on the importance of the environmental conditions in taking photos for the image analysis.

The TWC received a presentation on the SISNAVA and SIVAVE software proposed by Mexico for inclusion in document UPOV/INF/16 “Exchangeable software”, as presented in the Annex to document TWC/30/30, which was made by an expert from Mexico by electronic means.

The TWC agreed that the SIVAVE software proposed by Mexico was suitable for inclusion in document UPOV/INF/16.

The TWC requested Mexico to provide further information on the SISNAVA software to clarify the method of determination for the crop specific limits of acceptance (sum of differences), including the role of the crop experts in this process, to be presented to the TWC at its thirty-second session.

*(d) Electronic application systems*

The TWC considered document TWC/31/8 and noted the developments concerning a prototype electronic form.

Variety denominations

The TWC considered document TWC/31/4 and noted the developments concerning the International Commission for the Nomenclature of Cultivated Plants of the International Union for Biological Sciences (IUBS Commission) and the International Society for Horticultural Science Commission for Nomenclature and Cultivar Registration (ISHS Commission), of relevance for UPOV.

Data loggers

The TWC considered document TWC/31/28 Rev..

The TWC noted the information provided on the updated survey on hand-held data capture devices in the Annex to document TWC/31/28 Rev. and agreed that a new circular should be issued by the Office of the Union inviting further entries in advance of the thirty-second session of the TWC.

Image analysis

The TWC considered documents TWC/31/20 and TWC/31/20 Add..

The TWC noted the information on software and hardware used for image analysis, as set out in Annex I to document TWC/31/20.

The TWC noted that the AIM software for image analysis would be considered in document TWC/31/7 “Exchangeable software”.

The TWC considered the draft of the new section “Examining Characteristics Using Image Analysis” for inclusion in document TGP/8, as contained in Annex to document TWC/31/20 Add. as presented by an expert from the European Union by electronic means. The TWC agreed that the expert from the European Union should revise the text to provide guidance on the use of the method with suitable language for inclusion in document TGP/8, to be presented to the TWPs at their sessions in 2014.

Uniformity assessment

*(a) Assessing uniformity by off-types on the basis of more than one sample or sub‑samples*

The TWC considered document TWC/31/22.

The TWC noted that it had agreed that more detailed information and further analysis were needed in order to give guidance on consequences on the use of the different approaches presented in Annexes I to IV of document TWC/31/22, and that France, Germany and the Netherlands would present one or more concrete situations in their countries and the statistical basis of their analysis for its next session.

The TWC considered the statistical basis for the acceptable number of off-types in the subsample of 20 plants used in the context of a sample size of 100 plants, as provided in Annex V to document TWC/31/22, which was introduced by an expert from Germany by electronic means.

The TWC requested the experts from Germany to explain the Type I and Type II errors used in the statistical basis for the acceptable number of off-types in the subsample of 20 plants used in the context of a sample size of 100 plants. The TWC agreed that the statistical basis for this approach would continue to be discussed at its thirty-second session. The TWC agreed that it would not be appropriate to recommend this approach for other crops or sample sizes before it had agreed on the statistical basis.

The TWC noted that, with regard to the approach combining the results from two growing cycles, as set out in Annexes I and II to document TWC/31/22, Situation A and B, the TC had agreed that care would be needed when considering results that were very different in each of the growing cycles, such as when a type of off-type was observed at a high level in one growing cycle and was absent in another growing cycle.

The TWC noted information on testing of uniformity of Apple varieties arising from mutation in New Zealand would be presented in document TWC/31/26.

*(b) Testing Uniformity of Apple Varieties Arising from Mutation*

The TWC considered document TWC/31/26.

The TWC considered the information on the assessment of uniformity and stability by off-types on the basis of two samples for apple varieties originating as mutations in New Zealand. The TWC noted that the statistical analyses were based on off-types tables and agreed with the TWV that the results from the two locations should not be combined, but treated as two separate samples.

Development of COY: possible proposals for improvements to COYU

The TWC considered document TWC/31/15 Corr. and received a presentation from an expert from the United Kingdom, as contained in document TWC/31/15 Add..

The TWC noted that the present method of calculation of COYU was overly strict due to the method of smoothing used and that very low probability levels were used in compensation (e.g. p=0.1%). The TWC agreed that the bias in the present method of calculation of COYU could be addressed by a change of smoothing method from “moving average” to “cubic smoothing splines”.

The TWC welcomed the offer by the experts from the United Kingdom to write software for the proposed COYU method in FORTRAN for integration into the DUST software and to present a demonstration version of the DUST software using the proposed COYU method at the thirty-second session of the TWC.

The TWC agreed that the probability levels to be used in the proposed COYU method should be discussed on the basis of the experience of UPOV members in using the proposed method.

The TWC agreed that a circular should be prepared by an expert from the United Kingdom and issued by the Office to the TC representatives, in order to investigate which members of the Union used the current COYU method and in which software it was used.

The TWC agreed that the document containing the proposal for an improvement to COYU should be summarized by an expert from the United Kingdom and presented to the TC at its fiftieth session and the TWP sessions to be held in 2014. The document should explain the bias of the present method that justified the proposed changes.

The TWC agreed that guidance should be developed on the minimum number of varieties that would be suitable for using the COYU method.

Guidance for drafters of Test Guidelines

The TWC considered document TWC/31/24.

The TWC noted the information in the TG Drafters’ webpage of the UPOV website, including the Revised Practical Guide for Drafters (Leading Experts) of UPOV Test Guidelines.

The TWC noted:

(a) the plan for the development of a prototype web-based TG Template for testing by interested experts by the end of 2013; and

(b) that the template would provide sufficient flexibility for drafters of Test Guidelines to introduce proposals that were not covered by existing standard wording and would retain flexibility in the structure for further development of Test Guidelines by UPOV members.

The TWC noted the file “Summary information on quantity of plant material required on adopted Test Guidelines” available on the TG Drafters’ webpage of the UPOV website.

Date and place of the next session

The TWC agreed to hold its thirty-second session in Helsinki, Finland, from June 3 to 6, 2014, with the preparatory workshop on June 2, 2014.

Chairperson

The TWC agreed to propose to the TC that it recommend to the Council to elect Mr. Adrian Roberts (United Kingdom), as the next chairperson of the TWC.

Future program

The TWC planned to discuss the following items during the thirty-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 (document to be prepared by the Office of the Union)

4. Molecular techniques (document to be prepared by the Office of the Union and documents invited)

5. TGP documents

6. Information and databases

(a) UPOV information databases (document to be prepared by the Office of the Union and documents invited)

(b) Variety description databases (document to be prepared by the Office of the Union and documents invited)

(c) Exchangeable software (document to be prepared by the Office of the Union and documents invited)

(d) Electronic application systems (document to be prepared by the Office of the Union and documents invited)

7. Variety denominations (document to be prepared by the Office of the Union)

8. Uniformity assessment by off-types (documents to be prepared by France, Germany and the Office of the Union)

9. Data loggers (document to be prepared by the Office of the Union)

10. Image analysis (document to be prepared by the European Union)

11. Development of COYU (document to be prepared by the United Kingdom)

12. Database for researching TWC documents (document to be prepared by Germany)

13. Date and place of the next session

14. Future program

15. Report on the session (if time permits)

16. Closing of the session

Technical Visit

On the afternoon of June 5, 2013, the TWC visited the Seoul Agricultural Technology Center (SATC) operated by Seoul Metropolitan Government, where the TWC was welcomed by Mr. Bae Jeongbok, Director, Agricultural Education Division, SATC. The TWC received a presentation on SATC from Mr. Kwon Hyukhyun, Deputy Director, Urban Agriculture Team, Agricultural Education Division, SATC, a copy of which is provided in Annex IV to this report. The TWC also visited the greenhouses of ornamental and vegetable crop farmers in the area.

*The TWC adopted this report at the end of its session.*

[Annexes follow]

TWC/31/32

ANNEX I

LIST OF PARTICIPANTS

i. MEMBERS

ARGENTINA

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| IMG_1313.JPG | Alberto BALLESTEROS, Examiner for Cereal, Cotton and Forage Crops/Examinador técnico, Registro de Variedades, Secretaría de Agricultura, Ganadaría y Pesca, Ministerio de Agricultura, Ganadería, y Pesca, Venezueld 162 3 piso C 1095AAD Buenos Aires (tel.: +54 11 3220 5424 e-mail: [aballesteros@inase.gov.ar](mailto:aballesteros@inase.gov.ar)) |

BRAZIL

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| IMG_1288.JPG | Stefania PALMA ARAUJO (Mrs.), Fiscal Federal Agropecuário, Ministério da Agricultura, Pecuária e Abastecimento, Bloco "D", Anexo "A", Sala 248, Esplanada dos Ministérios, Brasilia DF (tel.: +55 61 3218 2547 fax: +55 61 3224 2842 e-mail: [stefania.araujo@agricultura.gov.br](mailto:stefania.araujo@agricultura.gov.br)) |

CHINA

|  |  |
| --- | --- |
| 18 | Lijun CHEN, Research Associate, DUS Testing Division, Harbin Station of DUS Testing of HeiLongjiang for PVP, Heilongjiang Academy of Agricultural Sciences, No. 368 Xuefu Road Harbin, Heilongjiang Province  (tel.: +86 451 86651186 fax: +86 451 86651186 e-mail: clj801007@yahoo.com.cn) |
| IMG_1285.JPG | JiaMei SUN (Ms.), Research Associate, DUS Testing division, JiNam Station of DUS testing of ShanDong for PVP, Crop Research Institute, Shandong Academy of Agricultural Sciences, 202 Gongye Bei Road, Crop Research Institute, Jinan, Shandong 250 100 (tel.: +86 0531 831 78713 fax: +86 0531 831 79088 e-mail: [sunyu14@hotmail.com](mailto:sunyu14@hotmail.com)) |
| 2 | Kun YANG, Examiner, DUS Testing Division, Development Center for Science and Technology, Ministry of Agriculture, Room 707, Building Nong Feng, No. 96 Dong San Huan Nan Lu, Chao Yang District, Beijing 100122  (tel.: +86 10 5919 9394 fax: +86 10 5919 9393 e-mail: yangkunmail@foxmail.com) |
| IMG_1286.JPG | Fengge WANG (Ms.), Maize Research Center, Beijing Academy of Agricultural & Forestry Sciences, Shuguang Garden, Haidian District, 100097 Beijing (tel.: +86 10 5150 3558 fax: +86 10 5150 3710 e-mail: [gege0106@163.com](mailto:gege0106@163.com)) |
| IMG_1290.JPG | Yang YANG (Mr.), Maize Research Center, Beijing Academy of Agricultural & Forestry Sciences, Shuguang Garden, Haidian District, 100097, Beijing  (tel.: +86 10 515 03983 fax: +86 10 51503710 e-mail: caurwx@gmail.com) |

DENMARK

|  |  |
| --- | --- |
| 12 | Kristian KRISTENSEN, Department of Agroecology, Faculty of Science and Technology, University of Aarhus, Blichers Allé 20, Post Box 50, DK-8830 Tjele  (tel.: +45 8715 8041 fax: +45 8715 4992 e-mail: kristian.kristensen@agrsci.dk) |

## EUROPEAN UNION

|  |  |
| --- | --- |
|  | (participation by electronic means)  Jean MAISON, Deputy Head, Technical Unit, Community Plant Variety Office (CPVO),  B.P. 10121, 49101 Angers Cedex 02  (tel.: +33 2 4125 6435 fax: +33 2 4125 6410 e-mail: maison@cpvo.europa.eu) |

FINLAND

|  |  |
| --- | --- |
| 17 | Sami Tuomas MARKKANEN, Senior Officer, Control Department, Seed Certification Unit, Finnish Food Safety Authority Evira, P.O. Box 111, FIN-32201 Loimaa  (tel.: 358 408294943 fax: 358 77 25317 e-mail: sami.markkanen@evira.fi) |

FRANCE

|  |  |
| --- | --- |
| 16 | Christophe CHEVALIER, Groupe d'étude et de contrôle des variétés et des semences (GEVES), rue Georges Morel, BP 90024, F-49071 Beaucouze CEDEX  (tel.: +33 2 41 22 86 36 fax: +33 2 41 22 58 01 e-mail: christophe.chevalier@geves.fr) |
| IMG_1309.JPG  GErmany   |  |  | | --- | --- | |  | Jean MAISON, Deputy Head, Technical Unit, Community Plant Variety Office (CPVO),  B.P. 10121, 49101 Angers Cedex 02  (tel.: +33 2 4125 6435 fax: +33 2 4125 6410 e-mail: maison@cpvo.europa.eu) | | Anne-Lise CORBEL (Ms.), GEVES, Domaine de l'Anjouère, F-49370 La Poueze (tel. : +33 24 122 8705 fax : +33 24 122 8660 e-mail: [anne-lise.corble@geves.fr](mailto:anne-lise.corble@geves.fr)  (participation by electronic means)  Uwe MEYER, Referatsleiter Informationstechnologie, Referat 111, Bundessortenamt,  Postfach 61 04 40, 30604 Hannover  (tel.: +49 511 9566 5689 fax: +49 511 9566 9689  e-mail: [uwe.meyer@bundessortenamt.de](mailto:uwe.meyer@bundessortenamt.de))  (participation by electronic means)  Thomas DROBEK, Referat 111, Bundessortenamt, Osterfelddamm 80, 30627  Hannover  (tel.: +49 511 95665688 fax: +49 511 95669600  e-mail: thomas.drobek@bundessortenamt.de) |

ITALY

|  |  |
| --- | --- |
| IMG_1287.JPG | Maurizio GIOLO, Senior Researcher Responsible for Registration Trials of Fodder and Grasses Plants, Station of Verona, INRAN ENSE, Via Ca' Nova Zampieri, 37, 37057 S.G. Lupatoto VR  (tel.: +39 045 545 164 fax: +39 045 545 250 e-mail: m.giolo@ense.it) |

JAPAN

|  |  |
| --- | --- |
| 11 | Yutaka NAKAI, Plant Variety Protection Office, Ministry of Agriculture, Forestry and Fisheries (MAFF) 1-2-1 Kasumigaseki Chiyoda-ku, Tokyo  (tel.: +81 3 6738 8471 fax: +81 3 3502 6572 email: yutaka\_nakai@nm.maff.go.jp) |
| 23 | Hiroshi UCHIZAWA, Examiner, Plant Variety Protection Office, New Business and Intellectual Property Division, Ministry of Agriculture, Forestry and Fisheries, 1-2-1 Kasumigaseki, Chiyoda‑ku, Tokyo 100-8950  (tel.: +81 3 6744 2122 fax: +81 3 3502 6572 e-mail: hiroshi\_uchizawa@nm.maff.go.jp) |
| 11092  KENYA   |  |  | | --- | --- | | IMG_1305.JPG | Abraham Kipkosgei LAGAT, Statistician II, Plant Variety Protection Office, Kenya Plant Health Inspectorate Service, P.O. Box 49592 00100 Nairobi (e-mail: [abraham.lagat@kephis.org](mailto:abraham.lagat@kephis.org)) | | Hideki MAEDA, DUS Test Investigator, DUS Test Division, National Center for Seeds and Seedlings(NCSS) Headquarter, 2-2 Fujimoto, Tsukuba, Ibaraki 305-0852 (tel.: +81 29 838 6584 fax: +81 29 838 6595 e-mail: [hmaeda@affrc.go.jp](mailto:hmaeda@affrc.go.jp))  Abraham Kipkosgei LAGAT, Statistician II, Plant Variety Protection Office, Kenya Plant Health Inspectorate Service, P.O. Box 49592 00100 Nairobi (e-mail: [abraham.lagat@kephis.org](mailto:abraham.lagat@kephis.org)) |
| MEXICO | (participation by electronic means)  Eduardo PADILLA VACA, Subdirector, Registro y Control de Variedades Vegetales,  Servicio Nacional de Inspección y Certificación de Semillas (SNICS), Av. Presidente  Juárez 13, Col. El Cortijo, 54000 Tlalnepantla , Estado de México  (tel.:+52 55 3622 0667 fax: +52 55 3622 0670 e-mail: eduardo.padilla@snics.gob.mx) |

Republic of Korea

|  |  |
| --- | --- |
| 22479 | Hyunkwan SHIN, Director General, Korea Seed & Variety Service (KSVS), Ministry of Agriculture, Food and Rural Affairs (MAFRA), 184, Anyang-ro, Manan-gu, Anyang-si, Gyeonggi-Do 430-822  (tel.: +82 31 467 0100 fax: +82 31 467 0116 e-mail: boseyo58@korea.kr) |
| 14801 | Sanghyug LEE, Director, Plant Variety Protection Division, Korea Seed & Variety Service (KSVS), Ministry of Agriculture, Food and Rural Affairs (MAFRA), 184, Anyang-ro, Manan-Gu, Anyang City, Gyeonggi-Do 430-822  (tel.: +82 31 467 0150 fax: +82 31 467 0160 e-mail: lsh68@korea.kr) |
| 6618 | Keunjin CHOI, Director, Variety Testing Division, Korea Seed & Variety Service (KSVS), Ministry of Agriculture, Food and rural Affairs (MAFRA), 39 Taejang-ro, Yeongtong-gu, Suwon, Gyeonggi-Do 443-400 (tel.: +82 31 8008 0200 fax: +82 31 203 7431 e-mail: kjchoi1001@korea.kr) |
| 22637 | Yuna AHN (Ms.), Variety Testing Division, Korea Seed & Variety Service (KSVS), Ministry of Agriculture, Food and Rural Affairs (MAFRA), 39 Taejang-ro, Yeongtong-gu, Suwon, Gyeonggi-Do 443-400  (tel.: +82 31 8008 0222 fax: +82 31 203 7431 e-mail: yunaan@korea.kr) |
| IMG_1370.JPG | Yonghyun CHO, Plant Vareity Protection Division, Korean Seed and Variety Service (KSVS), Ministry of Agriculture, Food and Rural Affairs (MAFRA), 184, Anyang-ro, Manan-gu, Anyang-si, Gyeonggi-Do 430-822  (tel.: +82 31 467 0180 fax: +82 31 467 0160 e-mail: flammulina@korea.kr) |
| 22638 | Junhwan CHOI, Dongbu Branch, Korean Seed and Variety Service (KSVS), Ministry of Agriculture, Food and Rural Affairs(MAFRA), 219-66 Daegwallyeong-ro, Daegwallyeong-myeon, Pyeongchang-gun, Gangwon-Do 232-955  (tel.: +82 33 336 6243 fax: +82 33 335 9722 email: seed@korea.kr) |
| 22639 | Jeehwa HONG (Ms.), Variety Testing Division, Korea Seed & Variety Service (KSVS), Ministry of Agriculture, Food and Rural Affairs (MAFRA), 39 Raejang-ro, Yeongton-gu, Suwon, Gyeonggi-Do 443-400  (tel.: +82 31 8008 0221 fax: +82 31 203 7431 e-mail: hongjh19@korea.kr) |
| 12950 | Heesook HWANG (Ms), Plant Variety Protection Division, Korea Seed & Variety Service (KSVS), Ministry of Agriculture, Food and Rural Affairs (MAFRA), 184, Anyang-ro, Manan-gu, Anyang-si, Gyeonggi-Do 430 822  (tel.: +82 31 467 0191 fax: +82 31 467 0160 e-mail: prpepper@korea.kr) |
| 6659 | Junyon JANG, Variety Testing Division, Korea Seed & Variety Service (KSVS), Ministry of Agriculture, Food and Rural Affairs (MAFRA), 39 Taejang-ro, Yeongtong-gu, Suwon, Gyeonggi-Do 443-400  (tel.: +82 31 8008 0202 fax: +82 31 203 7431 e-mail: jangjy@korea.kr) |
| IMG_1369.JPG | Oksun KIM (Ms.), Plant Variety Protection Division, Korea Seed & Variety Service, Ministry of Agriculture, Food and Rural Affairs (MAFRA), 184, Anyang-ro, Manan-gu, Anyang-si, Gyeonggi-Do 430-822  (tel.: +82 31 467 0190 fax: +82 31 467 0160 e-mail: oksunkim@korea.kr) |
| 22640 | Taeyoung KIM, Gyeongbuk Branch, Korea Seed & Variety Service (KSVS), Ministry of Agriculture, Food and Rural Affairs (MAFRA), Maegok-ri, Pungsan-eup, Andong-si, Gyeongsangbuk-Do  (tel.: +82 54 858 3438 fax: +82 54 858 6861 e-mail: [popbank1@korea.kr](mailto:popbank1@korea.kr)) |
| IMG_1284.JPG | Manjae KWON, Seed Marketing Division(IT Planning Team), Korea Seed and Variety Service(KSVS), Ministry of Agriculture, Food and Rural Affairs (MAFRA), 184, Anyang-ro, Manan-gu, Anyang-si, Gyeonggi-Do 430 822  (tel.: +82 31 467 0244 fax: +82 31 449 1506 e-mail: [jaekm@korea.kr](mailto:jaekm@korea.kr)) |
| IMG_1407.JPG  IMG_1408.JPG | Yongsam KWON, Variety Testing Division, Korea Seed and Variety Service(KSVS), Ministry of Agriculture, Food and Rural Affairs (MAFRA), 39 Taejang-ro, Yeongtong-gu, Suwon-si, 443-400 Gyeonggi-Do  (tel.: +82 31 8008 0220 fax: +82 31 203 7431 e-mail: [yskwon3@korea.kr](mailto:yskwon3@korea.kr))  Byungchun Yu, Variety Testing Division, Korea Seed and Variety Service (KSVS), Ministry of Agriculture, Food and Rural Affairs (MAFRA), 39 Taejang-ro, Yeongtong-gu, Suwon, Gyeonggi-Do 443-400  (tel.: 82 31 8008 0210 fax: 82 31 203 7431 e-mail: ybc1209@korea.kr) |
| 6643 | Sangdon YUN, Agricultural Researcher (DUS tester), Variety Testing Division, Korea Seed and Variety Service (KSVS), Ministry of Agriculture, Food and Rural Affairs (MAFRA), 39 Taejang-ro, Yeongtong-gu, Suwon, Gyeonggi-Do 443-400  (tel.: +82 31 8008 0214 fax: +82 31 203 7431 e-mail: yunsd@korea.kr) |
| IMG_1406.JPG | Jungnam SUH, Agricultural Researcher, Variety Testing Division, Korea Seed &  Variety Service (KSVS), 39 Taejang-ro, Yeongtong-gu, Suwon, Gyeonggi-Do 443-400 (tel.: 82 31 8008 0212 fax: 82 31 203 7431 e-mail: suhjn@korea.kr) |
| IMG_1289.JPG | Kyungjin CHO, Director, Plant Variety Protection Division, Korea Forest Seed & Variety Centre, Korea Forest Service, 72 Suhoeri-ro, Suanbo-myeon, Chungju-si, Chuncheongbuk-Do 380-941 (tel.: +82 43 850 3320 fax: +82 43 850 0451 e-mail: [kyungcho@korea.kr](mailto:kyungcho@korea.kr)) |
| IMG_1371.JPG | Geunhwa CHOI, Korea Forest Seed & Variety Center, Korea Forest Service, 72 Suhoeri-ro, Suanbo-myeon, Chungju-si, Chuncheongbuk-Do 380-941  (tel.: +82 43 850 3353 fax: +82 43 850 0451 e-mail: geonhwa@forest.go.kr) |
|  |  |
|  | Taehoon KIM, Korea Forest Seed and Variety Center (KFSV), Korea Forest Service, 670-4 Suhoe-ri, Suanbo, Chungju, Chungbuk 380-941  (tel.: +82 43 850 3326 fax: +82 43 850 3390 e-mail: algae@forest.go.kr) |
| 13040  13136  IMG_1409.JPG  IMG_1306.JPG | Jeongho LEE, Examiner, Korea Forest Seed and Variety Center (KFSV), Korea Forest Service, 670-4 Suhoe-ri, Suanbo-myeon, Chungju-Si, Chungcheongbuk-Do 380-941  (tel.: +82 43 850 3321 fax: +82 43 850 3390 e-mail: [mtmac@korea.kr](mailto:mtmac@korea.kr))  Ohwoung KWON, Senior Scientist, Senior Research Examiner, Korea Forest Seed and Variety Center (KFSV), Korea Forest Service, 670-4 Suhoe-ri, Suanbo, Chungju, Chungbuk 380-941  (tel.: +82 43 850 3321 fax: +82 43 850 3390 e-mail: owkwon@forest.go.kr)  Seungwook KIM, Korea Forest Seed and Variety Center (KFSV), Korea Forest Service, 72 Suhoe-ri, Suanbo, Chungju, Chungbuk 380-941  (tel.: +82 43 850 3327 fax: +82 43 850 3392 e-mail: munanda@forest.go.kr)  Misook Hwang, National Fisheries Research & Development Institute, 130 Tolildae-ro, Mokpo, Chunnam 530-831  (tel.: +82 61 280 4740 fax: +82 61 285 1949 e-mail: mishwang@korea.kr) |
| TURKEY  IMG_1308.JPG | Ahmet Atici, Depty Director, Ministry of Food, Agriculture and Livestock Variety  Registration and Seed Certification Centre, Ankara  (tel.: +90 312 315 4605 fax: +90 312 315 0901 e-mail: aatici42@hotmail.com) |

UNITED KINGDOM

|  |  |
| --- | --- |
| 5 | Adrian M.I. ROBERTS, Biomathematics & Statistics Scotland (BioSS), James Clerk Maxwell Building, The King's Buildings, Edinburgh EH9 3JZ  (tel.: +44 131 650 4893 fax: +44 131 650 4901 e-mail: adrian@bioss.ac.uk) |
| 7273 | Sally WATSON (Mrs.), Biometrics Branch, Agri-Food & Biosciences Institute, 18a, Newforge Lane, Belfast BT9 5PX  (tel.: +44 28902 55 292 fax: +44 28902 55 008 e-mail: sally.watson@afbini.gov.uk) |
| IMG_1307.JPG | Haidee PHILPOTT (Mrs.), Statistician, NIAB, Huntingdon Road, Cambridge CB3 OLE (tel.: +44 1223 342258 e-mail: [haidee.philpott@niab.com](mailto:haidee.philpott@niab.com)) |

II. OFFICER

|  |  |
| --- | --- |
| 17 | Sami MARKKANEN, Chairperson |

III. OFFICE OF UPOV

|  |  |
| --- | --- |
| 19393 | Fuminori AIHARA, Counsellor, International Union for the Protection of New Varieties of Plants (UPOV), Chemin des Colombettes 34, 1211 Geneva 20, Switzerland (tel.: +41 22 338 7442 fax: +41 22 733 03 36 e-mail: fuminori.aihara@upov.int) |
| 0023 | Leontino TAVEIRA, Technical/Regional Officer, International Union for the Protection of New Varieties of Plants (UPOV), Chemin des Colombettes 34, 1211 Geneva 20, Switzerland (tel.: 0041 22 338 9565 fax: +41 22 733 03 36 e-mail: leontino.taveira@upov.int) |

[Annex II follows]

TWC/31/32

ANNEX II

WELCOME ADDRESS

Mr. Shin Hyunkwan

Director-General, Korea Seed & Variety Service (KSVS),

Ministry of Agriculture, Food and Rural Affairs (MAFRA)

Seoul, Republic of Korea, June 4, 2013

Distinguished delegates, and ladies and gentlemen,

Good morning.

I would like welcome all of you to this thirty-first session of the Technical Working Party on Automation and Computer Programs (TWC) of UPOV, which is held in the Republic of Korea. And it is my personal honor to be amongst you.

Personally, I hope this meeting will provide us happy moments of discussions and talks among delegates and attendees.

The Republic of Korea has been enforcing plant variety protection since 1998. The first five years was very tough. We struggled over not having many commercial plant varieties and discussing with farmers and stakeholders. After 15 years since the enforcement, now we feel we have a correct understanding for plant variety protection. Let me give you an example, as for individual plant breeders, there were only 200 of them in 2005, but by 2012 the number tripled to about 600 individual breeders.

In recent years, our attractive national varieties have gained popularity abroad. These are incredible developments, thanks to sincere efforts of the government, seed companies, agriculture research institutes, individual breeders, farmers and consumers. As a government organization that manages plant variety protection system, this is indeed a very rewarding experience.

The government of Republic of Korea is now implementing the “Development Plan of Seed Industry", which continues towards 2020. We expect this policy of corporation between the government and private entities will provide a springboard for the Republic of Korea to be a leading plant variety nation.

In order to clarify the identity of Plant Variety Protection System and strengthen plant breeder's rights, the Plant Variety Protection Act has been separated from Seed Industry Law since June 2013. The new provision stipulates that when the right of a plant breeder is violated, the previous fine of 30 million won (about 27,000 USD) has now increased to 100 million won (about 89,000 USD). And plant breeders' rights can be recovered via post-clearance payment.

The last 15 years was about establishing and raising awareness of plant variety protection system. The coming 15 years will be about the Republic of Korea’s effort to effectively manage the PVP system. I would like sincerely ask for your support and encouragement.

Once again I am grateful to your presence here at 31st UPOV TWC meeting. May I wish you a safe and pleasant stay in the Republic of Korea.

Thank you.

[Annex III follows]

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ANNEXES III and IV

Annexes III and IV: only available in pdf version of the document.

[End of Annex IV and of document]