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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

**TECHNICAL WORKING PARTY FOR ORNAMENTAL PLANTS
AND FOREST TREES**

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EXCHANGEABLE SOFTWARE

Document prepared by the Office of the Union

1. BACKGROUND

1. A regular item on the agenda of the sessions of the Technical Working Party on Automation and Computer Programs (TWC) has been the preparation of a TWC document on exchangeable software. At the forty-fourth session of the TC, held in Geneva from April 7 to 9, 2008, the Chairman of the TC proposed that, in order for information on exchangeable software to be more accessible to members of the Union and to facilitate regular updating, it might be appropriate to present information, on an annual basis, in a TC document similar to document TC/44/4 "List of genera and species for which authorities have practical experience in the examination of distinctness, uniformity and stability". That document could provide members of the Union with information on the existence and availability of software. The Chairman of the TC proposed that the document should include software concerning, for example, databases of images / photographs, image analysis etc. It was further proposed that the software should be presented and discussed at a session of the TWC prior to inclusion in the document.

2. The TC agreed with the proposal above and requested the TWC to formulate the structure and content of the document for consideration by the TC at its forty-fifth session, held in Geneva from March 30 to April 1, 2009 (see document TC/44/13 "Report", paragraph 120).

3. In accordance with the request of the TC, and on the basis of the information provided in document TWC/25/19 “Exchangeable software”, the Office of the Union, in conjunction with the TWC Chairperson developed a proposal as a basis for discussion by the TWC, at its twenty-sixth session, held in Jeju, Republic of Korea, from September 2 to 5, 2008 (see document TWC/26/29 “ Report”, paragraphs 52 to 56).

4. The TWC clarified that it would not be possible for the TWC to perform a detailed assessment of the programming of the software and confirmed that, in accordance with document TWC/26/7, paragraph 5, the TWC would only be able to propose the inclusion of software in the proposed exchangeable software document on the basis of the experiences presented by experts from the members of the Union at the TWC session.

5. The TWC agreed that the software should not need to have been developed by a member of the Union, but would need to have been used by a member of the Union for inclusion in the document. In particular, jointly-developed software, freely available software packages and packages built around commercial software products could be included, provided that intellectual property rights were respected and suitable information provided in the column for “Condition for Supply”.

6. In response to a suggestion that the Annex to document TWC/26/7 should contain information on the versions of the software, the TWC concluded that the document should be kept as simple as possible and noted that that information could be obtained via the software source. Users of the software would be able to provide information on the version used in the column “Application by user(s)”, if appropriate.

DOCUMENT STRUCTURE

7. Although the TC initially made reference to the development of a document similar to document TC/44/4 “List of genera and species for which authorities have practical experience in the examination of distinctness, uniformity and stability” (see paragraph 2), it was proposed to the TC at its forty-fifth session that the document on exchangeable software be developed as an “INF” document (see document TC/45/12, paragraphs 9 and 10). That proposal was based on both practical and procedural considerations. Reference to document TC/[44]/4 “List of genera and species for which authorities have practical experience in the examination of distinctness, uniformity and stability” is made difficult because the document is referenced and located according to the relevant session of the TC, which changes every year (e.g. TC/43 in 2007, TC/44 in 2008). In addition, it was anticipated that the document on exchangeable software would need to be considered by the Administrative and Legal Committee (CAJ), for example in relation to software relating to the administration of applications, on-line application systems and variety denomination checking. The development of an “INF” document was also intended to facilitate adoption of the document by the Council.

8. The TC, at its forty-fifth session, held in Geneva from March 30 to April 1, 2009, agreed that document UPOV/INF/Software Draft 1 provided a suitable initial structure for a list of exchangeable software, but agreed that the categories of software might need to be modified according to the software that was included.

9. The TC agreed that document UPOV/INF/Software Draft 2 should be prepared for consideration by the Technical Working Parties, including the TWC, at their sessions in 2009, and by the CAJ at its sixtieth session, to be held in Geneva on October 19 and 20, 2009.

10. The CAJ, at its sixtieth session, noted that document UPOV/INF/Software Draft 2 “Exchangeable Software” could be amended to accommodate new categories, as appropriate. The CAJ further noted that subject to the approval of the TC and the CAJ, document UPOV/INF/Software would be put forward for adoption by the Council and would be revised in response to on-going developments concerning exchangeable software (see document UPOV/INF/Software Draft 2, section 2 “Procedure for inclusion of software”).

SOFTWARE INCLUDED IN DOCUMENT UPOV/INF/SOFTWARE DRAFT 3

GAIA

11. The TWC, at its twenty-sixth session, agreed that the TC should already be invited to include the DUSTNT and GAIA software in a first edition of document UPOV/INF/Software. The experts from the United Kingdom and France agreed to provide the necessary information to the Office of the Union (see document TWC/26/29 “ Report”, paragraphs 77 and 78).

DUSTNT

12. With regard to the DUSTNT software, it was recalled at the twenty-sixth session of the TWC that the DUSTNT program included many modules, including a wide range of multivariate analysis techniques, while UPOV had specifically endorsed only the COYD and COYU methods. The TWC agreed that Mrs. Sally Watson (United Kingdom) should prepare a presentation on the modules contained in the program DUSTNT, highlighting those which are involved in COY analysis, for consideration by the TWC at its twenty-seventh session. The TWC also agreed to invite experts to propose other DUSTNT modules, which had been used by them, for endorsement in the document on exchangeable software (see document TWC/26/29 “Report”, paragraphs 77 and 78).

13. At its forty-fifth session, the TC agreed that the TWC, at its twenty-seventh session, to be held in Alexandria, Virginia, United States of America, from June 16 to 19, 2009, should review the entry for DUSTNT in document UPOV/INF/Software. In particular, the TC noted that the DUSTNT program included many modules, including a wide range of multivariate analysis techniques, while UPOV had specifically endorsed only the COYD and COYU methods. The TC noted that the TWC had invited experts to propose other DUSTNT modules, which had been used by them, for endorsement in the document on exchangeable software (see document TC/45/16 “Report”, paragraph 186).

14. The TWC, at its twenty-seventh session considered document TWC/27/9 “Description of modules that make up the DUSTNT software package”, prepared by an expert from the United Kingdom. The TWC considered that the document provided a good basis for an introduction to the DUSTNT software, which it agreed should be offered on opening the software package. It agreed that the text of paragraph 2 of the document should be elaborated further and that a clear explanation should be provided to distinguish between the modules for implementing COY and the other modules included in the DUSTNT package. It agreed that a form of “pop-up” style message should be provided on opening the DUSTNT package,

directing users to the explanation above. Subsequent to the TWC session, Mrs. Sally Watson (United Kingdom) provided a copy of the introduction to the DUSTNT software that would be introduced in response to the TWC request, a copy of which is provided as the Annex to this document.

SIRIUS system for data capture

15. Based on the information provided by experts from France under agenda item 12 “Data Loggers” (see documents TWC/27/17 and TWC/27/17 Add.), the TWC agreed to propose the inclusion of the SIRIUS system for data capture in document UPOV/INF/Software under the section (e) “Data recording and transfer”. It was agreed that Mr. Christophe Chevalier (France) would provide the necessary information to the Office of the Union. On the basis that the TWC had agreed to recommend to the TC to include the SIRIUS software in document UPOV/INF/Software, Mr. Chevalier requested that, in parallel with that process, consideration be given by the Office of the Union to the translation of the user guide into English. The Office of the Union agreed to consider that request on the basis that the experts from France would check any translation provided by the Office of the Union (see document TWC/27/21 “Report”, paragraphs 38 and 39).

PROCEDURE FOR ADOPTION OF DOCUMENT UPOV/INF/SOFTWARE

16. The TC, at its forty-sixth session, held in Geneva from March 22 to 24, 2010 considered documents TC/46/12 and UPOV/INF/Software Draft 3 (see document TC/46/15 “Report on the Conclusions”, paragraphs 76 to 79).

17. The TC agreed that, subject to agreement by the CAJ, document UPOV/INF/Software Draft 3 should be put forward for adoption by the Council at its forty-fourth ordinary session, to be held in Geneva on October 21, 2010. The TC noted that the French, German and Spanish translations of the original English text would be checked by the relevant members of the Editorial Committee prior to submission of the draft of document UPOV/INF/Software to the Council.

18. The TC approved the translation into English of the user guide for the SIRIUS system for data capture by the Office of the Union, on the basis that the experts from France would check, and also be responsible for, the English version.

19. The TC noted that, at its twenty-eighth session, to be held in Angers, France, from June 29 to July 2, 2010, the TWC would receive a presentation by an expert from the European Union on software for assessing similarity of denominations, developed by the Community Plant Variety Office of the European Union (CPVO). The Delegation of the European Union explained that it would also like to offer access to its complete variety denomination database, including the variety denomination similarity tool, to members of the Union. The log-in and password would be provided on request to the CPVO by e-mail (cpvo@cpvo.europa.eu).

20. The CAJ, at its sixty-first session, held in Geneva on March 25, 2010, considered documents CAJ/61/9, CAJ/61/10 and UPOV/INF/Software Draft 3 “Exchangeable Software” (see document CAJ/61/11 “Report on the Conclusions”, paragraphs 67 to 72).

21. The CAJ noted that the TC had agreed to the adoption of document UPOV/INF/Software Draft 3 by the Council, on the basis of document UPOV/INF/Software Draft 3.

22. The CAJ agreed that document UPOV/INF/Software Draft 3 should be put forward for adoption by the Council at its forty-fourth ordinary session, to be held in Geneva on October 21, 2010. The CAJ noted that the French, German and Spanish translations of the original English text would be checked by the relevant members of the Editorial Committee prior to submission of the draft of document UPOV/INF/Software to the Council.

23. The CAJ noted that, at its twenty-eighth session, to be held in Angers, France, from June 29 to July 2, 2010, the TWC would receive a presentation by an expert from the European Union on software for assessing similarity of denominations, developed by the CPVO. The Delegation of the European Union explained that it would also like to offer access to its complete variety denomination database, including the variety denomination similarity tool, to members of the Union (see below). The log-in and password would be provided on request to the CPVO by e-mail (cpvo@cpvo.europa.eu).

24. The CAJ approved the translation into English of the user guide for the SIRIUS system for data capture, as set out in paragraph 16 of document CAJ/61/9.

25. The CAJ noted the software that would be discussed in the TWC for possible inclusion in a future revision of document UPOV/INF/Software as, set out in paragraph 18 of document CAJ/61/9.

SOFTWARE TO BE CONSIDERED FOR FUTURE INCLUSION IN DOCUMENT UPOV/INF/SOFTWARE

26. During its discussions on electronic application systems, the TWC noted that exchangeable software for electronic application systems could be included in document UPOV/INF/Software, section (b) "On-line application systems" (see document TWC/27/21 "Report", paragraph 55).

27. During its discussions on UPOV information databases (see document TWC/27/4), the TWC heard that the Community Plant Variety Office of the European Union (CPVO) had developed a software for assessing similarity of denominations. The TWC welcomed the offer of the expert from the European Union to make a presentation of that software at its twenty-eighth session with a view to possible inclusion of software in document UPOV/INF/Software (see document TWC/27/21 "Report", paragraph 31).

28. At its twenty-eighth session, held in Angers, France, from June 29 to July 2, 2010, the TWC received presentations by Mrs. Carole Bonneau and Mr. Patrick Lecoq in relation to variety denominations (reproduced in document TWC/28/35, Annex I and Annex II, respectively). On the basis of those presentations, Mr. Carlos Godinho, Vice-President of the CPVO, invited the TWC to consider including the CPVO Centralised Database of Variety Denominations in document UPOV/INF/Software. He explained that the database would be made available to all UPOV members and would enable them to use the CPVO variety denomination checking tool in conjunction with all data in the CPVO Centralised Database of Variety Denominations. He also clarified that the algorithm for the variety denomination checking tool would also be accessible in conjunction with the CPVO Centralised Database of

Variety Denominations, for UPOV members wishing to develop that tool for use in their own databases.

29. The TWC noted the benefits that could be achieved from harmonization in the checking of variety denominations and agreed that the CPVO Centralised Database of Variety Denominations and the CPVO algorithm for variety denomination checking should be proposed for inclusion in document UPOV/INF/Software (see document TWC/28/36 “Report”, paragraphs 65 and 66).

[Annex follows]

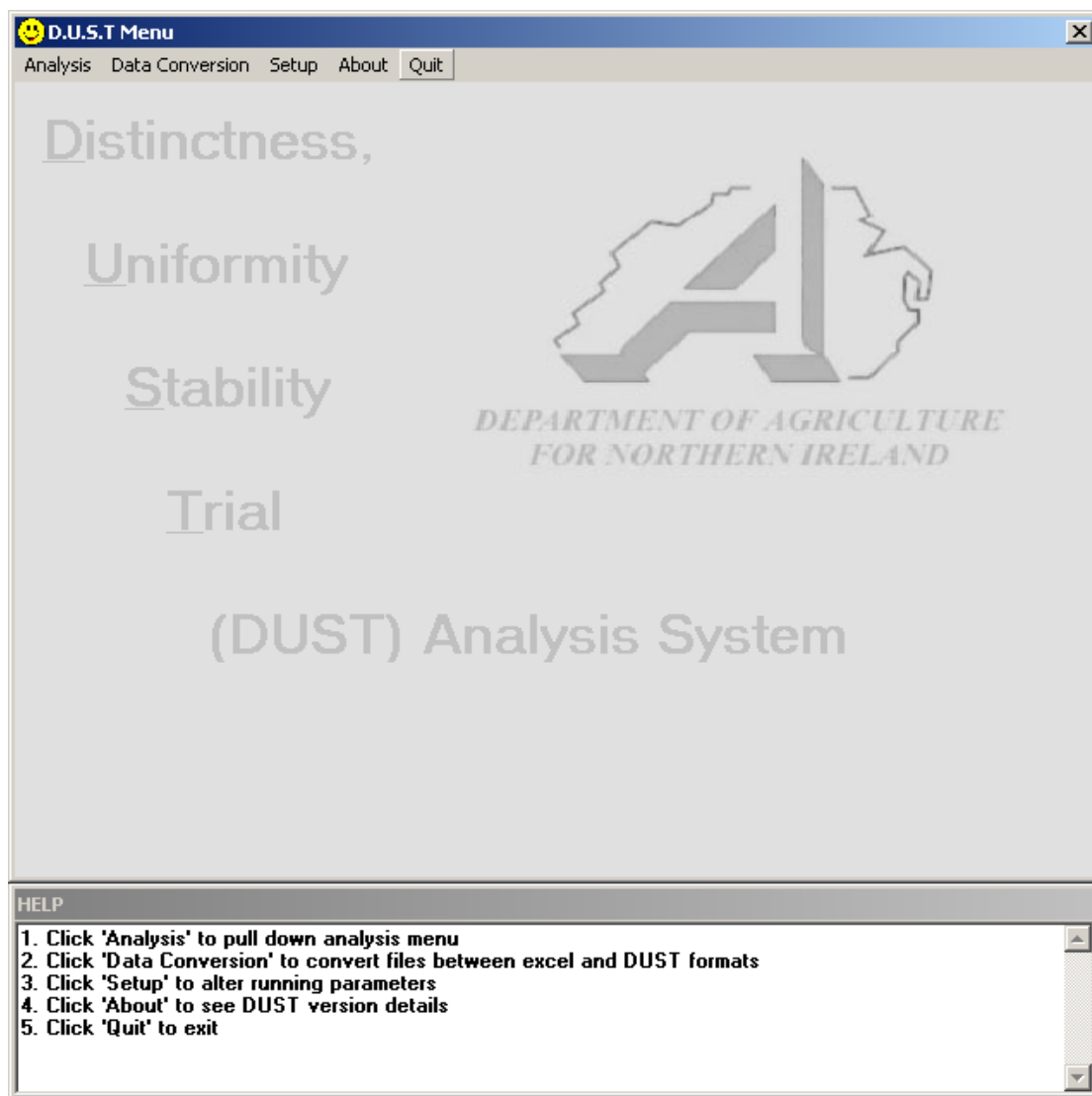
CHANGES TO THE FRONT END OF THE DUSTNT SOFTWARE

prepared by Mrs. Sally Watson (United Kingdom)

There will be a new menu between the 'About' and 'Quit' menus (see below) called 'DUST & UPOV'. Clicking this menu will show a window with the text given below (see next page).

The front end Help information (see below) will also change to:

5. Click 'DUST & UPOV' to see an explanation of the extent of the endorsement by UPOV of the DUST modules
6. Click 'Quit' to exit



Text shown on clicking the 'DUST & UPOV' menu

'DUST & UPOV'

DUSTNT is Windows software that helps to manage and analyze data from DUS spaced-plant variety trials for cross-pollinated varieties - such as herbage and certain vegetable crops. Data are recorded on the DUS trials several times during the growing season. On each occasion, a different set of characteristics is measured on all the plants. The data are stored in data files. The DUSTNT software comprises a series of modules or programs linked by data files. DUSTNT allows the user to accumulate data over the growing year, and summaries and analyze them. As this happens, the nature of the data stored in the resulting data files changes, e.g. from measurements on individual plants to plot means to within-year variety means to over-year variety means. Different types of data are stored in different types of data file.

The DUSTNT software allows many kinds of analyses. They include COY analyses and a wide range of multivariate analyses. These analyses reflect the history of the development of statistical approaches in DUS testing: a history driven by the need for valid approaches and efficient use of data. Once a module had been written to perform a particular analysis, the value of that analysis in DUS testing could be investigated. As a result the DUSTNT software acts as a toolkit enabling many different analyses, some of which are in regular use for DUS testing.

UPOV endorses only those modules that form part of a COY analysis, e.g. COYU and COYD (including the long-term-COYD criterion and the COYD criterion applied to unbalanced data, such as when trials are conducted using the Cyclic Controls approach).

Details of each module's function are given in the user manual.

[End of Annex and of document]