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| International Union for the Protection of New Varieties of Plants |  |

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| Technical Working Party for Agricultural CropsForty-Sixth SessionHanover, Germany, June 19 to 23, 2017Technical Working Party for VegetablesFifty-First SessionRoelofarendsveen, Netherlands, July 3 to 7, 2017 Technical Working Party for Ornamental Plants and Forest TreesFiftieth SessionVictoria, Canada, September 11 to 15, 2017Technical Working Party for Fruit CropsForty-Eighth SessionKelowna, Canada, September 18 to 22, 2017Technical Working Party on Automation and Computer ProgramsThirty-Fifth SessionBuenos Aires, Argentina, November 14 to 17, 2017 | TWP/1/5Original: EnglishDate: June 9, 2017 |

Exchange and use of software and equipment

Document prepared by the Office of the Union

Disclaimer: this document does not represent UPOV policies or guidance

# Executive summary

 The purpose of this document is to report on developments and to propose a revision of documents UPOV/INF/16/6 “Exchangeable Software” and UPOV/INF/22/3 “Software and equipment used by members of the Union”.

 The TWPs are invited to note that:

1. the Council, at its fiftieth ordinary session, held in Geneva, on October 28, 2016, adopted document UPOV/INF/16/6 “Exchangeable Software”;
2. the SIVAVE software has been deleted from document UPOV/INF/16;
3. the TC, at its fifty-third session, agreed that the proposed revision of document UPOV/INF/16/6 concerning the exchange of software and the use of software by members of the Union in conjunction with the comments of the TC, as set out in Annex I to this document, be reported to the CAJ at its seventy-fourth session, to be held in Geneva in October 2017, and if agreed by the CAJ, a draft of document UPOV/INF/16/7 “Exchangeable Software” will be presented for adoption by the Council at its fifty-first ordinary session, to be held on October 26, 2017, on that basis (see document TC/53/31 “Report”, paragraph 168);
4. the TC agreed that the information in document UPOV/INF/16 should be made available in a searchable form on the UPOV website and noted that the Office of the Union would investigate a tool for that purpose;
5. the Council, at its fiftieth ordinary session, held in Geneva, on October 28, 2016, adopted document UPOV/INF/22/3 “Software and equipment used by members of the Union”;
6. the information received from Estonia, the Russian Federation and the United Kingdom in response to circular E-16/290 as approved by the TC at its fifty-third session, is included in Annex II to this document;
7. the TC, at its fifty-third session, agreed to propose the addition of a disclaimer to document UPOV/INF/22 explaining that the document was intended to provide information on the use of software and equipment by members of the Union and to clarify that neither UPOV nor the contributing Authority were responsible for the performance of the software or equipment;
8. the TC considered whether the information in document UPOV/INF/22 should be presented in an alternative form (e.g. on-line format) rather than an INF document and agreed that only the existing document UPOV/INF/22 format should be maintained; and
9. the proposals of the TC, at its fifty-third session, concerning the revision of document UPOV/INF/22/3 will be reported to the CAJ at its seventy-fourth session, and if agreed by the CAJ, a draft of document UPOV/INF/22/4 will be presented for adoption by the Council at its fifty-first ordinary session, to be held on October 26, 2017.

 The following abbreviations are used in this document:

 CAJ: Administrative and Legal Committee

 TC: Technical Committee

 TWC: Technical Working Party on Automation and Computer Programs

 TWPs: Technical Working Parties

 The structure of this document is as follows:

[Executive summary 1](#_Toc484079195)

[document UPOV/INF/16 “Exchangeable Software” 2](#_Toc484079196)

[Adoption of document UPOV/INF/16/6 2](#_Toc484079197)

[Revision of document UPOV/INF/16/6 2](#_Toc484079198)

[Document UPOV/INF/22 “Software and equipment used by members of the Union” 4](#_Toc484079199)

[Adoption of document UPOV/INF/22/2 4](#_Toc484079200)

[Revision of document UPOV/INF/22/2 4](#_Toc484079201)

[Software for inclusion 4](#_Toc484079202)

ANNEX I PROPOSED REVISION TO DOCUMENT UPOV/INF/16/5 “EXCHANGEABLE SOFTWARE”

ANNEX II PROPOSED REVISION TO DOCUMENT UPOV/INF/22/2 “software and equipment used by members of the Union

# document UPOV/INF/16 “Exchangeable Software”

## Adoption of document UPOV/INF/16/6

 The Council, at its fiftieth ordinary session, held in Geneva, on October 28, 2016, adopted a revision of document UPOV/INF/16/6 “Exchangeable Software (document UPOV/INF/16/6), on the basis of document UPOV/INF/16/6 Draft 1 (see document C/50/19 “Report on the Decisions”, paragraph 19).

## Revision of document UPOV/INF/16/6

 The TC, at its fifty-third session, noted the deletion of SIVAVE software from document UPOV/INF/16 (see document TC/53/31 “Report”, paragraph 166).

 Section 4 of document UPOV/INF/16 “Exchangeable Software” provides the following:

“4. Information on use by members of the Union

“4.1 A circular is issued to members of the Union on an annual basis, inviting them to provide information on their use of the software included in document UPOV/INF/16.

“4.2 The information on software use by members of the Union is indicated in the columns ‘Member(s) of the Union using the software’ and ‘Application by user(s)’. With regard to the indication of ‘Application by user(s)’, members of the Union can indicate, for example, crops or types of crop for which the software is used.”

 On December 15, 2016, the Office of the Union issued circular E-16/290 to the designated persons of the members of the Union in the TC, inviting them to provide or update information regarding the use of the software included in document UPOV/INF/16. The information received from Brazil and Mexico in response to circular E-16/290 is included in Annex I to this document.

 The TC, at its fifty-third session, agreed that the proposed revision of document UPOV/INF/16/6 concerning the exclusion of software and the use of software by members of the Union in conjunction with the comments of the TC, as set out in Annex I to this document, be reported to the CAJ at its seventy-fourth session, to be held in Geneva in October 2017, and if agreed by the CAJ, a draft of document UPOV/INF/16/7 “Exchangeable Software” will be presented for adoption by the Council at its fifty-first ordinary session, to be held on October 26, 2017, on that basis (see document TC/53/31 “Report”, paragraph 168).

 The TC agreed that the information in document UPOV/INF/16 should be made available in a searchable form on the UPOV website and noted that the Office of the Union would investigate a tool for that purpose (see document TC/53/31 “Report”, paragraph 169).

 The TWPs are invited to note that:

 (a) the Council, at its fiftieth ordinary session, held in Geneva, on October 28, 2016, adopted document UPOV/INF/16/6 “Exchangeable Software”;

 (b) the SIVAVE software has been deleted from document UPOV/INF/16;

 (c) the TC, at its fifty-third session, agreed that the proposed revision of document UPOV/INF/16/6 concerning the exchange of software and the use of software by members of the Union in conjunction with the comments of the TC, as set out in Annex I to this document, be reported to the CAJ at its seventy-fourth session, to be held in Geneva in October 2017, and if agreed by the CAJ, a draft of document UPOV/INF/16/7 “Exchangeable Software” will be presented for adoption by the Council at its fifty-first ordinary session, to be held on October 26, 2017, on that basis; and

 (d) the TC agreed that the information in document UPOV/INF/16 should be made available in a searchable form on the UPOV website and noted that the Office of the Union would investigate a tool for that purpose.

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

## Adoption of document UPOV/INF/22/2

 The Council, at its fiftieth ordinary session, held in Geneva, on October 28, 2016, adopted a revision of document UPOV/INF/22/2 “Software and Equipment Used by Members of the Union” (document UPOV/INF/22/3), on the basis of document UPOV/INF/22/2 Draft 1 (see document C/50/19 “Report on the Decisions”, paragraph 20).

## Revision of document UPOV/INF/22/2

### Software for inclusion

 The procedure for considering software and equipment proposed for inclusion in document UPOV/INF/22 is set out in document UPOV/INF/22, as follows:

“2.1 Software/equipment proposed for inclusion in this document by members of the Union is, in the first instance, presented to the TC.

“2.2 The TC will decide whether to:

1. propose to include the information in the document;
2. request further guidance from other relevant bodies (e.g. CAJ and TWPs); or
3. propose not to include the information in the document.

“2.3 In the case of a positive recommendation by the TC and, subsequently by the CAJ, the software/equipment will be listed in a draft of the document, to be considered for adoption by the Council.

“4.1 A circular is issued to members of the Union on an annual basis, inviting them to provide information on their use of the software/equipment included in this document.”

 On December 15, 2016, the Office of the Union issued circular E-16/290 to the designated persons of the members of the Union in the TC, inviting them to provide information for document UPOV/INF/22. The information received from Estonia, the Russian Federation and the United Kingdom in response to circular E-16/290 as approved by the TC at its fifty-third session, is included in Annex II to this document.

 The TC, at its fifty-third session, noted that the Council, at its fiftieth ordinary session, held in Geneva, on October 28, 2016, had adopted document UPOV/INF/22/3 “Software and equipment used by members of the Union” (see document TC/53/31 “Report”, paragraphs 170 to 174).

 The TC considered the information in Annex II to document TC/53/8 as a basis for a proposed revision of document UPOV/INF/22/3 and agreed to propose the following changes:

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| (c) Variety denomination checking (Row: Germany) | to read: “Checking of variety denominations in national procedures according to phonetic rules ~~as a supplement to testing~~” |
| (f) Image analysis | to read: “E-mail: a.roberts@bioss.ac.uk” |

 The TC agreed to propose the addition of a disclaimer to document UPOV/INF/22 explaining that the document was intended to provide information on the use of software and equipment by members of the Union and to clarify that neither UPOV nor the contributing Authority were responsible for the performance of the software or equipment.

 The TC considered whether the information in document UPOV/INF/22 should be presented in an alternative form (e.g. on-line format) rather than an INF document and agreed that only the existing document UPOV/INF/22 format should be maintained.

 The TC noted that the proposals of the TC, at its fifty-third session, concerning the revision of document UPOV/INF/22/3 would be reported to the CAJ at its seventy-fourth session, and if agreed by the CAJ, a draft of document UPOV/INF/22/4 would be presented for adoption by the Council at its
fifty-first ordinary session, to be held on October 26, 2017.

 The TWPs are invited to note that:

 (a) the Council, at its fiftieth ordinary session, held in Geneva, on October 28, 2016, adopted document UPOV/INF/22/3 “Software and equipment used by members of the Union”;

 (b) the information received from Estonia, the Russian Federation and the United Kingdom in response to circular E-16/290 as approved by the TC at its fifty-third session, is included in Annex II to this document;

 (c) the TC, at its fifty-third session, agreed to propose the addition of a disclaimer to document UPOV/INF/22 explaining that the document was intended to provide information on the use of software and equipment by members of the Union and to clarify that that neither UPOV nor the contributing Authority were responsible for the performance of the software or equipment;

 (d) the TC considered whether the information in document UPOV/INF/22 should be presented in an alternative form (e.g. on-line format) rather than an INF document and agreed that only the existing document UPOV/INF/22 format should be maintained; and

 (e) the proposals of the TC, at its fifty-third session, concerning the revision of document UPOV/INF/22 will be reported to the CAJ at its seventy-fourth session, and if agreed by the CAJ, a draft of document UPOV/INF/22/4 will be presented for adoption by the Council at its fifty-first ordinary session, to be held on October 26, 2017.

 [Annexes follow]

PROPOSED REVISION TO DOCUMENT UPOV/INF/16/5 “EXCHANGEABLE SOFTWARE”

(Proposals received from Brazil and Mexico in reply to circular E-16/290 are highlighted)

(a) Administration of applications

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Date added | Program name | Programming language | Function (brief summary) | Source & contact details | Condition for supply | Member(s) of the Union using the software | Application by user(s) |
| October 24, 2013 | ZAJVKA | SQL Windows | Information on applications (name and address of applicants, proposed denomination, date of application etc) and registration (denomination, date of registration) | Russian Federation: State Commission of the Russian Federation for Selection Achievements Test and Protection, Valentin Sherbina,Chief of IT Department E-mail: gossort@gossort.com  | Only available in Russian | RU | all crops |
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| ~~October 16, 2014~~ | ~~SIVAVE~~ | ~~Database:~~~~Mysql 5.1~~~~PHP  Version 2.5.9~~~~Ajax.~~~~Javascript.~~~~Routines are integrated with Java Applets and several Java Archives (JARS).~~~~Complements:~~~~Zend Optimizer 3.3~~~~Compilers:~~~~Zend Studio~~~~ScriptCase~~ | ~~Allows for the real-time dissemination of the status of proceedings concerning applications for breeders’ rights in Mexico.~~ | ~~Mexico: Manuel Rafael Villa Issa, Director General, SNICS~~~~E-mail:~~ ~~manuel.villaissa@sagarpa.gob.mx~~~~Eduardo Padilla Vaca, Director,Plant Varieties, SNICS~~~~E-mail: eduardo.padilla@snics.gob.mx~~  | ~~Written application and justification of need for use.~~ | ~~MX~~ | ~~all crops~~ |
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(b) On-line application systems

(c) Variety denomination checking

(d) DUS trial design and data analysis

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Date added | Program name | Programming language | Function (brief summary) | Source & contact details | Condition for supply | Member(s) of the Union using the software | Application by user(s) |
| October 21, 2010 | DUSTNT | FORTRAN 90 | General program for analysis of data from DUS trials. Includes facilities for COY analysis and a wide range of multivariate analysis techniques | United Kingdom:Dr. Sally Watson Email: sally.watson@afbini.gov.uk  |  | GB | Herbage, Pea (Field & Veg), Parsnip, Swede, Onion, Brussels Sprout, Winter Oilseed Rape, Sugar Beet, Faba Beans, Spring Oilseed Rape, Kale, Linseed |
| CZ | Oilseed Rape, Grasses and Luzerne |
| EE | Grasses and Legumes |
| FI | Grasses, Red Clover, White Clover, Turnip Rape, Rye |
| KE | Maize |
| NZ | Grasses, Brassicas, Wheat, Barley, Garden Peas |
| VN | Maize, Flowers, Rice, Tomato, Potato, Soybean, Vegetables, and other species  |
| October 21, 2010 | GAIA | Windev | Computes comparisons of varieties for management of reference collections | France:Email: christophe.chevalier@geves.fr  |  | FR | Sorghum, Sugar Beet, Maize, Wheat, Barley, Oats, Rapeseed, Sunflower, Triticale, Pea |
| BR | Soybean, Wheat |
| CZ | Maize, Wheat, Barley, Oats, and Pea |
| HR | Barley, Maize, Soybean, Wheat |
| UY | Sorghum, Sugar Beet, Maize, Wheat, Barley, Oats, Rapeseed, Sunflower, Triticale, Pea |

(e) Data recording and transfer

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Date added | Program name | Programming language | Function (brief summary) | Source & contact details | Condition for supply | Member(s) of the Union using the software | Application by user(s) |
| October 21, 2010 | SIRIUS | Windev | Hand-Held Data Capture Software | France:Email: christophe.chevalier@geves.fr  |  | FR | Sorghum, Sugar Beet, Maize, Wheat, Barley, Oats, Rapeseed, Sunflower, Triticale, Pea, Herbage |

(f) Image analysis

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Date added | Program name | Programming language | Function (brief summary) | Source & contact details | Condition for supply | Member(s) of the Union using the software | Application by user(s) |
| October 24, 2013 | AIM | Windows | Image processing software | France:E-mail: christophe.chevalier@geves.fr  |  | FR | Rapeseed, Sunflower, Hydrangea, Flax, Peas, Carrot, Maize, Winter wheat, Orchids |

(g) Biochemical and molecular data

[Annex II follows]

PROPOSED REVISION TO DOCUMENT UPOV/INF/22/2 “software and equipment used by members of the Union

(Proposals received from Estonia, the Russian Federation and the United Kingdom in reply to circular E-16/290 are highlighted)

(a) Administration of applications

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| --- | --- | --- | --- | --- | --- |
| Date added | Title of software/equipment | Function (brief summary) | Source & contact details | Member(s) of the Union using the software/equipment | Application by user(s) |
| October 29, 2015 | Administrative data | Database for administrative data on plant varieties | Federal Plant Variety OfficeE-mail: uwe.meyer@bundessortenamt.de | DE | All species |
| October 29, 2015 | MS Office Professional Plus 2010 | Applications management and database | Plant Breeders’ Rights UnitE-mail: benzionz@moag.gov.il | IL | All species |
| October 29, 2015 | Access | Database management | Instituto Nacional de semillasE-mail: gcamps@inase.org.uy | UY | All species |
|  | Sword Ptolemy | Intellectual property case management system supporting:PVR assessing and examining applications, and administrative tasks relating to applications and granting rights;Management of all records relating to these activities, including correspondence, documentation and transaction histories.Also see (b) below. | <http://intellect.sword-group.com/Home/Ptolemy> | NZ | All species |

(b) On-line application systems

| Date added | Title of software/equipment | Function (brief summary) | Source & contact details | Member(s) of the Union using the software/equipment | Application by user(s) |
| --- | --- | --- | --- | --- | --- |
| October 29, 2015 | E- Application | Electronic application for the protection of plant varieties and approval including qualified electronic signature | Federal Plant Variety OfficeE-mail: uwe.meyer@bundessortenamt.de  | DE | All species |
| October 29, 2015 | PDF  | Application for the protection of plant varieties | Instituto Nacional de semillasE-mail: gcamps@inase.org.uy | UY | All species |
| October 28, 2016 | Office (Word) and PDF | E-application for the protection of plant varieties and approval including qualified electronic signature | Oficina Nacional de Semillas.Registro de Variedades Vegetales.galizaga@ofinase.go.cr | CR | All species |
| October 28, 2016 | eAkte | Electronic system for processing and filing variety files | Federal Plant Variety OfficeE-mail: uwe.meyer@bundessortenamt.de | DE | All species |
| October 28, 2016 | Sword Ptolemy | Intellectual property case management system supporting:PVR assessing and examining applications, and administrative tasks relating to applications and granting rights;Management of all records relating to these activities, including correspondence, documentation and transaction histories.Also see (a) above. | <http://intellect.sword-group.com/Home/Ptolemy> | NZ | All species |

(c) Variety denomination checking

| Date added | Title of software/equipment | Function (brief summary) | Source & contact details | Member(s) of the Union using the software/equipment | Application by user(s) |
| --- | --- | --- | --- | --- | --- |
| October 29, 2015 | Variety denomination similarity  | Checking of variety denominations in national procedures according to phonetic rules ~~as a supplement to testing~~ | Federal Plant Variety OfficeE-mail: uwe.meyer@bundessortenamt.de  | DE | All species |
| October 28, 2016 | Sword Acsepto | Trade mark and design search tool supporting the searching for prior use of proposed denominations. | <http://intellect.sword-group.com/Home/Acsepto> | NZ | All species |
|  | Variety denomination similarity | Checking of variety denominations in national procedures according to phonetic rules as a supplement to testing | State Commission of the Russian Federation for Selection Achievements Test and ProtectionE-mail: gossort@gossort.com  | RU | All species |

(d) DUS trial design and data analysis

| Date added | Title of software/equipment | Function (brief summary) | Source & contact details | Member(s) of the Union using the software/equipment | Application by user(s) |
| --- | --- | --- | --- | --- | --- |
| October 29, 2015 | Register (DUS) | Cultivation design, data capture, compilation of lists, distinctness program, COYD and COYU, description of variety | Federal Plant Variety OfficeE-mail: uwe.meyer@bundessortenamt.de  | DE | All species  |
| October 29, 2015 | GAIA | Study and analysis of results | Instituto Nacional de semillasE-mail: gcamps@inase.org.uy | UY | All species |
| October 29, 2015 | INFOSTAST | Study and analysis of results | Instituto Nacional de semillasE-mail: gcamps@inase.org.uy | UY | All species |
| October 28, 2016 | SAS and R | Design and analysis |  | KE | All species |
|  | Register (DUS) | Cultivation design, data capture, compilation of lists, COYD and COYU, description of variety | Agricultural Research CentreE-mail : sordi@pmk.agri.ee | EE | All species |

(e) Data recording and transfer

| Date added | Title of software/equipment | Function (brief summary) | Source & contact details | Member(s) of the Union using the software/equipment | Application by user(s) |
| --- | --- | --- | --- | --- | --- |
| October 29, 2015 | Reg.mobile | Mobile data capture with transmission of layout plan and data transfer to PC  | Federal Plant Variety OfficeE-mail: uwe.meyer@bundessortenamt.de  | DE | All species |
| October 29, 2015 | PANASONIC CF-U1 TOUGHBOOK | Data recording | CroatiaE-mail: bojan.markovic@hcphs.hr | HR | Maize |
| October 29, 2015 | Motorola MC55A0 PDA | Field DUS tests data acquisition | Plant Breeders’ Rights UnitE-mail: benzionz@moag.gov.il | IL | All species |
| October 28, 2016 | PANASONIC CF-U1TOUGHBOOK | Data recording | Finnish Food Safety AuthorityE-mail: Kaarina.paavilainen@evira.fi | FI | Mainly cross pollinated plants |
|  | PANASONIC FZ-G1TOUGHPAD | Data recording | SASAE-mail: Tom.Christie@sasa.gsi.gov.uk  | GB | All species |

(f) Image analysis

| Date added | Title of software/equipment | Function (brief summary) | Source & contact details | Member(s) of the Union using the software/equipment | Application by user(s) |
| --- | --- | --- | --- | --- | --- |
| October 29, 2015 | Image analysis | Automatic measurement of leaf characteristics in various plant species  | Federal Plant Variety Office E-mail:uwe.meyer@bundessortenamt.de  | DE | Employees of Federal Plant Variety Office  |
|  | IMAGIN | Automatic measurement of leaf characteristics in various plant species  | Biomathematics and Statistics ScotlandE-mail: a.roberts@bioss.ac.uk  | GB | Pea, parsnip, brassicas |

(g) Biochemical and molecular data

| Date added | Title of software/equipment | Function (brief summary) | Source & contact details | Member(s) of the Union using the software/equipment | Application by user(s) |
| --- | --- | --- | --- | --- | --- |
| October 29, 2015 | NTSYSpc (version 2.21m) | Multivariate data analysis program | Applied Biostatistics, Inc. | KR | Clustering analysis for DNA marker development |

[End of Annex II and of document]