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

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|  | UPOV/INF/22/10 Draft 1Original: EnglishDate: August 29, 2023 |

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| **DRAFT****(Revision)** |

Software and equipment used by members of the Union

Document prepared by the Office of the Union

to be considered by

the Technical Committee, the Administrative and Legal Committee, and the Council in 2023

Disclaimer: this document does not represent UPOV policies or guidance

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| Note for Draft version~~Strikethrough~~ (highlighted in grey) indicates deletion from the text of document [UPOV/INF/22/9](https://www.upov.int/edocs/infdocs/en/upov_inf_22.pdf).Underlined (highlighted in grey) indicates insertion to the text of document [UPOV/INF/22/](https://www.upov.int/edocs/infdocs/en/upov_inf_22.pdf)9. |

1. Requirements

1.1 Members of the Union are invited to provide information on software/equipment for inclusion on the basis that it has been used for the purposes of plant variety protection.

1.2 Information on the following should be provided by any member of the Union proposing software/equipment for inclusion in this document:

Title of software/equipment

Function (brief summary)

Source and contact details

Category(ies) of use (see section 3, below)

2. Procedure for inclusion of software/equipment

2.1 Software/equipment proposed for inclusion in this document by members of the Union is, in the first instance, presented to the Technical Committee (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. the Administrative and Legal Committee (CAJ) and the Technical Working Parties (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.

3. Categories of software/equipment

To assist users, information on software/equipment is provided in the following categories:

Administration of applications

On-line application systems

Variety denomination checking

DUS trial design and data analysis

Data recording and transfer

Image analysis

Biochemical and molecular data

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/equipment included in this document.

4.2 The information on software/equipment use by members of the Union is indicated in the columns “Member(s) of the Union using the software/equipment” 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/equipment is used.

5. Disclaimer

This document is intended to provide information on the use of software and equipment by members of the Union. Neither UPOV nor the contributing Authority are responsible for the performance of the software or equipment.

SOFTWARE AND EQUIPMENT USED BY MEMBERS OF THE UNION

(a) Administration of applications

| Date added | Title of software/equipment | Function (brief summary) | Source & contact details | UPOV member(s) using the software | Application by user(s) |
| --- | --- | --- | --- | --- | --- |
| October 29, 2015 | Administrative data | Database for administrative data on plant varieties | Federal Plant Variety OfficeE-mail: thomas.brodek@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 25, 2020 | Si.Inase | Database management | National Seed Institute (INASE) - UruguayE-mail: fboschi@inase.uy | UY | 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 (b) below. | <http://intellect.sword-group.com/Home/Ptolemy> | NZ | All species |
| November 2, 2018 | Oracle | Database management | CCAFRA-Institute for Seed and SeedlingsE-mail: marina.zoric@hcphs.hr  | HR | All species |
| November 2, 2018 | Microsoft Office Excel  | Database for monitoring the registration of plant varieties [Base de datos del seguimiento del trámite de registro de variedades vegetales] | Servicio Nacional de Derechos Intelectuales - SENADI[www.propiedadintelectual.gob.ec](http://www.propiedadintelectual.gob.ec) | EC | All species |
| November 1, 2019 | Próton | Database for administrative data on plant varieties | National Plant Variety Protection Service (SNPC)E-mail: snpc@agricultura.gov.br  | BR | All species |
| November 1, 2019 | Electronic program AVETIS | Database for administrative data on plant varieties | The State Plant Service under the Ministry of Agriculture of the Republic of LithuaniaE-mail: info@vatzum.lt  | LT | All species |
| October 28, 2022 | Administrative data | Database for administrative data on plant varieties | Research Centre for Cultivar TestingE-mail: m.rebarz@coboru.gov.pl  | PL | All species |
| October 28, 2022 | Navision Business Central | Database for administrative and technical data on plant varieties for listing and/or plant breeders rights | The Board for plant varietiesE-mail: teamsupport@rasraad.nl | NL | All concerned species |
|  | Administrative data | Database for administrative data on plant varieties | Ukrainian Institute for Plant Variety ExaminationE-mail: sops@i.ua | UA | All species |
|  | National Automated Information System for Testing and Registration of varieties (NAIS) | Database with administrative and technical data of applications for protection and for national listing, including information on VCU and DUS testing | SE “State Inspection for Testing and Protection of Plant Varieties”E-mail: belsort@mail.ru | BY | All species |
|  | Management system DRV | Database management system for the Variety Registration Office *(Dirección de Registro de Variedades)* | National Seed Institute (INASE) - ArgentinaE‑mail: mmangieri@inase.gob.ar  | AR | All species |

(b) On-line application systems

| Date added | Title of software/equipment | Function (brief summary) | Source & contact details | UPOV member(s) using the software | 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: thomas.brodek@bundessortenamt.de | DE | All species |
| October 29, 2015 | PDF | Application for the protection of plant varieties | National Seed Institute (INASE) - UruguayE-mail: fboschi@inase.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: thomas.brodek@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 |
| November 1, 2019 | CultivarWeb | - Electronic application system for the protection of plant varieties- Management of applications- Electronic signature- Fee administration  | National Plant Variety Protection Service (SNPC)E-mail: snpc@agricultura.gov.br  | BR | All species |
| October 25, 2020 | VATIS  | Electronic applications for Plant Variety Rights and for the National listing. Language(s): Lithuanian and English | The State Plant Service under the Ministry of Agriculture of the Republic of Lithuania: info@vatzum.lt  | LT | All species |
|  | Remote Procedures Platform (TAD) | Applications for plant variety protection and national listing  | National Seed Institute (INASE) - ArgentinaE‑mail: mmangieri@inase.gob.ar | AR | All species |

(c) Variety denomination checking

| Date added | Title of software/equipment | Function (brief summary) | Source & contact details | UPOV member(s) using the software | Application by user(s) |
| --- | --- | --- | --- | --- | --- |
| October 29, 2015 | Variety denomination similarity  | Checking of variety denominations in national procedures according to phonetic rules | Federal Plant Variety OfficeE-mail: thomas.brodek@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 |
| October 26, 2017 | 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: gsk@gossortrf.ru  | RU | All species |
| September 21, 2021 | SI.INASE | Database to control denominations that have been commercialized in Uruguay  | National Seed Institute (INASE) - UruguayE-mail: fboschi@inase.uy | UY | All species |
| October 28, 2022 | Variety denomination similarity  | Checking of variety denominations in national procedures | Research Centre for Cultivar TestingE-mail: m.rebarz@coboru.gov.pl | PL | All species |
|  | Variety denomination similarity  | Checking of variety denominations in national procedures | Ukrainian Institute for Plant Variety ExaminationE-mail: sops@i.ua | UA | All species |
|  | COMPARA | Allows comparison of a proposed denomination with the database of varieties registered and in process of being registered in Argentina | National Seed Institute (INASE) - ArgentinaE‑mail: mmangieri@inase.gob.ar | AR | All species |

(d) DUS trial design and data analysis

| Date added | Title of software/equipment | Function (brief summary) | Source & contact details | UPOV member(s) using the software | 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: thomas.brodek@bundessortenamt.de | DE | All species  |
| October 29, 2015 | INFOSTAST, R and GAIA | Study of varietal differentiation and analysis of results | National Seed Institute (INASE) - UruguayE-mail: fboschi@inase.uy | UY | All species |
| October 28, 2016 | SAS and R | Design and analysis |  | KE | All species |
| October 26, 2017 | Register (DUS) | Cultivation design, data capture, compilation of lists, COYD and COYU, description of variety | Centre of Estonian Rural Research and Knowledge (METK)E-mail : sordi@metk.agri.ee  | EE | All species |
| November 2, 2018 | Microsoft Access, and Excel | Trial design, statistical analysis. Making reports and variety descriptions. | Microsoft | SE | Sugar beet hybrids and hybrid components |
| November 2, 2018 | SPSS | Statistical analysis (not COYD) | IBM | SE | Sugar beet hybrids and hybrid components |
| October 28, 2022 | DUSCEL (EXCEL+VBA+UI) | 1.Checking abnormal data by validation, boxplot and standard deviation methods.2.Analysis of uniformity by off-type, relative variance, COYU.3.Converting original data to note by a fixed scale and changed standard varieties’ actual value.4.Analysis of stability by COYS and pictures.5.Analysis of distinctness by note level, data level and photo level.6. Methods for verification of Characteristics and trial by CorrelCh, QLFrDis, QNFrDis, EstDat and EstRat. | China: Mr. Kun YangE-mail: yangkun@caas.cn  | CN | Maize, tomato, cucumber, squash, French bean, asparagus, chrysanthemum, cabbage, Chinese cabbage, pepper, petunia, lycoris, yam, carrot, onion |
| October 28, 2022 | STATSIMG | Statistical analysis (COYU and COYD) | National Plant Variety Office E-mail: martin.tlaskal@ukzuz.cz  | CZ | Oilseed rape, grasses and lucerne |
| October 28, 2022 | Excel | Trial design | NaktuinbouwE-mail: teamsupport@rasraad.nl  | NL | All concerned species |
| October 28, 2022 | GenStat | Statistical analysis (COYU and COYD) | NaktuinbouwE-mail: teamsupport@rasraad.nl | NL | All concerned species |
|  | Web application for DUS and VCU tests / R scripts and Shiny | Field trials design, data capture, reference varieties selection for DUS, description of variety / Statistical analysis | Ukrainian Institute for Plant Variety ExaminationE-mail: sops@i.ua | UA | All species |

(e) Data recording and transfer

| Date added | Title of software/equipment | Function (brief summary) | Source & contact details | UPOV member(s) using the software | 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: thomas.brodek@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 |
| October 26, 2017 | PANASONIC FZ-G1TOUGHPAD | Data recording | SASAE-mail: lesley.mccarthy@sasa.gov.scot  | GB | All species |
| October 28, 2022 | Mobile Field Register | Data recording, the trial definition transmission from the central database | Research Centre for Cultivar TestingE-mail: m.rebarz@coboru.gov.pl | PL | All species |
| October 28, 2022 | Handheld | Data recording and transfer of data to Navision Business Central | NaktuinbouwE-mail: teamsupport@rasraad.nl  | NL | All concerned species |
|  | Handheld | Data recording, transfer to the central database | Ukrainian Institute for Plant Variety ExaminationE-mail: sops@i.ua | UA | All species |
|  | National Automated Information System for Testing and Registration of varieties (NAIS) | Data recording at testing units and transfer data to the central database of Inspection | State Inspection for Testing and Protection of Plant Varieties of BelarusE-mail: belsort@mail.ru | BY | All species |

(f) Image analysis

| Date added | Title of software/equipment | Function (brief summary) | Source & contact details | UPOV member(s) using the software | Application by user(s) |
| --- | --- | --- | --- | --- | --- |
| October 29, 2015 | Image analysis | Automatic measurement of leaf characteristics in various plant species | Federal Plant Variety OfficeE-mail: thomas.brodek@bundessortenamt.de | DE | Employees of Federal Plant Variety Office  |
| October 26, 2017 | IMAGIN | Automatic measurement of leaf characteristics in various plant species | Biomathematics and Statistics ScotlandE-mail: a.roberts@bioss.ac.uk  | GB | Pea, parsnip, carrot, brassicas |
| November 1, 2019 | STATSIMG | Automatic measurement of leaf characteristics | National Plant Variety Office E-mail: martin.tlaskal@ukzuz.cz | CZ | Oilseed rape, pea |
| September 21, 2021 | Image analysis | Automatic measurement of leaf and flower petals characteristics | Variety Testing Department E-mail: lubomir.basta@uksup.sk  | SK | Oilseed rape |
| October 28, 2022 | GenStat | Statistic and image analysis for concerned species | NaktuinbouwE-mail: teamsupport@rasraad.nl | NL | All concerned species |

(g) Biochemical and molecular data

| Date added | Title of software/equipment | Function (brief summary) | Source & contact details | UPOV member(s) using the software | 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 |
| September 21, 2021 | Applied Biosystems/ Excel | Designation of allelic variants of each SNP of a predefined set for the identification of soybean varieties | National Seed Institute (INASE) - UruguayE-mail: fboschi@inase.uy; mmenoni@inase.uy | UY | Identify different cultivars molecularly with allelic variants by means of SNP in soybeans  |
|  | R scripts | Genetic distances calculation  | Ukrainian Institute for Plant Variety ExaminationE-mail: sops@i.ua | UA | All species |
|  | Molecular database | Platform that allows the creation of molecular databases by species and calculations of genetic distances by pairs of varieties | National Seed Institute (INASE) - ArgentinaE‑mail: eloponto@inase.gob.ar; mmangieri@inase.gob.ar | AR | The genetic distances calculated with this platform are uploaded to the GAIA software for comparisons that combine morphological and molecular distances. It is currently used on soybeans, rice and cotton. |

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