

UPOV/INF/16/13**Original:** English**Date:** October 25, 2024

EXCHANGEABLE SOFTWARE

Document adopted by the Council
at its fifty-eighth ordinary session
on October 25, 2024

1. Requirements for exchangeable software

1.1 Members of the Union are invited to offer software for inclusion in this document on the basis that the software will be made available to other members of the Union, subject to any specified conditions (e.g. software to be supplied, but no provision of installation or on-going maintenance etc.).

1.2 Members of the Union may propose software that they, themselves, have not developed, provided that the member of the Union proposing the software has used the software for the function described. In particular, jointly-developed software, freely-available software packages and packages built around commercial software products can be included, provided that intellectual property rights are respected and the relevant information concerning those aspects is covered by the information provided in the column for "Condition for Supply".

1.3 Information on the following should be provided by any member of the Union proposing software for inclusion in document UPOV/INF/16:

Program name
Programming language
Function (brief summary)
Source & contact details
Category(ies) of use (see Section 3 "Categories of software")

2. Procedure for inclusion of software

Software proposed for inclusion in document UPOV/INF/16 by members of the Union is, in the first instance, presented for review by the Technical Working Party on Testing Methods and Techniques (TWM). On the basis of such presentations and the experience of members of the Union, the TWM makes a recommendation to the Technical Committee (TC) on whether to include that software in document UPOV/INF/16. In the case of a positive recommendation by the TC and by the Administrative and Legal Committee (CAJ), the software will be listed in a draft of document UPOV/INF/16, to be considered for adoption by the Council. Document UPOV/INF/16 is adopted by the Council.

3. Categories of software

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

- (a) Administration of applications
- (b) On-line application systems
- (c) Variety denomination checking
- (d) DUS trial design and data analysis
- (e) Data recording and transfer
- (f) Image analysis
- (g) 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 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.

MEMBERS OF THE UNION AND ISO CODES / MEMBRES DE L'UNION ET CODES ISO /
VEBANDSMITGLIEDER UND ISO-CODES / MIEMBROS DE LA UNIÓN Y CÓDIGOS ISO

| ISO | English | français | deutsch | Español |
|-----|----------------------------------|---------------------------------|----------------------------------|-----------------------------------|
| AL | Albania | Albanie | Albanien | Albania |
| AM* | Armenia | Arménie | Armenien | Armenia |
| AR | Argentina | Argentine | Argentinien | Argentina |
| AT | Austria | Autriche | Österreich | Austria |
| AU | Australia | Australie | Australien | Australia |
| AZ | Azerbaijan | Azerbaïdjan | Aserbajdschan | Azerbaïdjan |
| BA | Bosnia and Herzegovina | Bosnie-Herzégovine | Bosnien-Herzegowina | Bosnia y Herzegovina |
| BE | Belgium | Belgique | Belgien | Bélgica |
| BG | Bulgaria | Bulgarie | Bulgarien | Bulgaria |
| BO | Bolivia (Plurinational State of) | Bolivie (État plurinational de) | Bolivien (Plurinationaler Staat) | Bolivia (Estado Plurinacional de) |
| BR | Brazil | Brésil | Brasilien | Brasil |
| BY | Belarus | Bélarus | Belarus | Belarús |
| CA | Canada | Canada | Kanada | Canadá |
| CH | Switzerland | Suisse | Schweiz | Suiza |
| CL | Chile | Chili | Chile | Chile |
| CN | China | Chine | China | China |
| CO | Colombia | Colombie | Kolumbien | Colombia |
| CR | Costa Rica | Costa Rica | Costa Rica | Costa Rica |
| CZ | Czechia | Tchéquie | Tschechien | Chequia |
| DE | Germany | Allemagne | Deutschland | Alemania |
| DK | Denmark | Danemark | Dänemark | Dinamarca |
| DO | Dominican Republic | République dominicaine | Dominikanische Republik | República Dominicana |
| EC | Ecuador | Équateur | Ecuador | Ecuador |
| EE | Estonia | Estonie | Estland | Estonia |
| EG | Egypt | Égypte | Ägypten | Egipto |
| ES | Spain | Espagne | Spanien | España |
| FI | Finland | Finlande | Finnland | Finlandia |
| FR | France | France | Frankreich | Francia |
| GB | United Kingdom | Royaume-Uni | Vereinigtes Königreich | Reino Unido |
| GE | Georgia | Géorgie | Georgien | Georgia |
| GH | Ghana | Ghana | Ghana | Ghana |
| HR | Croatia | Croatie | Kroatien | Croacia |
| HU | Hungary | Hongrie | Ungarn | Hungría |
| IE | Ireland | Irlande | Irland | Irlanda |
| IL | Israel | Israël | Israel | Israel |
| IS | Iceland | Islande | Island | Islandia |
| IT | Italy | Italie | Italien | Italia |
| JO | Jordan | Jordanie | Jordanien | Jordania |
| JP | Japan | Japon | Japan | Japón |
| KE | Kenya | Kenya | Kenia | Kenya |
| KG | Kyrgyzstan | Kirghizistan | Kirgisistan | Kirguistán |
| KR | Republic of Korea | République de Corée | Republik Korea | República de Corea |
| LT | Lithuania | Lituanie | Litauen | Lituania |
| LV | Latvia | Lettonie | Lettland | Letonia |
| MA | Morocco | Maroc | Marokko | Marruecos |
| MD | Republic of Moldova | République de Moldova | Republik Moldau | República de Moldova |
| ME | Montenegro | Monténégro | Montenegro | Montenegro |
| MK | North Macedonia | Macédoine du Nord | Nordmazedonien | Macedonia del Norte |

* EN: New member as of March 2, 2024

FR: Nouveau membre depuis le 2 mars 2024

DE: Neues Mitglied seit 2. März 2024

ES: Nuevo miembro desde el 2 de marzo de 2024.

| ISO | English | français | deutsch | Español |
|-----------|---|--|---|--|
| MX | México | Mexique | Mexiko | México |
| NI | Nicaragua | Nicaragua | Nicaragua | Nicaragua |
| NL | Netherlands (Kingdom of the) | Pays-Bas (Royaume des) | Niederlande (Königreich der) | Países Bajos (Reino de los) |
| NO | Norway | Norvège | Norwegen | Noruega |
| NZ | New Zealand | Nouvelle-Zélande | Neuseeland | Nueva Zelanda |
| OA | African Intellectual Property Organization (OAPI) | Organisation Africaine de la Propriété Intellectuelle (OAPI) | Afrikanische Organisation für geistiges Eigentum (OAPI) | Organización Africana de la Propiedad Intelectual (OAPI) |
| OM | Oman | Oman | Oman | Omán |
| PA | Panama | Panama | Panama | Panamá |
| PE | Peru | Pérou | Peru | Perú |
| PL | Poland | Pologne | Polen | Polonia |
| PT | Portugal | Portugal | Portugal | Portugal |
| PY | Paraguay | Paraguay | Paraguay | Paraguay |
| QZ | European Union | Union européenne | Europäische Union | Unión Europea |
| RO | Romania | Roumanie | Rumänien | Rumania |
| RS | Serbia | Serbie | Serbien | Serbia |
| RU | Russian Federation | Fédération de Russie | Russische Föderation | Federación de Rusia |
| SE | Sweden | Suède | Schweden | Suecia |
| SG | Singapore | Singapour | Singapur | Singapur |
| SI | Slovenia | Slovénie | Slowenien | Eslovenia |
| SK | Slovakia | Slovaquie | Slowakei | Eslovaquia |
| TN | Tunisia | Tunisie | Tunesien | Túnez |
| TR | Türkiye | Türkiye | Türkiye | Türkiye |
| TT | Trinidad and Tobago | Trinité-et-Tobago | Trinidad und Tobago | Trinidad y Tobago |
| TZ | United Republic of Tanzania | République-Unie de Tanzanie | Vereinigte Republik Tansania | República Unida de Tanzania |
| UA | Ukraine | Ukraine | Ukraine | Ucrania |
| US | United States of America | États-Unis d'Amérique | Vereinigte Staaten von Amerika | Estados Unidos de América |
| UY | Uruguay | Uruguay | Uruguay | Uruguay |
| UZ | Uzbekistan | Ouzbékistan | Usbekistan | Uzbekistán |
| VC | Saint Vincent and the Grenadines | Saint-Vincent-et-les Grenadines | St. Vincent und die Grenadinen | San Vicente y las Granadinas |
| VN | Viet Nam | Viet Nam | Vietnam | Viet Nam |
| ZA | South Africa | Afrique du Sud | Südafrika | Sudáfrica |

(d) DUS trial design and data analysis

| Date added | Program name | Programming language | Function (brief summary) | Source & contact details | Condition for supply | UPOV member(s) 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: Ms. Trudyann Kelly e-mail: info@afbini.gov.uk | | EE | Grasses and Legumes |
| | | | | | | FI | Grasses, Red Clover, White Clover, Turnip Rape, Rye |
| | | | | | | GB | Herbage, Pea (Field & Veg), Parsnip, Swede, Onion, Brussels Sprout, Carrot and other vegetable species, Winter Oilseed Rape, Sugar Beet, Faba Beans, Spring Oilseed Rape, Kale, Linseed |
| | | | | | | KE | Maize |
| | | | | | | NZ | Grasses, Brassicas, Wheat, Barley, Garden Peas |
| | | | | | | PL | Oilseed Rape, Grasses |
| | | | | | | SK | Grasses, clovers, oilseed rape |
| | | | | | | 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: e-mail: christelle.lavaud@geves.fr | | AR | Soybean, Grapevine, Anise, Hazelnut, Safflower, Paulownia, Hop, Hemp, Rice, Cotton |
| | | | | | | BR | Soybean, Wheat |
| | | | | | | CZ | Maize, Wheat, Barley, Oats, and Pea |
| | | | | | | FR | Sorghum, Sugar Beet, Maize, Wheat, Barley, Oats, Rapeseed, Sunflower, Triticale, Pea |
| | | | | | | HR | Barley, Maize, Soybean, Wheat |
| | | | | | | UY | All species |
| October 25, 2020 | Off-type Calculator | Microsoft Excel | Calculates maximum allowable numbers of off-types for one- and two-cycle tests, along with associated statistical risks | United Kingdom: Mr. Adrian Roberts e-mail: a.roberts@bioss.ac.uk and www.upov.int/edocs/mdocs/upov/en/twc_37/twc_37_5_annex_ii.xlsx | | GB | All species |
| | | | | | | PL | All species |

| Date added | Program name | Programming language | Function (brief summary) | Source & contact details | Condition for supply | UPOV member(s) using the software | Application by user(s) |
|------------------|--------------|----------------------|--|---|--|-----------------------------------|------------------------|
| October 28, 2022 | PATHOSTAT | Microsoft Excel | Decision support tool to integrate statistics for the analysis of pest resistance test results for vegetable species | France: Ms. Sophie Perrot e-mail: sophie.perrot@geves.fr and PATHOSTAT (geves.fr) | Available as a web service / not for download | FR | Vegetable species |
| October 25, 2024 | DUSCEL | EXCEL+VBA+UI | 1. Trial Design 2. Checking abnormal data by validation, boxplot and standard deviation methods 3. Analysis of uniformity by off-type, relative variance, COYU 4. Converting original data to note by standard varieties 5. Analysis of stability by COYS 6. Analysis of distinctness by notes, measured data and images 7. Methods for verification of characteristics and trial by correlation coefficient, frequency distribution by notes or measured data 8. Estimation of optimal sample size 9. Image checking, processing and analysis | China: Mr. Kun Yang e-mail: yangkun@caas.cn | DUSCEL3.0 and 3.5 are offered free of charge. DUSCEL4.0 is offered at a fee. Please contact for information. | CN | All species |

(e) Data recording and transfer

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

(f) Image analysis

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

(g) Biochemical and molecular data

| Date added | Program name | Programming language | Function (brief summary) | Source & contact details | Condition for supply | UPOV member(s) using the software | Application by user(s) |
|------------|--------------|----------------------|--------------------------|--------------------------|----------------------|-----------------------------------|------------------------|
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