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EXCHANGEABLE SOFTWARE

Document prepared by experts from the United Kingdom

EXCHANGEABLE SOFTWARE

CZECH REPUBLIC

Program Name	Function	Programming Language	Available From
FTAB-MAX	Spreadsheet with statistical functions, for example: • Finding most similar varieties, based on euclidian distance from a target variety in a standardised multidimensional space; • Multidimensional grouping of varieties (hierarchical sorting) based on categorical descriptor values. Stops when distinction of all entries is reached; • Least Squares Analysis of nonorthogonal data, including least significant differences for average number of reps; • Simple statistics of specified rows or columns; • Multidimensional distinctness of measured variables of replicated entries (combined over environments); • Correlation matrices with indicated significance; • Two-dimensional scatter diagrams.	Compiled BASIC	Dr E Schwarzbach Brno

DENMARK

Program Name	Function	Programming Language	Available From
	Denmark uses SAS on Pcs for calculation of data from both DUS and VCU trials. Administrative data are stored and retrieved from a database developed in FOXPRO (Dbase IV-like) on Pcs. Macros in SAS are available which convert SAS datasets to files which can be read by DUST and related programs. Procedures using SAS can be copied by other SAS users.	SAS	K Kristensen Denmark
SAS-SUMMARY	Calculates summary measures.		
SAS-ANOVA SAS-GLM	Calculates analyses of variance, variety means and SLD values.		
SAS-PLOT	Residual plots and plots of standard deviations against plot number and/or means.		
SESENS	Convert SAS-files to ascii-files which can be used as input for UNIF3 (Fortran uniformity program supplied by M Talbot).		
SESSELV	Convert SAS-files to ascii-files which can be used as input for TVAL and TSUM (Fortran distinctness programs which are part of the DUST program supplied by S T C Weatherup).		

FRANCE

Program Name	Function	Programming Language	Available From
QALSTAT	Acceptance sampling by attributes. Help to choose a sampling scheme and/or give efficiency of schemes.	BASIC	INA - PG (Contact GEVES)

GERMANY

Program Name	Function	Programming Language	Available From
SAS - COY - D	Distinctness tests for candidate varieties with 3, 2 or 1 year of trial results. Calculation of ANOVA summary statistics, MJRA, LSD-values, outlier checking, residual plots, summary table of distinctness results, similar varieties. Options: long range LSD values, robust estimate of error mean square.	SAS	F. Laidig Bundessortenamt, Hannover
SAS - COY - H	Homogeneity test for candiate varieties with 3 and 2 years of trial results. Functions and output as described in document TC/30/4 (COY-U).	SAS	F. Laidig Bundessortenamt, Hannover
VERA	Generates randomized designs for variety trials with up to 225 entries: complete blocks, with entries arranged in groups (e.g. maturity), split plots (2 factors), split plots where subplots are arranged in an alpha design.	SAS	F. Laidig Bundessortenamt, Hannover

JAPAN

Program Name	Function	Programming Language	Available From
KIRI	General data base software which contains information on applications (such as name and address of applicant, genera and species of variety, proposed denomination, date of application etc.) and registration (denomination, date of registration, characteristics of registered variety etc.).	C	Seeds and Seedlings Division, MAFF, TOKYO

THE NETHERLANDS

Program Name	Function	Programming Language	Available From
Hand held terminal	Programs on hand held terminals FW-60 transfer, file CP/M handling and checking of data.	Gerard Middendorp Pascal 3.0	VAX-Fortran CPRO-DLO, PO Box 16 6700 AA Wageningen The Netherlands
DUS	Programs for designing trials, processing data from trials (summary measures, analysis of variance. Testing of variety denomination based on word similarity.	VAX-Fortran	Gerard Middendorp CPRO-DLO
VCU	Design and analysis of VCU-trials (1-way, 2-way non-orthogonal, weighted ANOVA, crop-specific).	VAX-Fortran	Gerard Middendorp CPRO-DLO
STUUR	General programs; file handling; manipulating (sorting, statistics etc) of rows and columns.	VAX-Fortran	Gerard Middendorp CPRO-DLO
SCIL-Image	Image analysis package with C-command interpreter, menu's, easily expandable large library of imaging functions.	C	Gerie v.d. Heijden CPRO-DLO

POLAND

Program Name	Function	Programming Language	Available From
POWT3	Analysis of categorial data; the difference between all pairs of varieties are tested.	FORTRAN F1	W. Pilarczyk COBURU Poland
POWT5	Analysis of variance for cumulative observations over a period of time. Program can be used, for example, for the analysis of heading dates and for so called "dynamics of flowering".	FORTRAN F1	

SLOVAKIA

Program Name	Function	Programming Language	Available From
ANALIST 1.1	Identification of wheat varieties using Image Analysis of 16 morphometrical parameters of wheat seeds, compare morphometrical parameters of tested sample with standard parameters of reference varieties (from catalogue), compute the similarity of varieties and ranking of varieties by level of homology of their shapes.	PASCAL 6.0	Mr. L'ubomír Horváth Fax: 0042 07 821763 Slovakia
ANALIST 2.1	Identification of bean varieties using Image analysis of 16 morphometrical parameters of bean seeds, compare morphometrical parameters of tested sample with standard parameters of reference varieties (from catalogue), compute the similarity of varieties and ranking of varieties by level of their homology of shapes.	PASCAL 6.0	
ANALIST 3.1	Identification of individual species of plant seeds and admixtures in tested samples using 5 morphometrical parameters.	PASCAL 6.0	
SPECTRUM 1.1	Identification of varieties using electrophoresis and densitometric data. Standardization of electrophoretic spectra by 3 reference bands, compute relative homology of tested and catalogized spectra and ranking of spectra by level of relative weighted homology.	CLIPPER 5.0	

UK

Program Name	Function	Programming Language	Available From
DUST9	General program for analysis of data from DUS trials. Includes facilities for COY analysis and a wide range of multivariate analysis techniques. A prototype version for PC Windows called DUSTW is now available. See Appendix A1.	FORTRAN 90	Dr S Watson DANI BELFAST

APPENDIX A1: The DUST Software Package

The DUST system was developed specifically to meet the needs of DUS (Distinctness, Uniformity and Stability) testing stations for software to organise, analyse and report data from DUS field trials.

DUST is in routine use at several DUS centres for the management of data from trials of grasses, legumes, vegetables and fodder crops. It incorporates many of the UPOV-recommended statistical procedures for these crops.

The DUST package handles data through the stages of collection, storage, single-year summary, and multi-year summary. As well as providing the UPOV-recommended procedures it includes facilities for:

- identifying most similar varieties based on observations from a number of characters;
- producing variety descriptions.

The software is currently available as a DOS-based package (DUST9) which runs on 386, 486 and Pentium PCs (where an SX chip is used a maths coprocessor is recommended).

For further information and details of availability please contact:

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