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UPOV

TC/50/22 Add.
ORIGINAL : anglais
DATE : 22 avril 2014

UNION INTERNATIONALE POUR LA PROTECTION DES OBTENTIONS VÉGÉTALES
Genève

COMITE TECHNIQUE

Cinquantième session
Genève, 7 – 9 avril 2014

ADDITIF

REVISION DU DOCUMENT TGP/8 : DEUXIEME PARTIE : QUELQUES TECHNIQUES UTILISEES DANS L'EXAMEN DHS, SECTION 9 : ANALYSE GLOBALE DE L'HOMOGENEITE SUR PLUSIEURS ANNEES (METHODE D'ANALYSE COYU)

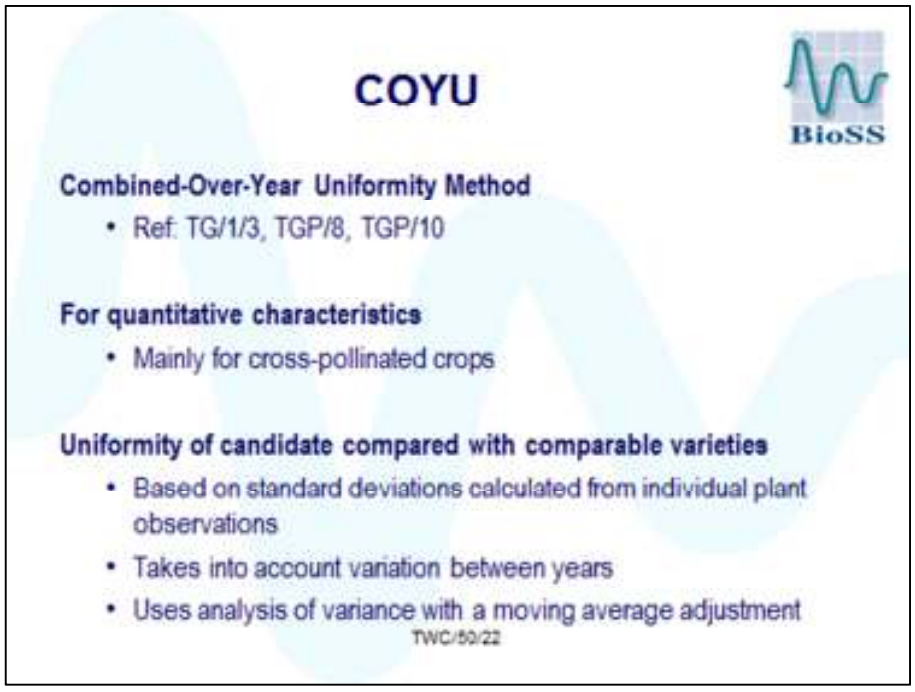
Document établi par le Bureau de l'Union

Avertissement : le présent document ne représente pas les principes ou orientations de l'UPOV

L'annexe du présent document contient une copie de la présentation sur les propositions d'amélioration de la méthode COYU (seulement en anglais).

[L'annexe suit]


BioSS
Proposed Improvements to COYU
Adrian Roberts
United Kingdom
TWC/50/22


COYU
BioSS
Combined-Over-Year Uniformity Method
• Ref: TG/1/3, TGP/8, TGP/10
For quantitative characteristics
• Mainly for cross-pollinated crops
Uniformity of candidate compared with comparable varieties
• Based on standard deviations calculated from individual plant observations
• Takes into account variation between years
• Uses analysis of variance with a moving average adjustment
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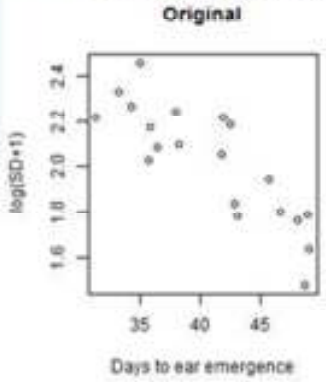
Adjustment

Variability of measurements often depends on level of expression

- So an adjustment is used to compensate
- Currently the method used is ***Moving Average***



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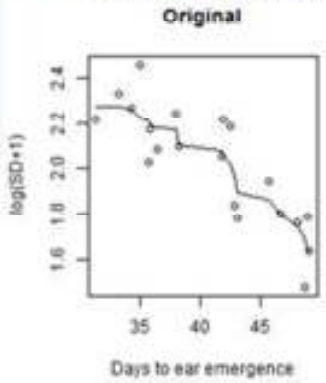

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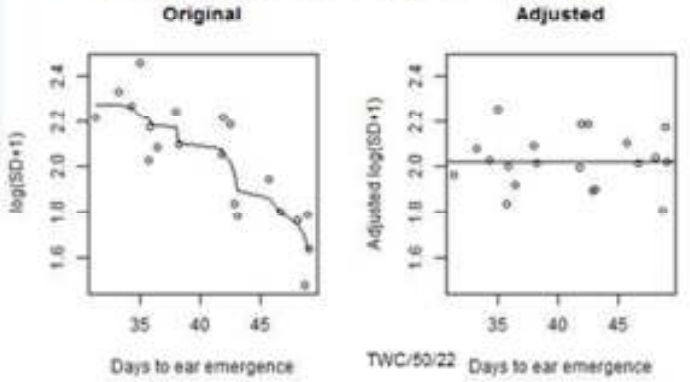

Concern with current COYU method

Shown that the current method rejects more varieties than it should

- In examples in TWC/27/15, rejection rate was more than 2 times expected

This is due to the method of adjustment (moving average)

In practice, this seems to be partially compensated for by use of smaller probability levels than usual

- Typical probability level for COYD is 1%
- Typical probability level for COYU is 0.1%

TWC work on improving COYU

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Considered various alternative methods of adjustment

- Needs to fit relationships between variation and level of expression well
- No bias problem

Method called "cubic smoothing spline" was found to be suitable

- Flexibility constrained to 4 effective degrees of freedom

This was demonstrated at TWC last year

- *R* software

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Issues arising

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Key issues to deal with:

- **Choice of probability levels**
  - Optimise to match decisions with current approach?
- **When a new variety has a level of expression outside that seen in comparable varieties**
  - Also an issue for the current COYU
- **Minimum number of varieties required for COYU**
  - Easier than with moving average

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Current work

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Developing a demonstration module in DUST

- Plan to demonstrate at TWC in June 2014

Ask TWC members to try on their own data

- Compare with current method

Survey of use of COYU and software

- See Annex III
- 7 members from 11 responding use COYU
- Software: DUST, SAS and GenStat
- Useful information for future guidance

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Suggested next steps

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- **Support from TC in 2014?**
- **Further consideration by TWC in 2014 and 2015**
  - Practical experience
  - Software (DUST and alternatives)
  - Technical issues
  - Consideration of implementation
- **Wider consideration by UPOV (TC etc.)**
  - Agree to replace current COYU with proposal?
  - How to do so?

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[Fin de l'annexe et du document]