TC/50/22 Add.
ORIGINAL: englisch
DATUM: 22. April 2014

INTERNATIONALER VERBAND ZUM SCHUTZ VON PFLANZENZÜCHTUNGEN
Genf

TECHNISCHER AUSSCHUSS

Fünfzigste Tagung
Genf, 7. bis 9. April 2014

ERGÄNZUNG

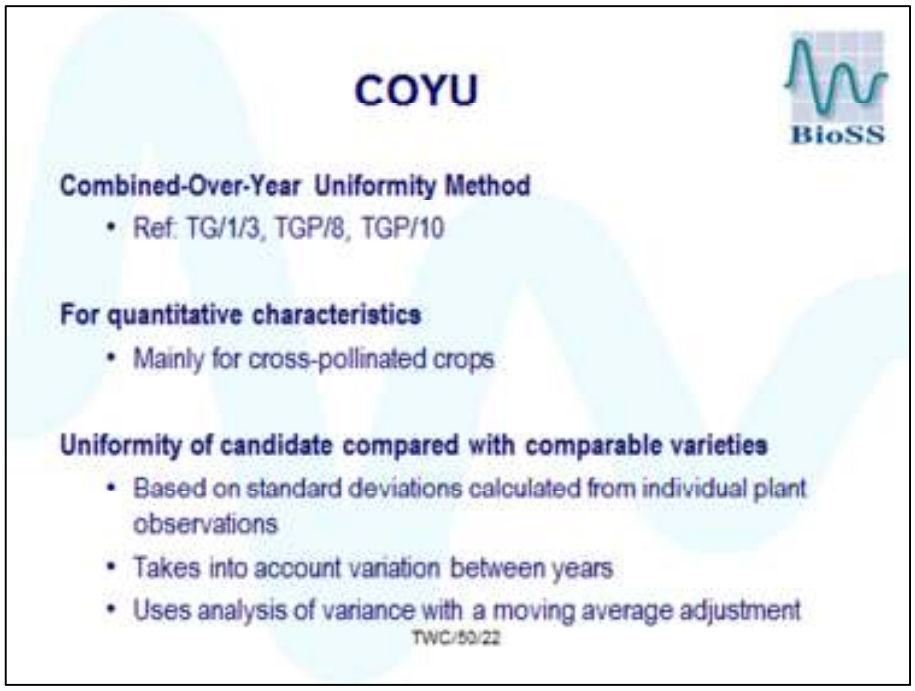
ÜBERARBEITUNG VON DOKUMENT TGP/8: TEIL II: AUSGEWÄHLTE VERFAHREN FÜR DIE DUS-PRÜFUNG, ABSCHNITT 9: DAS KOMBINIERTE HOMOGENITÄTSKRITERIUM ÜBER MEHRERE JAHRE (COYU)

vom Verbandsbüro erstelltes Dokument

Die Anlage dieses Dokuments enthält eine Kopie der Präsentation über die vorgeschlagenen Verbesserungen am COYU Verfahren (nur auf Englisch).

[Anlage folgt]


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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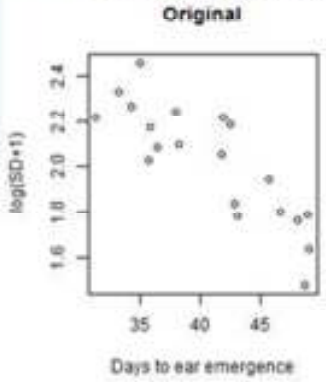
Adjustment

BioSS

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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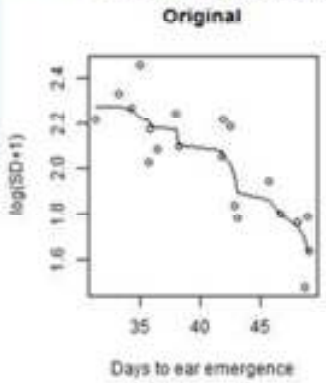

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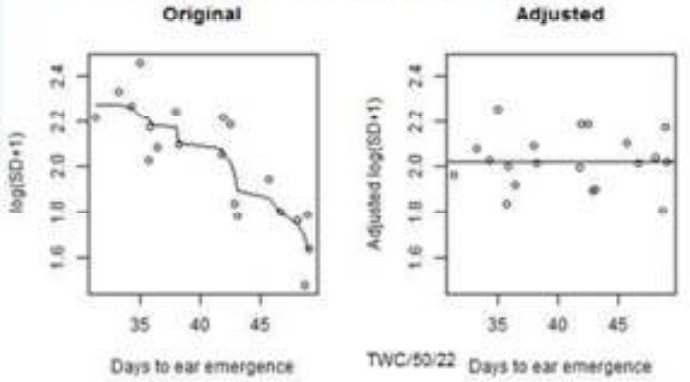

Concern with current COYU method

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

BioSS

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

BioSS

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

BioSS

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

BioSS

- **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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[Ende der Anlage und des Dokuments]