



TWC/34/19

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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

TECHNICAL WORKING PARTY ON AUTOMATION AND COMPUTER PROGRAMS

**Thirty-Fourth Session
Shanghai, China, June 7 to 10, 2016**

MINIMIZING VARIATION BETWEEN OBSERVERS – PRACTICAL EXAMPLE FROM FINLAND

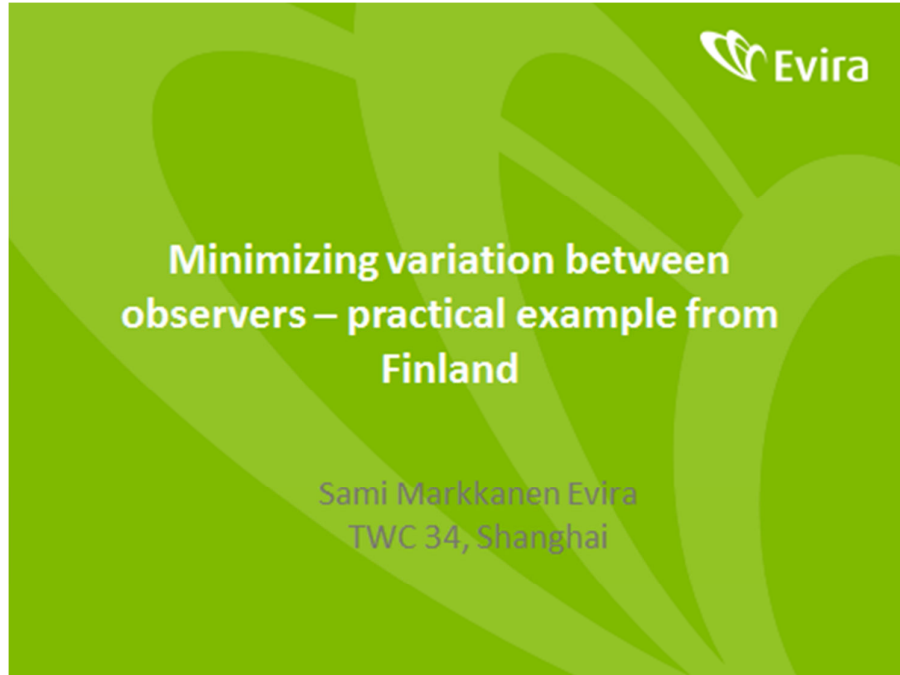
Document prepared by an expert from Finland

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The Annex to this document contains a copy of a presentation on “Minimizing variation between observers – practical example from Finland” that will be made at the thirty-fourth session of the Technical Working Party on Automation and Computer Programs (TWC).

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[Annex follows]



Some practical issues with calibration of observers



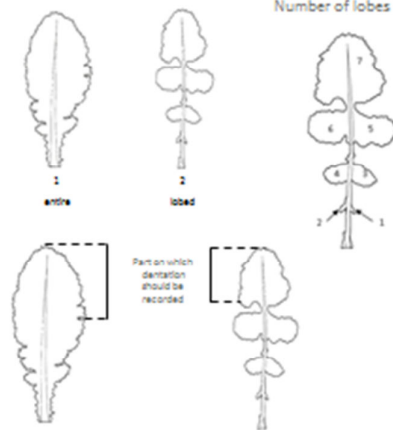
- Usually the time for making the certain observations is short and therefore fast and efficient working methods are needed: need for several observers
- MS / VS characteristics
- Example: the leaf characteristics of Turnip rape
- *Brassica rapa* L. var. *silvestris* (Lam.) Briggs.) UPOV TG/185/3
 - 3 leaf characteristics where calibration is needed

Characteristics observed in field



#	CP	VS	Characteristic	Scale	Value
7	CP	VS	Leaf type	None	1
				Small	2
				Large	3
8	CP	VS	For varieties with lobed leaves: Leaf number of lobes	None	1
				Small	2
				Medium	3
				Large	4
10	CP	VS	Leaf undulation of margin	None	1
				Small	2
				Medium	3
				Large	4
11	CP	VS	Leaf dentation of margin	None	1
				Small	2
				Medium	3
				Large	4
12	CP	VS	Leaf length (blade and petiole)	None	1
				Small	2
				Medium	3
				Large	4
13	CP	VS	Leaf width (widest point)	None	1
				Small	2
				Medium	3
				Large	4

From UPOV TG/185/3



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Right time for observations



From 6-leaf stage to 12 or more leaves completely developed
- the longest leaf is chosen for observations

About one week time for making the Observations

Use of example varieties

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Amount of observations



Amount of varieties: 25
Amount of characteristics: 6
Observations / variety: 60
Total: 9000

→ Need for several observers



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→ Need for observer calibration



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Calibration form

CALIBRATION FORM FOR OBSERVERS					
date:					
Characteristic	Observer:	Observer:	Observer:	Observer:	Observer:
	note	note	note	note	note
Characteristic	note	note	note	note	note
Characteristic	note	note	note	note	note
Characteristic	note	note	note	note	note
Characteristic	note	note	note	note	note
Characteristic	note	note	note	note	note
Characteristic	note	note	note	note	note
Characteristic	note	note	note	note	note
Characteristic	note	note	note	note	note
Characteristic	note	note	note	note	note

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Example of calibration

Characteristic	Observer:	observer 1	Observer:	observer 2	Observer:	observer 3	Observer:	observer 4	Observer:	observer 5
Characteristic 9 Leaf number of lobes	note	3	note	6	note	5	note	5	note	
Characteristic 10 Leaf undulation of margin	note	3	note	4	note	3	note	3	note	
Characteristic 11 Leaf dentation of margin	note	4	note	5	note	3	note	3	note	
Characteristic	note		note		note		note		note	
Characteristic 9 Leaf number of lobes	note	3	note	3	note	5	note	5	note	5
Characteristic 10 Leaf undulation of margin	note	6	note	7	note	4	note	7	note	7
Characteristic 11 Leaf dentation of margin	note	6	note	6	note	4	note	7	note	6

need to calibrate the observer 3, values too low (weak to medium)

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Other example where calibration is needed



- Red clover (TG/5/7): characteristic 15. Stem: density of hairs, VS
- Use of photographs / example stems for calibration



1 very low

3 low

5 medium

7 high

Thank you for your attention



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