



TWC/23/14

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**INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS**  
GENEVA

**TECHNICAL WORKING PARTY  
ON  
AUTOMATION AND COMPUTER PROGRAMS**

**Twenty-Third Session  
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**POPULATION STANDARDS USED FOR ASSESSING UNIFORMITY OF OFF-TYPES  
(TGP/10.3.2 EXAMINING UNIFORMITY)**

*Document prepared by experts from Germany and the United Kingdom and  
the Office of the Union*

1. During its twenty-second session held in Tsukuba, Japan, from June 14 to 17, 2004, the TWC agreed that the Chairman, in conjunction with Mr. Adrian Roberts (United Kingdom), and the Office of the Union, should produce a questionnaire to seek information on the population standards used in the assessment of uniformity by off-types, in particular when tests from more than one year are used. The Annex to this document contains a draft questionnaire for discussion and comments before it is issued to the TWC experts for completion.

## ANNEX

Population standards used for assessing uniformity of off-types (TGP/10.3.2 Examining Uniformity)

Please complete the following tables and return to UPOV by email to [upov.mail@wipo.int](mailto:upov.mail@wipo.int):

Country/Organisation:	
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The population standard (P) is the maximum percentage of off-types that would be accepted if all individuals of the variety could be examined. The population standard is fixed for the crop in question and is stated in the Test Guidelines (see document TGP/7). There is some flexibility as to how off-types are assessed. In particular, an expert may assess the proportion of off-types in a variety in one, two or three years. Various strategies are possible, including sequential testing.

This survey is intended to investigate how uniformity using off-types is assessed for different crops.

The following cases present different situations for a one, two or three year test:

Case A: The test is conducted over a single growing cycle and decisions made after this single growing cycle. A growing cycle is often a year.

Case B: The test is conducted over 2 (or 3) independent cycles and decisions made after 2 (or 3) cycles. The test is based on the total number of plants examined and the total number of off-types recorded.

Case C: The test is conducted over 3 independent cycles and decisions made after 3 cycles. The test is based on the number of plants examined per cycle. The variety may be accepted if it is uniform in 2 out of 3 cycles.

Case D: The test is conducted over 2 independent cycles and decisions made after 2 cycles but a variety may be accepted or rejected after the first cycle.

Case E: The test is conducted over 2 independent cycles and decisions made after 2 cycles but a variety may be rejected after the first cycle if the number of off-types exceeds the tolerance for 2 cycles.

Case F: Other test

Species/ typical characteristic*	Plot type	Case	Pop. stand.	Accept. probab.	Sample size			Max. no. of offtype plants		
					Cycle 1	Cycle 2	Cycle 3	Cycle 1	Cycle 2	Cycle 3
Example: Wheat/Ear: glaucosity	Drill	C	0.1	0.95	1000	2000	2000	3	5	5
Wheat/Grain: coloration	Ear-row	C	1.0	0.95	100	100	100	3	3	3
Wheat/Straw: pith	Ear-row	C	1.0	0.95	20/80	20/80	20/80	1/3	1/3	1/3

\* Explain if necessary: e.g. ear rows

- 100 ear rows are observed

- 3 non-uniform ear rows are accepted. If there are more than 3 non-uniform ear rows, the variety is considered non-uniform

- an ear row is considered non-uniform if it contains more than 1 off-type

[End of Annex and document]