



TWO/37/4 Add.

ORIGINAL: English

DATE: June 24, 2004

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

**TECHNICAL WORKING PARTY
FOR
ORNAMENTAL PLANTS AND FOREST TREES**

**Thirty-Seventh Session
Hanover, Germany, July 12 to 16, 2004**

**ADDENDUM TO PROJECT TO CONSIDER THE
PUBLICATION OF VARIETY DESCRIPTIONS**

Document prepared by the Office of the Union

1. Document TWA/33/4 (see paragraph 12) notes that the TC agreed that “the Chairman of the TWC should, after consultation with the members of the TWC, develop guidance on how to present the variation in the states of expression between different descriptions of the same variety and communicate this guidance to the coordinators of the model studies via the Office”.
2. The TWC, at its twenty-second session, held in Tsukuba, Japan, from June 14 to 17, 2004, agreed the recommendations contained in the annex to this document. The TWC also considered that future analysis might indicate possible trends in different countries.

[Annex follows]

ANNEX

Recommendations for coordinators for the *Ad hoc* crop subgroups for the
publication of variety descriptions

Following the request made by the Technical Committee during its fortieth session, held in Geneva, from March 29 to 31, 2004, the TWC recommended that the coordinators of the Model Studies for the Publication of Variety Descriptions use the following tables and information to present and analyze the data.

Table 1: Qualitative Characteristics (QL) (e.g. Ploidy type)

| Characteristic: Ploidy type (UPOV-Number: xx) | | | | | | | | | | | | | |
|---|-----------------------|-------|---|--|---|--|---|--|--|-----------------------|---|--|--|
| Variety | Provided descriptions | Notes | | | | | | | | Number of frequencies | | | |
| | | | 2 | | 4 | | 6 | | | | | | |
| A | 5 | | 4 | | 1 | | | | | | 2 | | |
| B | 4 | | | | 4 | | | | | | 1 | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

Table 2: Pseudo-Qualitative Characteristics (PQ) (e.g. Flower color)

| Characteristic: Flower color (UPOV-Number: yy) | | | | | | | | | | | | | |
|--|-----------------------|-------|---|---|---|---|---|--|--|-----------------------|---|--|--|
| Variety | Provided descriptions | Notes | | | | | | | | Number of frequencies | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | | | | | | |
| A | 5 | 4 | 1 | | | | | | | | 2 | | |
| B | 4 | | | | 3 | | 1 | | | | 2 | | |
| C | 5 | | 1 | 4 | | | | | | | 2 | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

Table 3: Quantitative Characteristics (QN) (e.g. Leaf length)

| Characteristic: Leaf length (UPOV-Number: zz) | | | | | | | | | | | | | |
|---|-----------------------|-------|---|---|---|---|---|---|---|---|-----------------------|-------|--------------------|
| Variety | Provided descriptions | Notes | | | | | | | | | Number of frequencies | Range | Standard deviation |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | |
| A | 5 | | | | | 2 | 1 | 2 | | | 3 | 2 | 1.00 |
| B | 5 | | | | 1 | 2 | | 2 | | | 3 | 3 | 1.34 |
| C | 5 | 1 | | | | | | | | 4 | 2 | 8 | 3.58 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Average | | | | | | | | | | | u | v | w |

Explanations

Number of frequencies

The number of frequencies for a variety is equal to the number of non-zero frequencies for that variety. If the frequencies were presented as bars in a histogram the number of different notes appearing in a variety would be equal to the number of bars which were non-zero.

The corresponding mathematical function in 'MS-Excel' is 'count'. This function counts cells which contain numbers. Empty cells are ignored.

The number of frequencies can be computed for all kinds of characteristics (QL, PQ, QN).

Range

The 'Range' is the difference between the maximum and minimum notes.

There is no separate function in 'MS-Excel' for the range. The 'MS-Excel' functions 'max' and 'min' can be used.

The range can only be computed for quantitative characteristics (QN).

Standard deviation

The standard deviation is given by the following formula:

$$STD = \sqrt{\frac{1}{n-1} * \sum_{i=1}^n (x_i - \bar{x})^2}$$

- x_i note for a characteristic for the i^{th} country,
- n number of countries,
- i varies from 1 to n and
- \bar{x} arithmetic mean of this characteristic over all countries

The corresponding function in 'MS-Excel' is 'STDEV'.

The standard deviation can only be computed for quantitative characteristics (QN).

Further information:

- For easier comprehension of the tables and for correct use of the 'MS-Excel' function 'count', it is necessary not to include zeros for notes which do not appear for that variety
- Tables are intended to show variation of a variety over notes, provided by different countries, characteristic-by-characteristic
- Depending on the number of varieties, graphical presentations like histograms could be added
- The TWC will check the application of further methods (GAIA and other).