



**European Union
Community Plant Variety Office**

PROTOCOL FOR DISTINCTNESS, UNIFORMITY AND STABILITY TESTS

ELATIOR BEGONIA

Begonia xhiemalis Fotsch

UPOV Species Code: BEGON_HIE

Adopted on 14th November 2007

I - SUBJECT OF THE PROTOCOL

The protocol describes the technical procedures to be followed in order to meet the requirement of Council Regulation (EC) No. 2100/94 on Community Plant Variety Rights. The technical procedures have been agreed by the Administrative Council and are based on general UPOV Document TG/1/3 and UPOV Guideline TG/18/5 dated 28th March 2007 for the conduct of tests for Distinctness, Uniformity and Stability and conclusions of the ornamental experts' meeting of 19th and 20th September 2007. This protocol applies to all vegetatively propagated varieties of *Begonia xhiemalis* Fotsch, of the family *Begoniaceae*.

II - SUBMISSION OF PLANT MATERIAL

1. The Community Plant Variety Office (CPVO) is responsible for informing the applicant of

- the closing date for the receipt of plant material;
- the minimum amount and quality of plant material required;
- the Examination Office to which material is to be sent.

The applicant is responsible for ensuring compliance with any customs and plant health requirements.

2. Final dates for receipt of documentation and material by the Examination Office

The final dates for receipt of requests, technical questionnaires and the final date or submission period for plant material will be decided by the CPVO and each Examination Office chosen.

The Examination Office is responsible for immediately acknowledging the receipt of requests for testing, and technical questionnaires. If no or unsatisfactory plant material is submitted, the CPVO should be informed as soon as possible.

3. Plant material requirements

Information with respect to closing dates and submission requirements of plant material for the technical examination of varieties can be found on the CPVO website (www.cpvo.europa.eu) and in the special Issue S2 of the Official Gazette of the Office published yearly in the month of September.

Quality: The plant material supplied should be visibly healthy, not lacking in vigour or affected by any important pest or disease, especially viruses, as laid down in Council Directive 2000/29/EC and its amendments, or organisms impairing quality as indicated in Council Directive 98/56/EEC and Commission Directive 93/49/EEC and their amendments.

The plant material must not have undergone any treatment unless the CPVO and the Examination Office allow or request such treatment. If it has been treated, full details of the treatment must be given.

Labelling of sample: - Species
- File number of the application allocated by the CPVO
- Breeder's reference
- Examination reference (if known)
- Name of applicant
- The phrase "On request of the CPVO".

III - CONDUCT OF TESTS

1. Variety collection

A variety collection will be maintained for the purpose of establishing distinctness of the candidate varieties in test. A variety collection may contain both living material and descriptive information. A variety will be included in a reference collection only if plant material is available to make a technical examination.

Pursuant to Article 7 of Council Regulation (EC) No. 2100/94, the basis for a collection should be the following:

- varieties listed or protected at the EU level;
- varieties protected in other UPOV Member States;
- any other variety in common knowledge.

It is the responsibility of Examination Office to keep the variety collection up to date.

2. Material to be examined

Candidate varieties will be directly compared with other candidates for Community plant variety rights tested at the same Examination Office, and with appropriate varieties in the variety collection. When necessary an Examination Office may also include other candidates and varieties.

3. Characteristics to be used

The characteristics to be used in DUS tests and preparation of descriptions shall be those referred to in Annex 1. All the characteristics shall be used, providing that observation of a characteristic is not rendered impossible by the expression of any other characteristic, or the expression of a characteristic is prevented by the environmental conditions under which the test is conducted. In the latter case, the CPVO should be informed. In addition the existence of some other regulation e.g. plant health, may make the observation of the characteristic impossible.

The Administrative Council empowers the President, in accordance with Article 23 of Commission Regulation (EC) No. 1239/95, to insert additional characteristics and their expressions in respect of a variety.

4. Grouping of varieties

The varieties and candidates to be compared will be divided into groups to facilitate the assessment of distinctness. Characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within a variety and which in their various states of expression are fairly evenly distributed throughout the collection. In the case of continuous grouping characteristics overlapping states of expression between adjacent groups is required to reduce the risks of incorrect allocation of candidates to groups. The characteristics used for grouping are the following:

- (a) Flower: type (characteristic 14)
- (b) Flower: number of colours (characteristic 18)
- (c) Outer petal: colour of middle of upper side (characteristic 20) with the following groups:
 - Gr. 1: white
 - Gr. 2: yellow
 - Gr. 3: orange
 - Gr. 4: red
 - Gr. 5: red pink
 - Gr. 6: blue pink
- (d) Outer petal: incisions of margin (characteristic 21)
- (e) Inner petal: colour of middle of upper side (characteristic 23) with the following groups:
 - Gr. 1: white
 - Gr. 2: yellow
 - Gr. 3: orange
 - Gr. 4: red
 - Gr. 5: red pink
 - Gr. 6: blue pink

5. Trial designs and growing conditions

The minimum duration of tests will normally be one growing cycle if the results on distinctness and uniformity are conclusive. Tests will be carried out under conditions ensuring normal growth. The size of the plots will be such that plants or parts of plants may be removed for measuring and counting without prejudice to the observations which must be made up to the end of the growing period.

The test design is as follows:

As a minimum, each test should include a total of 20 plants. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.

All observations determined by measurement or counting should be made on 10 plants or parts taken from each of 10 plants, and any other observations on all plants in the test.

The test should normally be conducted at one place. If any important characteristics of the variety cannot be seen at that place, the variety may be tested at an additional place.

The test should be carried out in the glasshouse under conditions ensuring normal growth.

6. Special tests

In accordance with Article 83(3) of Council Regulation (EC) No. 2100/94 an applicant may claim either in the Technical Questionnaire or during the examination that a candidate variety has a characteristic which would be helpful in establishing distinctness. If such a claim is made and is supported by reliable technical data, a special test may be undertaken providing that a technically acceptable test procedure can be devised.

Special tests will be undertaken, with the agreement of the President of CPVO, where distinctness is unlikely to be shown using the characters listed in the protocol.

7. Standards for decisions

a) **Distinctness**

A candidate variety will be considered to be distinct if it meets the requirements of Article 7 of Council Regulation (EC) No. 2100/94.

b) **Uniformity**

For the assessment of uniformity a population standard of 2% with an acceptance probability of at least 95% should be applied.

For a sample size between 19 and 41 plants for vegetatively propagated varieties, only 2 off-types are allowed.

c) **Stability**

A candidate will be considered to be sufficiently stable when there is no evidence to indicate that it lacks uniformity.

IV - REPORTING OF RESULTS

After each growing cycle the results will be summarised and reported to the CPVO in the form of a UPOV model interim report in which any problems will be indicated under the headings distinctness, uniformity and stability. Candidates may meet the DUS standards after one growing cycle but in some cases two or more growing cycles may be required. When tests are completed the results will be sent by the Examination Office to the CPVO in the form of a UPOV model final report.

If it is considered that the candidate variety complies with the DUS standards, the final report will be accompanied by a variety description in the format recommended by UPOV. If not the reasons for failure and a summary of the test results will be included with the final report.

The CPVO must receive interim reports and final reports from the Examination Office by the date agreed between the CPVO and the examination office.

Interim reports and final examination reports shall be signed by the responsible member of the staff of the Examination Office and shall expressly acknowledge the exclusive rights of disposal of CPVO.

V - LIAISON WITH THE APPLICANT

If problems arise during the course of the test the CPVO should be informed immediately so that the information can be passed on to the applicant. Subject to prior agreement, the applicant may be directly informed at the same time as the CPVO particularly if a visit to the trial is advisable.

The interim report and final report shall be sent by the Examination Office to the CPVO.

ANNEXES TO FOLLOW

| ANNEX I | <u>PAGE</u> |
|--|-------------|
| Table of characteristics | 8 |
| Legend: | |
| QL Qualitative characteristic | |
| QN Quantitative characteristic | |
| PQ Pseudo-qualitative characteristic | |
| (+): See Explanations on the Table of Characteristics | |
| (*): Important characteristic to be included in the UPOV variety description | |
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ANNEX II

Technical questionnaire

ANNEX I

TABLE OF CHARACTERISTICS

| CPVO N° | UPOV N° | Characteristics | Examples | Note | |
|-----------------|-----------------------|--|---------------------|-----------------|---|
| 1. QN | 1. (* QN | Plant: height (including flowers) | short | 3 | |
| | | | medium | Berseko | 5 |
| | | | tall | Dark Britt | 7 |
| 2. QN | 2. (* QN | Plant: width (including flowers) | narrow | 3 | |
| | | | medium | Julie | 5 |
| | | | broad | Nadine | 7 |
| 3. QN | 3. QN | (a) Petiole: anthocyanin coloration on upper side | absent or very weak | Beman Soft Pink | 1 |
| | | | weak | BBTosca | 3 |
| | | | medium | | 5 |
| | | | strong | Binos Pink | 7 |
| | | | very strong | | 9 |
| 4. (+) QN | 4. (* (+) QN | (a) Leaf blade: length of midrib | short | 3 | |
| | | | medium | Beman Rose | 5 |
| | | | long | Barkos | 7 |

| CPVO N° | UPOV N° | Characteristics | Examples | Note | |
|------------------------|------------------------------|--|----------------------|--------|---|
| 5. (+) QN | 5. (* (+) QN | (a) Leaf blade: width | narrow | | 3 |
| | | | medium | Julie | 5 |
| | | | broad | Barkos | 7 |
| | | | | | |
| 6. PQ | 6. (* PQ | (a) Leaf blade: colour of <u>upper</u> side | light green | | 1 |
| | | | medium green | Azotus | 2 |
| | | | dark green | Barkos | 3 |
| | | | reddish green | Debbie | 4 |
| 7. PQ | 7. PQ | (a) Leaf blade: colour of <u>lower</u> side | light green | Azotus | 1 |
| | | | medium green | | 2 |
| | | | dark green | | 3 |
| | | | red and green | Fuga | 4 |
| | | | reddish brown | | 5 |
| 8. (+) QN | 8. (+) QN | (a) Leaf blade: base | wide open | | 1 |
| | | | moderately open | | 3 |
| | | | closed | | 5 |
| | | | slightly overlapping | | 7 |
| | | | strongly overlapping | | 9 |

| CPVO N° | UPOV N° | Characteristics | Examples | Note |
|-------------------------|-------------------------|---|------------------------|------------------------|
| 9. (+) QN | 9. (+) QN | (a) Leaf blade: angle of apex | moderately acute | 3 |
| | | | right angled | 5 |
| | | | moderately obtuse | 7 |
| | | | | |
| 10. (+) QN | 10. (+) QN | (a) Leaf blade: incisions of margin | absent or very shallow | Azotus 1 |
| | | | shallow | Kristy Franje 3 |
| | | | medium | Cindy Franje Dark 5 |
| | | | deep | 7 |
| 11. QN | 11. QN | (a) Leaf blade: undulation of margin | absent or very weak | 1 |
| | | | weak | Nadine 3 |
| | | | medium | Azotus 5 |
| | | | strong | 7 |
| | | | very strong | 9 |
| 12. QN | 12. QN | (b) Bract: size | small | Nadine 3 |
| | | | medium | 5 |
| | | | large | Azotus 7 |
| 13. QL | 13. QL | (b) Bract: colour | green | 1 |
| | | | red and green | 2 |
| | | | red | 3 |

| CPVO N° | UPOV N° | Characteristics | Examples | Note |
|------------------|------------------------|--|-----------------|------|
| 14. (+) QL | 14. (* (+) QL | Flower: type | single | 1 |
| | | | double | 2 |
| 15. QN | 15. (* QN | <u>Only varieties with double flowers:</u> Flower: number of petals | few Peggy | 3 |
| | | | medium | 5 |
| | | | many BBTosca | 7 |
| 16. (+) QN | 16. (* (+) QN | Flower: length | short | 3 |
| | | | medium | 5 |
| | | | long | 7 |
| 17. (+) QN | 17. (* (+) QN | Flower: width | narrow | 3 |
| | | | medium | 5 |
| | | | broad | 7 |
| 18. (+) QL | 18. (* (+) QL | Flower: number of colours | one | 1 |
| | | | two | 2 |
| | | | more than two | 3 |

| CPVO N° | UPOV N° | Characteristics | Examples | Note |
|------------------|------------------------|---|---|--|
| 19. PQ | 19. (* PQ | Outer petal: colour of <u>margin</u> of upper side | RHS Colour Chart (indicate reference number) | |
| 20. PQ | 20. (* PQ | Outer petal: colour of <u>middle</u> of upper side | RHS Colour Chart (indicate reference number) | |
| 21. (+) QN | 21. (* (+) QN | Outer petal: incisions of margin | absent or very shallow shallow medium deep | BBTosca Bela Cindy Franje Dark Daisy Franje 1 3 5 7 |
| 22. PQ | 22. (* PQ | (c) Inner petal: colour of <u>margin</u> of <u>upper</u> side | RHS Colour Chart (indicate reference number) | |
| 23. PQ | 23. (* PQ | (c) Inner petal: colour of <u>middle</u> of <u>upper</u> side | RHS Colour Chart (indicate reference number) | |
| 24. PQ | 24. PQ | (c) Inner petal: colour of <u>margin</u> of <u>lower</u> side | RHS Colour Chart (indicate reference number) | |
| 25. PQ | 25. PQ | (c) Inner petal: colour of <u>middle</u> of <u>lower</u> side | RHS Colour Chart (indicate reference number) | |

| CPVO N° | UPOV N° | Characteristics | Examples | Note | |
|---------------------------------------|---------------------------------------|--|------------------------|------------|---|
| 26. (+) QN | 26. (+) QN | (c) Inner petal: incisions of margin | | | |
| | | | absent or very shallow | 1 | |
| | | | shallow | 3 | |
| | | | medium | 5 | |
| | | | deep | 7 | |
| 27. QN | 27. QN | (c) Inner petal: undulation of margin | | | |
| | | | absent or very weak | Rita | 1 |
| | | | weak | Dark Britt | 3 |
| | | | medium | Boraskio | 5 |
| | | | strong | | 7 |
| | very strong | | 9 | | |

EXPLANATIONS ON THE TABLE OF CHARACTERISTICS

Explanations covering several characteristics

Characteristics containing the following key in the second column of the Table of Characteristics should be examined as indicated below:

- (a) Leaf and petiole: observations on the leaf and the petiole should be made on a fully developed leaf from the middle part of the plant.
- (b) Bract: observations on the bract should be made on a fully developed bract from a fully developed flower.
- (c) Inner petal: observations on the inner petal should be made on a fully developed petal from the second outer row of the inner petals.

Explanations for individual characteristics

Ad. 4: Leaf blade: length of midrib

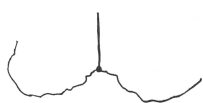
Ad. 5: Leaf blade: width



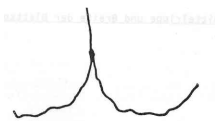
Leaf blade: length of midrib

Leaf blade: width

Ad. 8: Leaf blade: base



1
wide open



3
moderately open



5
closed



7
slightly overlapping



9
strongly overlapping

Ad. 9: Leaf blade: angle of apex



3
moderately acute

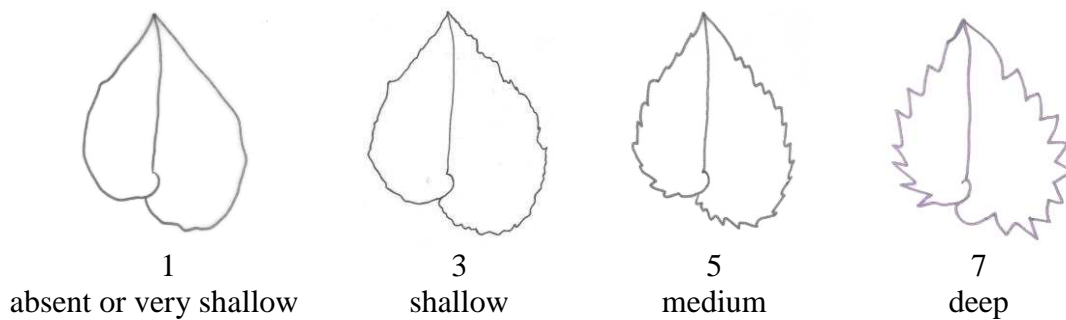


5
right angled



7
moderately obtuse

Ad. 10: Leaf blade: incisions of margin

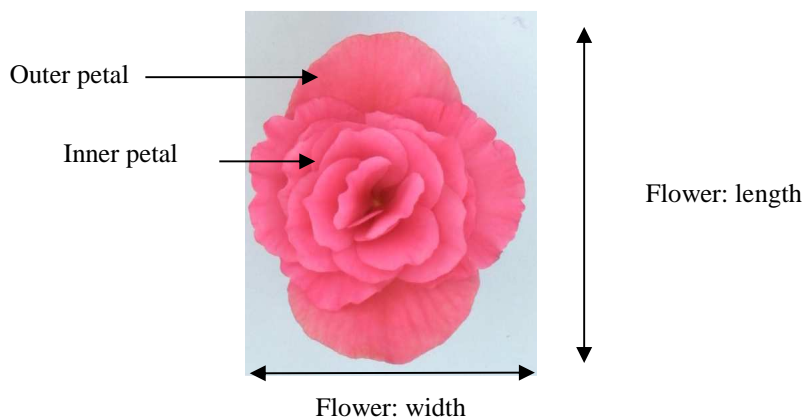


Ad. 14: Flower: type

A single flower has two outer and two inner petals only. A double flower has two outer petals and more than two inner petals.

Ad. 16: Flower: length

Ad. 17: Flower: width



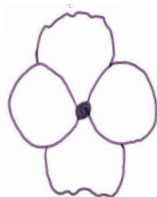
Ad. 18: Flower: number of colours

- One Flowers with only one colour on the upper side of the petals. Although there is only one colour, there might be parts of the flower which are somewhat lighter or darker than the rest.
- Two Flowers with two different colours on the upper side of the petals, e.g. red and white
- More than two Flowers with more than two different colours on the upper side of the petals, e.g. red, white and yellow.

Ad. 21: Outer petal: incisions of margin



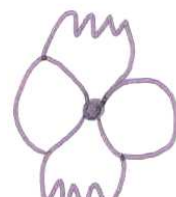
1
absent or very shallow



3
shallow

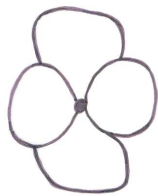


5
medium

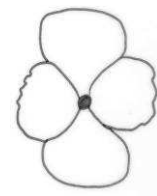


7
deep

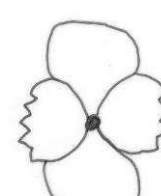
Ad. 26: Inner petal: incisions of margin



1
absent or very shallow



3
shallow



5
medium



7
deep

LITERATURE

Thompson, Mildred L., Thompson Edward J., 1981: Begonias. The complete reference guide. Times Books, New York, US.

ANNEX II

The Technical Questionnaire is available on the CPVO website under the following reference:
CPVO-TQ/018/2