



European Union
Community Plant Variety Office

PROTOCOL FOR DISTINCTNESS, UNIFORMITY AND STABILITY TESTS

Ficus benjamina L.

WEEPING FIG

UPOV Species Code: FICUS_BNJ

Adopted on 6th November 2003

I - SUBJECT OF THE PROTOCOL

The protocol describes the technical procedures to be followed in order to meet the Council Regulation 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/171/3 dated 24th March 1999 for the conduct of tests for Distinctness, Uniformity and Stability. This protocol applies to all vegetatively propagated varieties of *Ficus benjamina* L..

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. Closing dates for applications and material requirements 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 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 at 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 virus.

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"

*) Also samples in the form of in vitro propagated plant material are considered to be treated and should therefore be mentioned in the technical questionnaire.

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 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 N° 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 characters used for grouping are the following:

- (a) Plant: growth habit (characteristic 1)
- (b) Leaf blade: length (characteristic 17)
- (c) Leaf blade: number of colours (characteristic 21)
- (d) Leaf blade: colour of mature leaf (single-coloured varieties only) (characteristic 23)
- (e) Leaf blade: ground colour of mature leaf (bi- or multicoloured varieties only) (characteristic 27)
- (f) Leaf blade: secondary colour of leaf blade (bi- or multicoloured varieties only) (characteristic 28)

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.

The test should normally be conducted at one place.

The test should be carried out in the greenhouse under the following growing conditions:

Time of submission March

Pot size..... After receipt the material will be transplanted into a general pot size of ca.14 cm, for bigger plants an adapted pot size will be used

Optimum temperature..... 20 to 24 °C, depending of the light conditions

Relative Humidity between 60 and 90 %

Fertilization..... every three weeks liquid fertilizer for pot plants

Shading during full sun conditions a shade screen is utilised

6. Special tests

In accordance with Article 83(3) of Council Regulation No. 2100/94 an applicant may claim either in the Technical Questionnaire or during the test that a candidate 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 No. 2100/94.

b) **Uniformity**

For the assessment of uniformity a population standard of 1% with an acceptance probability of at least 95% should be applied.

For vegetatively propagated varieties, the candidate will be considered to be sufficiently uniform if the number of off-types does not exceed 1.

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 summarized 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 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 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.

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Technical questionnaire

ANNEX I

TABLE OF CHARACTERISTICS

CPVO N°	UPOV N°	Characteristics	Examples	Note	
1.	1.	Plant: growth habit	upright	Natasja	1
			semi-upright	Foliole, Reginald	2
			horizontal	Rianne	3
			semi-drooping		4
2.	2.	Plant: inner angle of lateral shoots to main stem	narrow acute		1
			broad acute	Esther	2
			right angle	Mikki, Wianda	3
			obtuse	Rianne	4
3.	3.	Plant: attitude of tip of shoot	erect	Natasja, Pandora	1
			semi-erect	Fiwama	3
			horizontal	Mikki, Starlight	5
			semi-drooping	Vivian	7
			drooping	Exotica	9
4.	4.	Plant: length of internodes (at middle third of stem)	very short	Minetta, Pandora	1
			short	Marole, Natasja	3
			medium	Danielle, Reginald	5
			long	Esther, Exotica	7
			very long	Foliole	9
5.	5.	Plant: color of young stem	light green	Minetta	1
			medium green	Foliole	2
			greyish green	Citation, Rianne	3
			brownish green	Crespada, Starlight	4
			greyish brown	Fiwama, Wianda	5
			reddish brown	Bundy, Esther	6
6.	6.	Plant: color of older stem	grey green	Crespada, Reginald	1

CPVO N°	UPOV N°	Characteristics		Examples	Note
			light greyish brown	Nikita, Nina, Profit	2
			light brown	Francis	3
			medium brown	Exotica	4
			reddish brown	Danielle, Foliole	5
7.	7.	Stem: torsion	absent	Exotica, Reginald	1
			present	Crespada, Rianne	9
8.	8.	Stem: degree of torsion	weak	Wianda	3
			medium	Crespada	5
			strong	Rianne	7
9.	9.	Stipule: size	small	Fiwama, Minetta	3
			medium	Monique, Natasja	5
			large	Esther, Exotica	7
10.	10.	Stipule: color	transparent greenish white	Monique	1
			yellowish white	De Gantel, Profit	2
			light yellowish green	Esther, Reginald	3
			light green	Francis, Jennifer	4
11.	11.	Stipule: color flush of tip	absent	Danielle	1
			present	Esther, Jennifer, Profit	9
12.	12.	Stipule: hue of color flush of tip	reddish	Profit	1
			brownish red	Jennifer	2
			purplish red	Esther, Reginald	3
13.	13.	Petiole: length	short	Minetta, Pandora	3
			medium	Natasja, Natura	5
			long	Mandy, Exotica	7
14.	14.	Petiole: color	light green	Jennifer, Profit	1
			medium green	Francis, De Gantel	2
			dark green		3

CPVO N°	UPOV N°	Characteristics		Examples	Note
			greyish green	Marole, Monique	4
			brownish green	Mandy, Reginald	5
15.	15.	Petiole: color flush in young stage	absent	Natasja, Rianne	1
			present	Marole, De Gantel	9
16.	16.	Petiole: hue of color of flush in young stage	light brownish red	Reginald	1
			brownish	Marole, Mikki	2
			reddish brown	Exotica, Jennifer	3
17.	17.	Leaf blade: length	very short	Minetta	1
			short	Nina	3
			medium	Marole, Mikki	5
			long	Ester, Exotica	7
			very long	Folirole	9
18.	18.	Leaf blade: width	very narrow	Minetta	1
			narrow	Nikita, Nina	3
			medium	Exotic Monique, Folirole	5
			broad	Exotica	7
			very broad	Naomi Beauty	9
19. (+)	19. (+)	Leaf blade: shape	narrow elliptic	Folirole, Pandora	1
			elliptic	Exotic Monique, Jennifer	2
			broad elliptic or broad ovate	Esther, Francis	3
			ovate	Golden King	4
20.	20.	Leaf blade: symmetry	asymmetric	De Gantel, Profit	1
			symmetric	Exotica, Reginald	2
21.	21.	Leaf blade: number of colors	one	Esther, Exotica	1
			two	Reginald, Vivian	2
			three or more	Francis, Starlight	3

CPVO N°	UPOV N°	Characteristics	Examples	Note	
22.	22.	<u>Varieties with single-colored leaf only:</u> Leaf blade: color of <u>young leaf</u>	yellowish green	Esther, Esther Gold	1
			light green	Mikki	2
			medium green	Danielle, Exotica	3
			greyish green	Mandy	4
			dark green	Foliole	5
			very dark green		6
23.	23.	<u>Varieties with single-colored leaf only:</u> Leaf blade: color of <u>mature leaf</u>	yellowish green	Esther Gold	1
			light green	Esther	2
			medium green	Mikki	3
			greyish green	Jennifer, Mandy	4
			dark green	Exotica, Minetta	5
			very dark green	Danielle	6
24.	24.	<u>Varieties with bi- or multicolored leaf only:</u> Leaf blade: border between colors	not clearly defined	Exotic Monique, Starlight	1
			clearly defined	Deborah, Profit	2
25.	25.	<u>Varieties with bi- or multicolored leaf only:</u> Leaf blade: regularity of color patches	irregular	De Gantel, Reginald	1
			regular	Fiwama, Nikita	2
26.	26.	<u>Varieties with bi- or multicolored leaf only:</u> Leaf blade: ground color of <u>young leaf</u>	yellowish white	Curly, Samantha	1
			light yellowish green	Monique, Reginald	2
			light green	Golden King, Marole	3
			medium green	Exotic Monique	4
			greyish green	Jennifer	5
			dark green		6

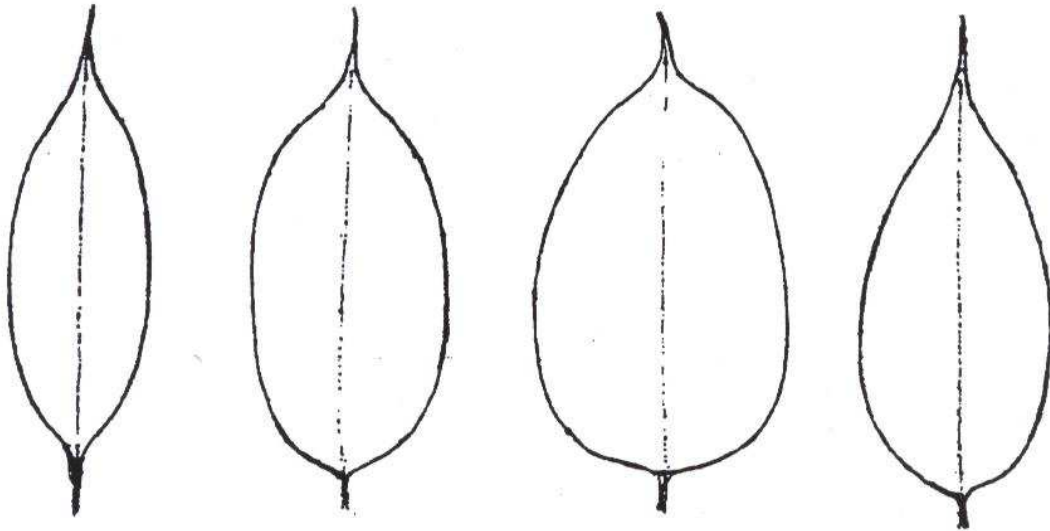
CPVO N°	UPOV N°	Characteristics	Examples	Note
			very dark green	7
27.	27.	<u>Varieties with bi- or multicolored leaf only:</u> Leaf blade: ground color of <u>mature</u> leaf	yellowish white Curly light yellowish green Reginald light green Deborah medium green Marole, Nightingale greyish green Fiwama, Jennifer dark green De Gantel very dark green Vivian	1 2 3 4 5 6 7
28.	28.	<u>Varieties with bi- or multicolored leaf only:</u> Leaf blade: secondary color	yellowish white Profit, Starlight light yellowish green Golden King, Marole light green medium green greyish green dark green Bundy, Exotic Monique very dark green	1 2 3 4 5 6 7
29.	29.	<u>Varieties with bi- or multicolored leaf only:</u> Leaf blade: distribution of secondary color	near main vein Reginald, Vivian near margin Golden King, Profit randomly spread Mandy	1 2 3
30.	30.	<u>Varieties with multicolored leaf only:</u> Leaf blade: tertiary color	yellowish white Jennifer light yellowish green light green medium green greyish green De Gantel, Profit	1 2 3 4 5

CPVO N°	UPOV N°	Characteristics		Examples	Note
			dark green		6
31.	31.	Varieties with bi- or multicolored leaf only: Leaf blade: area of ground color compared to area of other color(s)	very small	Samantha	1
			small		3
			medium	Francis	5
			large	Nina	7
			very large	Jennifer, Nikita	9
32.	32.	Leaf blade: color of main vein	yellowish white	De Gantel, Profit	1
			yellowish	Jennifer, Reginald	2
			light green	Marjolein	3
			medium green	Crespada, Exotica	4
			dark green		5
33.	33.	Leaf blade: degree of color contrast of venation	weak	Natasja, Vivian	3
			medium	De Gantel, Nina	5
			strong	Francis, Jennifer	7
34.	34.	Leaf blade: glossiness	weak	Fiwama, Nikita	3
			medium	Exotic Monique	5
			strong	Lydia, Mikki	7
35. (+)	35. (+)	Leaf blade: length of tip relative to total length	short	Fiwama, De Gantel	3
			medium	Francis	5
			long	Esther Gold, Norman S	7
36.	36.	Leaf blade: conspicuousness of crystal cells	absent or very weakly conspicuous	Francis, Starlight	1
			weakly conspicuous	Esther, Natasja	2
			strongly conspicuous	Crespada, Reginald	3
37.	37.	Leaf blade: shape in cross			

CPVO N°	UPOV N°	Characteristics	Examples	Note	
		section	concave	Citation	1
			flat	Danielle, Exotica	2
			convex	Lydia	3
38.	38.	Leaf blade: curvature of longitudinal axis	incurved		1
			straight	Exotica, Golden King	2
			recurved	Citation	3
39.	39.	Leaf blade: torsion along main vein	absent	Exotica	1
			present	Pandora	9
40.	40.	Leaf blade: undulation of margin (number)	absent or very weak	Lydia	1
			weak	Bundy, Vivian	3
			medium	Deborah	5
			strong	Exotic Monique	7
			very strong		9

EXPLANATIONS AND METHODS

Ad. 19: Leaf blade: shape



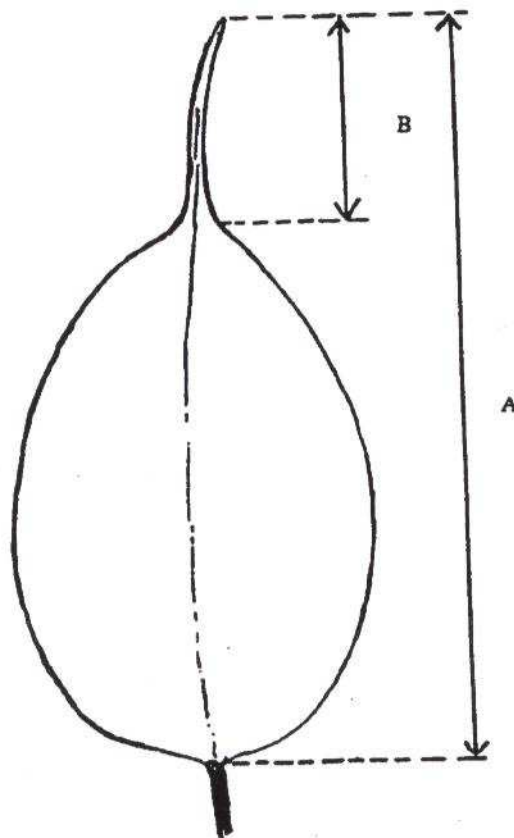
narrow elliptic

elliptic

broad elliptic or broad ovate

ovate

Ad. 35: Leaf blade: length of tip relative to total length



A = total length
B = length of tip

LITERATURE

Rijn, B.G.M. van, Hetterscheid, W.L.A. en Lukkien, V.P.A., 1988: Ficus, Naamgeving en Onderscheidbaarheid van het handelssortiment Ficus, VKC, Aalsmeer, 152 pag.

Rijn, B.G.M. van, Hetterscheid, W.L.A. en Lukkien, V.P.A., 1988: Sortiment Ficus onder de loep, Vakblad voor de Bloemisterij 43, pp 37 - 40

ANNEX II

The Technical Questionnaire is available on the CPVO website under the following reference:
CPVO-TQ/171/1