

TG/78/4(proj.1)
ORIGINAL: English
DATE: 2006-06-20

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

KALANCHOE

UPOV Code: KALAN_BLO KALAN_BLA

Kalanchoe blossfeldiana Poelln. and its hybrids

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from Germany

to be considered by the Technical Working Party for Ornamental Plants and Forest Trees at its thirty-ninth session, to be held in Fortaleza, Ceará State, Brazil, from August 28 to September 1, 2006

Alternative Names:*

| Botanical name | English | French | German | Spanish |
|---------------------------------|-----------|-----------|-----------------------|---------|
| Kalanchoe blossfeldiana Poelln. | Kalanchoe | Kalanchoe | Flammendes Kätchen | |

The purpose of these guidelines ("Test Guidelines") is to elaborate the principles contained in the General Introduction (document TG/1/3), and its associated TGP documents, into detailed practical guidance for the harmonized examination of distinctness, uniformity and stability (DUS) and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions.

ASSOCIATED DOCUMENTS

These Test Guidelines should be read in conjunction with the General Introduction and its associated TGP documents.

^{*} These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website (www.upov.int), for the latest information.]

i:\orgupov\shared\tg\kalanchoe_cd\upov_drafts\tg_78_4_proj_1.doc

TABLE OF CONTENTS PAGE 1. 2. Testing Place _______3 3.2 3.4 Test Design ______4 ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY4 Distinctness 4 6.4 Example Varieties 6

Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Kalanchoe blossfeldiana* Poelln. as well as to hybrids between that species and other species of *Kalanchoe* Adans. of the family Crassulaceae.

2. Material Required

1.

- 2.1 The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with.
- 2.2 The material is to be supplied in the form of unrooted cuttings.
- 2.3 The minimum quantity of plant material, to be supplied by the applicant, should be:

20 unrooted cuttings

- 2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease.
- 2.5 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

3. <u>Method of Examination</u>

3.1 Number of Growing Cycles

The minimum duration of tests should normally be a single growing cycle.

3.2 Testing Place

Tests are normally conducted at one place. In the case of tests conducted at more than one place, guidance is provided in TGP/9 "Examining Distinctness".

3.3 Conditions for Conducting the Examination

- 3.3.1 The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination. Four weeks after potting, the plants should receive a short day treatment for seven weeks. The day length during the short day treatment should be 9 hours.
- 3.3.2 The optimum stage of development for the assessment of the characteristics is at the time of full flowering.
- 3.3.3 Because daylight varies, color determinations made against a color chart should be made either in a suitable cabinet providing artificial daylight or in the middle of the day in a room without direct sunlight. The spectral distribution of the illuminant for artificial

TG/78/4(proj.1) Kalanchoe, 2006-06-20

daylight should conform with the CIE Standard of Preferred Daylight D 6500 and should fall within the tolerances set out in the British Standard 950, Part I. These determinations should be made with the plant part placed against a white background.

3.4 Test Design

- 3.4.1 Each test should be designed to result in a total of at least 20 plants.
- 3.4.2 The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle.

3.5 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, all observations on single plants should be made on 10 plants or parts taken from each of 10 plants and any other observations made on all plants in the test.

3.6 Additional Tests

Additional tests, for examining relevant characteristics, may be established.

4. Assessment of Distinctness, Uniformity and Stability

4.1 Distinctness

4.1.1 General Recommendations

It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding distinctness. However, the following points are provided for elaboration or emphasis in these Test Guidelines.

4.1.2 Consistent Differences

The differences observed between varieties may be so clear that more than one growing cycle is not necessary. In addition, in some circumstances, the influence of the environment is not such that more than a single growing cycle is required to provide assurance that the differences observed between varieties are sufficiently consistent. One means of ensuring that a difference in a characteristic, observed in a growing trial, is sufficiently consistent is to examine the characteristic in at least two independent growing cycles.

4.1.3 Clear Differences

Determining whether a difference between two varieties is clear depends on many factors, and should consider, in particular, the type of expression of the characteristic being examined, i.e. whether it is expressed in a qualitative, quantitative, or pseudo-qualitative manner. Therefore, it is important that users of these Test Guidelines are familiar with the recommendations contained in the General Introduction prior to making decisions regarding distinctness.

4.2 Uniformity

- 4.2.1 It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in these Test Guidelines:
- 4.2.2 For the assessment of uniformity a population standard of 2% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 20 plants, 2 off-types are allowed.

4.3 Stability

- 4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.
- 4.3.2 Where appropriate, or in cases of doubt, stability may be tested, either by growing a further generation, or by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the previous material supplied.

5. Grouping of Varieties and Organization of the Growing Trial

- 5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness are aided by the use of grouping characteristics.
- 5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.
- 5.3 The following have been agreed as useful grouping characteristics:
 - (a) Flower: type (characteristic 17)
 - (b) Flower: number of colours (characteristic 22)
 - (c) Corolla lobe: main colour (characteristic 23) with the following groups:

Gr. 1: white

Gr. 2: yellow

Gr. 3: orange

Gr. 4: red

Gr. 5: purple

Gr. 6: blue pink

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction.

6. Introduction to the Table of Characteristics

6.1 Categories of Characteristics

6.1.1 Standard Test Guidelines Characteristics

Standard Test Guidelines characteristics are those which are approved by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances.

6.1.2 Asterisked Characteristics

Asterisked characteristics (denoted by *) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and should always be examined for DUS and included in the variety description by all members of the Union, except when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate.

6.2 States of Expression and Corresponding Notes

States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description.

6.3 Types of Expression

An explanation of the types of expression of characteristics (qualitative, quantitative and pseudo-qualitative) is provided in the General Introduction.

6.4 Example Varieties

Where appropriate, example varieties are provided to clarify the states of expression of each characteristic.

- 6.5 Legend
- (*) Asterisked characteristic see Chapter 6.1.2
- QL Qualitative characteristic see Chapter 6.3
- QN Quantitative characteristic see Chapter 6.3
- PQ Pseudo-Qualitative characteristic see Chapter 6.3
- (a), (b) See Explanations on the Table of Characteristics in Chapter 8.1.
- (+) See Explanations on the Table of Characteristics in Chapter 8.2.

7. <u>Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres</u>

| | | English | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|-----------|-----|---|----------|--|---------|--|---------------|
| 1. (*) | | Plant: height (including inflorescence) | | Pflanze: Höhe (einschließlich Blütenstand) | | | |
| QN | | very short | | sehr niedrig | | | 1 |
| | | short | | niedrig | | | 3 |
| | | medium | | mittel | | | 5 |
| | | tall | | hoch | | | 7 |
| | | very tall | | sehr hoch | | | 9 |
| 2. (*) | | Plant: width | | Pflanze: Breite | | | |
| QN | | narrow | | schmal | | | 3 |
| | | medium | | mittel | | | 5 |
| | | broad | | breit | | | 7 |
| 3. (*) | | Leaf: length (including petiole) |) | Blatt: Länge (einschließlich Blattstiel) | | | |
| QN | (a) | short | | kurz | | | 3 |
| | | medium | | mittel | | | 5 |
| | | long | | lang | | | 7 |
| 4. (*) | | Leaf: width | | Blatt: Breite | | | |
| QN | (a) | narrow | | schmal | | | 3 |
| | | medium | | mittel | | | 5 |
| | | broad | | breit | | | 7 |
| 5. | | Leaf: shape | | Blatt: Form | | | |
| (+) | (a) | linear | | linear | | | 1 |
| PQ | | elliptic | | elliptisch | | | 2 |
| | | ovate | | eiförmig | | | 3 |
| | | tripartite pinnated | l | dreizählig gefieder | t | | 4 |

| | | English | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|------------|-----|-------------------------------------|----------|---|---------|--|---------------|
| 6. (*) | | Leaf: variegation | | Blatt: Panaschierung | | | |
| QL | (a) | absent | | fehlend | | | 1 |
| | | present | | vorhanden | | | 9 |
| 7. (*) | | Leaf: green color of upper side | | Blatt: Grünfärbung der Oberseite | | | |
| QN | (a) | light | | hell | | | 3 |
| | | medium | | mittel | | | 5 |
| | | dark | | dunkel | | | 7 |
| 8. (*) | | Leaf: anthocyanin coloration | | Blatt: Anthocyanfärbung | | | |
| QN | (a) | absent or very weak | | fehlend oder sehr gering | | | 1 |
| | | weak | | gering | | | 3 |
| | | medium | | mittel | | | 5 |
| | | strong | | stark | | | 7 |
| 9. | | Leaf: cross section | | Blatt: Querschnitt | | | |
| PQ | (a) | concave | | konkav | | | 3 |
| | | flat | | gerade | | | 5 |
| | | convex | | konvex | | | 7 |
| 10. | | Leaf: thickness | | Blatt: Dicke | | | |
| QN | (a) | thin | | dünn | | | 3 |
| | | medium | | mittel | | | 5 |
| | | thick | | dick | | | 7 |
| 11. (+) | | Leaf: number of incisions of margin | ı | Blattspreite: Anzahl der Randeinschnitte | | | |
| QN | (a) | absent or very few | | fehlend oder sehr gering | | | 1 |
| | | few | | gering | | | 3 |
| | | medium | | mittel | | | 5 |
| | | many | | groß | | | 7 |

| | | English | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|------------|-----|--|----------|--|---------|---|---------------|
| 12. (+) | | Leaf: depth of incisions of margin | ı | Blattspreite: Tiefe der Randeinschnitt | te | | |
| QN | (a) | absent or very shallow | | fehlend oder sehr flach | | | 1 |
| | | shallow | | flach | | | 3 |
| | | medium | | mittel | | | 5 |
| | | deep | | tief | | | 7 |
| 13. | | Leaf: attitude of apex | | Blatt: Haltung der Spitze | | | |
| QN | (a) | incurving | | aufgebogen | | | 3 |
| | | straight | | gerade | | | 5 |
| | | reflexing | | zurückgebogen | | | 7 |
| 14. | | Flowering shoot: number of flowers of the highest pleiochasium | | Blühender Trieb: Anzahl der Blüten der obersten Trugdolde | | | |
| | | low | | gering | | | 3 |
| | | medium | | mittel | | | 5 |
| | | high | | groß | | | 7 |
| 15. | | Flowering shoot: width of the highest pleiochasium | | Blühender Trieb: Breite der obersten Trugdolde | 1 | | |
| | | narrow | | schmal | | | 3 |
| | | medium | | mittel | | | 5 |
| | | broad | | breit | | | 7 |
| 16. (+) | | Young flower: main color of upper side of corolla lobes (if clearly different from the color of the corolla lobes of the fully developed flower) | | Junge Blüte: Farbe der Oberseite der Kronzipfel (nur wenn Farbe deutlic unterschiedlich zur Farbe der Kronzipfel der ausgewachsenen Blüte) | ch | | |
| PQ | (b) | RHS Colour Chart (indicate reference number) | | RHS-Farbkarte (Nummer angeben) | | | |

| | | English | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|-------------------|-----|--|----------|--|---------|--|---------------|
| 17. (*) (+) | | Flower: type | | Blüte: Typ | | | |
| QL | | single | | einfach | | | 1 |
| | | double | | gefüllt | | | 2 |
| 18. (*) | | Only varieties wit double flowers: Flower: number o corolla lobes | | Nur Sorten mit gefüllten Blüten: Blüte: Anzahl Kronzipfel | | | |
| QN | | very few | | sehr gering | | | 1 |
| | | few | | gering | | | 3 |
| | | medium | | mittel | | | 5 |
| | | many | | hoch | | | 7 |
| 19. (*) | | Flower: diameter | | Blüte: Durchmesser | | | |
| QN | | small | | klein | | | 3 |
| | | medium | | mittel | | | 5 |
| | | large | | groß | | | 7 |
| 20. | | Only varieties with single flowers: Corolla lobes: length | <u>h</u> | Nur Sorten mit einfachen Blüten: Kronzipfel: Länge | | | |
| QN | (b) | short | | kurz | | | 3 |
| | | medium | | mittel | | | 5 |
| | | long | | lang | | | 7 |
| 21. | | Only varieties wit single flowers: Corolla lobes: width | <u>h</u> | Nur Sorten mit einfachen Blüten: Kronzipfel: Breite | | | |
| QN | (b) | narrow | | schmal | | | 3 |
| | | medium | | mittel | | | 5 |
| | | broad | | breit | | | 7 |

| | | English | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|-------------------|-----|--|----------|---|---------|---|---------------|
| 22. (*) | | Corolla lobes: number of colors | | Kronzipfel: Anzahl Farben | | | |
| QL | (b) | one | | eine | | | 1 |
| | | two | | zwei | | | 2 |
| | | more than two | | mehr als zwei | | | 3 |
| 23. (*) (+) | | Corolla lobes: main color of upper side | | Kronzipfel: Hauptfarbe der Oberseite | | | |
| PQ | (b) | RHS Colour Chart (indicate reference number) | | RHS-Farbkarte (Nummer angeben) | | | |
| 24. (*) | | Corolla lobes: secondary color of upper side | | Kronzipfel: Sekundärfarbe der Oberseite | | | |
| PQ | (b) | RHS Colour Chart (indicate reference number) | | RHS-Farbkarte (Nummer angeben) | | | |
| 25. (*) (+) | | Corolla lobes: distribution of secondary color | | Kronzipfel: Verteilung der Sekundärfarbe | | | |
| PQ | (b) | mainly on one half of the corolla lobes | | hauptsächlich auf einer Hälfte des Kronzipfels | | | 1 |
| | | median stripe | | als Mittelstreifen | | | 2 |
| | | at base and as median stripe | | an der Basis und als Mittelstreifen | | | 3 |
| | | at base | | an der Basis | | | 4 |
| | | at base and at margin | | an der Basis und am Rand | | | 5 |
| | | speckles | | gesprenkelt | | | 6 |
| 26. | | Only varieties with single flowers: Corolla lobes: color of lighter part of lower side | 1 | Nur Sorten mit einfachen Blüten: Kronzipfel: Farbe des <u>helleren</u> Teils der Unterseite | | | |
| PQ | (b) | RHS Colour Chart (indicate reference number) | | RHS-Farbkarte (Nummer angeben) | | | |

TG/78/4(proj.1) Kalanchoe/ 2006-06-20 - 12 -

| | | English | français | deutsch | español | Example Varieties Exemples Beispielssorten Variedades ejemplo | Note/ Nota |
|-----|-----|--|----------|--|---------|--|---------------|
| 27. | | Corolla lobes: color of <u>darker</u> part of lower side | | Kronzipfel: Farbe des dunkleren Teils der Unterseite | | | |
| PQ | (b) | RHS Colour Chart (indicate reference number) | | RHS-Farbkarte (Nummer angeben) | | | |
| 28. | | Time of beginning of flowering | | Zeitpunkt des Blühbeginns | | | |
| QN | | early | | früh | | | 3 |
| | | medium | | mittel | | | 5 |
| | | late | | spät | | | 7 |
| 29. | | Response group | | Wochengruppe | | | |
| QN | | < 8 weeks | | < 8 Wochen | | | 1 |
| | | 8 weeks | | 8 Wochen | | | 3 |
| | | 9 weeks | | 9 Wochen | | | 5 |
| | | 10 weeks | | 10 Wochen | | | 4 |
| | | 11 weeks | | 11 Wochen | | | 5 |
| | | 12 weeks | | 12 Wochen | | | 6 |
| | | 13 weeks | | 13 Wochen | | | 7 |
| | | 14 weeks | | 14 Wochen | | | 8 |
| | | > 14 weeks | | > 14 Wochen | | | 9 |

8. <u>Explanations on the Table of Characteristics</u>

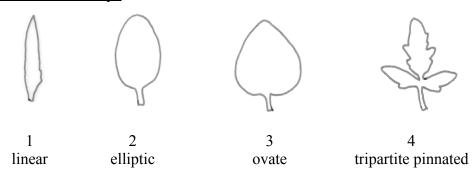
8.1 Explanations covering several characteristics

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

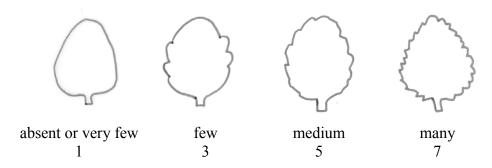
- (a) <u>Leaf</u>: observations on the leaf should be made on a fully developed leaf from the middle part of the plant.
- (b) <u>Corolla lobes</u>: observations on the corolla lobes should be made on a fully developed flower. Observations on the corolla lobes of <u>double flowers</u> should be made on the outer most whirl of the corolla lobes.

8.2 Explanations for individual characteristics

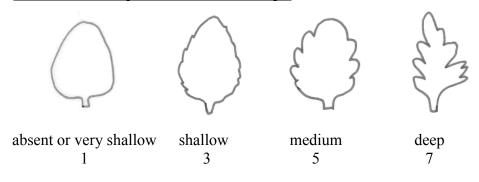
Ad. 5: Leaf: shape



Ad. 11: Leaf: number of incisions of margin



Ad. 12: Leaf: depth of incisions of margin



TG/78/4(proj.1) Kalanchoe, 2006-04-20 - 14 -

Ad. 16: Young flower: main color of upper side of corolla lobes

Observations on the <u>young flower</u> should be made when the corolla lobes have just opened.

<u>Main color:</u> color of the largest area of the corolla lobe. If the area of the colors is nearly half and half, the darker color is the main color. In <u>double flowers</u> the color of the inner most whirl of the corolla lobes is described.

Ad. 17: Flower: type

A <u>single</u> flower has four corolla lobes only. A <u>double</u> flower has more than four corolla lobes.

Ad. 23: Corolla lobes: main color of upper side

<u>Main color:</u> color of the largest area of the corolla lobe. If the area of the colors is nearly half and half, the darker color is the main color.

Ad. 25: Corolla lobes: distribution secondary color



mainly on one half



median stripe



at base and as median stripe



at base



at base and at margin



speckles

TG/78/4(proj.1) Kalanchoe, 2006-04-20 - 15 -

9. <u>Literature</u>

TG/78/4(proj.1) Kalanchoe, 2006-04-20 - 16 -

10. <u>Technical Questionnaire</u>

| TEC | CHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: | |
|-----|--|--|--|--|
| | | | Application date: (not to be filled in by the applicant) | |
| | | HNICAL QUESTIONS ction with an application | NAIRE on for plant breeders' rights | |
| 1. | Subject of the Technical Ques | tionnaire | | |
| | 1.1.1 Botanical name Ka | alanchoe blossfeldiana | Adans. [] | |
| | 1.1.2 Common name K | alanchoe | | |
| | | | | |
| | Hybrid: please indicate name 1.2.1 Botanical name <i>K</i> . | (s) of species used in the blossfeldiana x | e crossing [] | |
| | 1.2.2 Common name | | | |
| 2. | Applicant | | | |
| | Name | | | |
| | Address | | | |
| | 1 Address | | | |
| | Talanhana Na | | | |
| | Telephone No. Fax No. | | | |
| | E-mail address | | | |
| | Breeder (if different from app | icant) | | |
| | Breeder (if different from app. | ilicant) | | |
| 3. | Proposed denomination and be | reeder's reference | | |
| | Proposed denomination | | | |
| | (if available) | | | |
| | Breeder's reference | | | |

| TECHNICAL QUESTIONNAIRE | Page $\{x\}$ of $\{y\}$ | Reference Number: |
|-------------------------|-------------------------|-------------------|

| [#] 4. | Information on the breeding scheme and propagation of the variety | | | | |
|-----------------|---|--|-------------------|--|--|
| | 4.1 | Breeding scheme | | | |
| | | Variety resulting from: | | | |
| | | 4.1.1 Crossing | | | |
| | | (a) controlled cross | [] | | |
| | | (please state parent varieties)(b) partially known cross(please state known parent variety(ice)) | [] | | |
| | | (please state known parent variety(ies))(c) unknown cross | [] | | |
| | | 4.1.2 Mutation (please state parent variety) | [] | | |
| | | 4.1.3 Discovery and development (please state where and when discovered and how development) | [] eloped) | | |
| | | 4.1.4 Other (please provide details) | [] | | |
| | | | | | |
| | 4.2 | Method of propagating the variety | | | |
| | | 4.2.1 Vegetative propagation | | | |
| | | (a) cuttings (b) in vitro propagation (c) other (state method) | [] [] [] | | |
| | | 4.2.2 Seed | [] | | |
| | | 4.2.3 Other (please provide details) | [] | | |

[#] Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

TECHNICAL QUESTIONNAIRE Page {x} of {y} Reference Number:

5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds).

| | Characteristics | Example Varieties | Note |
|-------------|--|-------------------|------|
| 5.1 (1) | Plant: height (including inflorescence) | | |
| | very short | | 1[] |
| | short | | 3[] |
| | medium | | 5[] |
| | tall | | 7[] |
| | very tall | | 9[] |
| 5.2 (8) | Leaf: anthocyanin coloration | | |
| | absent or very weak | | 1[] |
| | weak | | 3[] |
| | medium | | 5[] |
| | strong | | 7[] |
| 5.3 (17) | Flower: type | | |
| | single | | 1[] |
| | double | | 2[] |
| 5.4 (18) | Only varieties with double flowers: Flower: number of corolla lobes | | |
| | very few | | 1[] |
| | few | | 3[] |
| | medium | | 5[] |
| | many | | 7[] |

TG/78/4(proj.1) Kalanchoe, 2006-04-20 - 19 -

| Π | | | | | |
|---|---------------|--------------------------------------|-----------------|-------------------|-----|
| | TECI | HNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: | |
| | 5.5 (22) | Corolla lobes: number of colors | | | |
| | | one | | | 1[] |
| | | two | | | 2[] |
| | | more than two | | | 3[] |
| • | 5.6i (23) | Corolla lobes: main color of upper | r side | | |
| | | RHS Colour Chart (indicate reference | e number) | | |
| • | 5.6ii (23) | Corolla lobes: main color of upper | r side | | |
| | | white | | | 1[] |
| | | yellow | | | 2[] |
| | | orange | | | 3[] |
| | | red | | | 4[] |
| | | purple | | | 5[] |
| | | blue pink | | | 6[] |
| | | other (indicate color) | | | |
| | 5.7i (24) | Corolla lobes: secondary color of | upper side | | |
| | | RHS Colour Chart (indicate reference | e number) | | |
| | 5.7ii (24) | Corolla lobes: secondary color of | upper side | | |
| | | white | | | 1[] |
| | | yellow | | | 2[] |
| | | orange | | | 3[] |
| | | red | | | 4[] |
| | | purple | | | 5[] |
| | | blue pink | | | 6[] |

other (indicate color)

TG/78/4(proj.1) Kalanchoe, 2006-04-20 - 20 -

TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number:

| 5.8 Corolla lobes: dist | ribution of secondary color | | | | |
|--|---|--|------------------------|--|--|
| mainly on one half | mainly on one half of the corolla lobes | | | | |
| median stripe | median stripe | | | | |
| at base and as media | at base and as median stripe | | | | |
| at base | at base | | | | |
| at base and at margi | 5[] | | | | |
| speckles | speckles | | | | |
| other distribution (in | ndicate) | | | | |
| candidate variety diffe (or are) most similar | ing table and box for a rs from the variety (or v . This information may tness in a more efficient v | arieties) which, to the bo help the examination | est of your knowledge, | | |
| Denomination(s) of Variety(ies) similar to Variety differs from the similar variety(ies) Characteristic(s) in Describe the expression Describe the expression of the characteristic(s) of the chara | | | | | |
| (Example) | Flower: number of colors | one | two | | |
| | | | | | |
| | | | | | |

TG/78/4(proj.1) Kalanchoe, 2006-04-20 - 21 -

Page $\{x\}$ of $\{y\}$

Reference Number:

TECHNICAL QUESTIONNAIRE

[#]7. Additional information which may help in the examination of the variety 7.1 In addition to the information provided in sections 5 and 6, are there any additional characteristics which may help to distinguish the variety? Yes [] [] No (If yes, please provide details) Are there any special conditions for growing the variety or conducting the examination? 7.2 Yes [] [] No (If yes, please provide details): 7.3 Other information A representative color photograph of the variety should accompany the Technical Questionnaire. 8. Authorization for release Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health? Yes [] No (b) Has such authorization been obtained? Yes [] No [] If the answer to (b) is yes, please attach a copy of the authorization.

[#] Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

TG/78/4(proj.1) Kalanchoe, 2006-04-20 - 22 -

| TECHNICAL QUESTIONNAIRE Page {x} of {y} Reference Number: | | | | | | | | |
|---|--|---|------|---------|--------|--|--|--|
| 9. Information on plant material to be examined or submitted for examination. 9.1 The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides), effects of tissue culture, different rootstocks, scions taken from different growth phases of a tree, etc. | | | | | | | | |
| 9.2 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If the plant material has undergone such treatment, full details of the treatment must be given. In this respect, please indicate below, to the best of your knowledge, if the plant material to be examined has been subjected to: | | | | | | | | |
| | (a) | Microorganisms (e.g. virus, bacteria, phytoplasm | a) | Yes [] | No [] | | | |
| | (b) | Chemical treatment (e.g. growth retardant, pestic | ide) | Yes [] | No [] | | | |
| | (c) Tissue culture | | | Yes [] | No [] | | | |
| | (d) | Other factors | | Yes [] | No [] | | | |
| | Please provide details for where you have indicated "yes". | | | | | | | |
| | | | | | | | | |
| 10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct: | | | | | | | | |
| Applicant's name | | | | | | | | |
| | Signa | iture | Date | | | | | |
| | | | | | | | | |

[End of document]