



TC-EDC/Jan11/14
ORIGINAL: English
DATE: December 12, 2010

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

ENLARGED EDITORIAL COMMITTEE

Geneva, January 6, 2011

REVISION OF DOCUMENT TGP/14:
NEW SECTION FOR COLOR CHARACTERISTICS

*Document prepared by the Office of the Union
(containing proposal prepared by experts from the European Union and the Netherlands)*

1. The purpose of this document is to present a draft of a Subsection for color for inclusion in document TGP/14 “Glossary of Terms Used in UPOV Documents”, as prepared by experts from the European Union and the Netherlands, and the comments of the Technical Working Parties on that draft, as follows:

COMMENTS BY THE TECHNICAL WORKING PARTIES

<i>Technical Working Party for Agricultural Crops</i>	2
<i>Technical Working Party on Automation and Computer Programs</i>	2
<i>Technical Working Party for Vegetables</i>	2
<i>Technical Working Party for Ornamental Plants and Forest Trees / Technical Working Party for Fruit Crops</i>	3

DRAFT DOCUMENT TGP/14 “GLOSSARY OF TERMS USED IN UPOV DOCUMENTS”,

Section 2: Botanical Terms, Subsection 3: Color

2. The following abbreviations are used in this document:

CAJ:	Administrative and Legal Committee
TC:	Technical Committee
TC-EDC:	Enlarged Editorial Committee
TWA:	Technical Working Party for Agricultural Crops
TWC:	Technical Working Party on Automation and Computer Programs
TWF:	Technical Working Party for Fruit Crops
TWO:	Technical Working Party for Ornamental Plants and Forest Trees
TWV:	Technical Working Party for Vegetables
TWPs:	Technical Working Parties

COMMENTS BY THE TECHNICAL WORKING PARTIES

Technical Working Party for Agricultural Crops

3. At its thirty-ninth session, held in Osijek, Croatia, from May 24 to 28, 2010, the Technical Working Party for Agricultural Crops (TWA) considered document TWA/39/23 (see document TWA/39/27 “Report”, paragraphs 68 and 71). The TWA agreed that the TWO and TWF should be invited to consider how and where to provide guidance on the use of the RHS Colour Chart for assessing distinctness.

Technical Working Party on Automation and Computer Programs

4. The Technical Working Party on Automation and Computer Programs (TWC), at its twenty-eighth session, held in Angers, France, from June 29 to July 2, 2010, considered document TWC/28/23 and made the following comments (see document TWC/28/36 “Report”, paragraph 48):

<u>PART II: COLOR</u>	
2.1 Components of Color	to be amended to explain that, as and where appropriate, UPOV Test Guidelines may use a characteristic to describe “color” in relation to hue, saturation and brightness (three dimensions), but may also, for example, develop separate characteristics for “color” in two dimensions and a separate characteristic for “intensity of color”.
<u>PART III: COLOR DISTRIBUTION / PATTERN</u>	
3.1 General: The use of Number of Colors	- to indicate the difficulties in obtaining an objective and consistent assessment of number of colors - to delete “does not” at end of paragraph

Technical Working Party for Vegetables

5. The Technical Working Party for Vegetables (TWV), at its forty-fourth session, held in Veliko Tarnovo, Bulgaria, from July 5 to 9, 2010, agreed that it would be better to consider the draft “New section for color characteristics” after the Technical Working Party for Ornamental Plants and Forest Trees (TWO) and Technical Working Party for Fruit Crops

(TWF) had had an initial discussion on the draft at their sessions in 2010 (see document TWV/44/34 “Report”, paragraph 61).

Technical Working Party for Ornamental Plants and Forest Trees / Technical Working Party for Fruit Crops

6. The following table combines the comments of the TWO, at its forty-third session, held in Cuernavaca, Morelos State, Mexico, from September 20 to 24, 2010 (see document TWO/43/29 Rev. “Report”, paragraph 53) and the TWF at its forty-first session, held in Cuernavaca, Morelos State, Mexico, from September 27 to October 1, 2010 (see document TWF/41/30 Rev. “Report”, paragraph 58):

<u>PART II: COLOR</u>	
2.1	(TWO, TWF) to be deleted
2.2	(TWO) to add (e) Color Chart (TWF) to add (e) Color Chart and to check whether it should refer to RHS Colour Chart
2.3	(TWO, TWF) to have the header “States of expression for color characteristics” and to provide an explanation for each of the aspects in 2.2 (a) to (e), in that order, on the basis of the information currently provided in 2.3
2.4	(TWO, TWF) to be incorporated within new Section 2.3 “States of expression for color characteristics”
2.4.1.1.3	(TWO, TWF) to delete text in brackets after “RHS 11D – light yellow orange”
<u>PART III: COLOR DISTRIBUTION / PATTERN</u>	
General	(TWO, TWF) to structure the section on the basis of the approaches to describe colors and color patterns, as set out in the document, including in particular: <ul style="list-style-type: none"> Main color / secondary color etc. (surface area) Main color / over patterns Ground color / over color, flush or blush RHS Colour Chart order (“Lisbon” approach) Color of defined parts of an organ Variegation Pigments (anthocyanin, carotenoid) Conspicuousness Color change over time Number of colors (if retained) and to provide illustrative examples for each approach (TWF) The TWF agreed that Mr. Chris Barnaby (New Zealand) should be invited to draft guidance on criteria to be considered for selecting the most appropriate approach.
3.1	(TWO, TWF) to review whether to discourage the use of a characteristic for number of colors

4.2.3	(TWO, TWF) to check whether these terms are useful for any of the approaches to be included in the document
4.5.2	(TWO, TWF) to base this section on the Japanese scheme for determining color pattern terms (document TWO/43/23 Rev., Annex II), but to include only those patterns that are named and currently included in Section 4.5.2
4.6	(TWO, TWF) to improve the illustration for “Tesselate”
4.8	(TWO, TWF) to be deleted
4.11.4	(TWO, TWF) to check whether to delete

– DRAFT

DOCUMENT TGP/14

**“GLOSSARY OF [TECHNICAL, BOTANICAL AND STATISTICAL] TERMS
USED IN UPOV DOCUMENTS”**

Section 2: Botanical Terms

Subsection 3: Color

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ANNEX I COLOR NAMES FOR THE RHS COLOUR CHART

Appendix I: Allocation of UPOV Color Groups for each RHS Color in RHS Reference order

Appendix II: RHS Colors contained in each UPOV Color Group

ANNEX II SCHEME FOR DETERMINING COLOR PATTERN TERMS

Appendix 1: Patches

Appendix 2: Stripes

Appendix 3: Net

Appendix 4: Distribution

Appendix 5: Examples

SUBSECTION 3: COLOR

PART I: INTRODUCTION

The purpose of this document is:

- (a) To provide guidance on the development of characteristics related to colors and color patterns;
- (b) To provide standard illustrations and examples in relation to colors and color patterns which may be useful for inclusion in the Test Guidelines, whilst noting that illustrations for specific characteristics can be found in the relevant Test Guidelines and noting that searches for relevant individual characteristics can be made through TGP/7 “Collection of Approved Characteristics”; and
- (c) To provide definitions of botanical terms with an indication of whether those terms are generally used in Test Guidelines, or whether alternative terms might be more appropriate for use in Test Guidelines.

PART II: COLOR

2.1 Components of Color

Color is complex and can be defined in terms of three main elements: HUE (distinguishes the different colors), SATURATION (the element of color that indicates the purity or grayness of the color) and the BRIGHTNESS (distinguishes the total amount of light that is reflected by the color, how the color is perceived by the eye on the dark to light scale). However for the purposes of UPOV Test Guidelines it is more practical to use a separation of two elements of color: COLOR and INTENSITY. The illustration below shows the two elements: COLOR in the horizontal cross section and INTENSITY in the vertical axis:



2.2 Terms used for color

There are various forms in which color may be presented as states of expression in the Test Guidelines:

(a) Single color

e.g. yellow, red, green, blue, etc. or

(b) Color combination

e.g. "green red"

in such combinations, the second color indicates the predominant color. For example "green red" belongs to the red group and "red green" belongs to the green group.

(c) Multiple color combinations (use of "-ish")

in cases where there is a limited range of colors which are predominantly one color (e.g. yellow) or predominantly one color combination (e.g. yellow green), but which cover a minor presence of some other colors, the color can be described as, for example,

yellowish, covers all colors which are predominantly yellow (would include, for example, white yellow; brown yellow; orange yellow, etc.)

yellowish green covers all colors which are predominantly green with some yellow (would include, for example, white yellow green; brown yellow green; orange yellow green, etc.)

(d) Intensity

the intensity can be presented in combination with the color

e.g. light green, dark green etc.

2.3 Type of observation

2.3.1 Color chart

2.3.1.1 When the plant part observed can have many different colors the use of a color chart to describe the color is useful.

2.3.1.2 Because of its worldwide availability, UPOV uses the color chart from the Royal Horticultural Society (RHS), the "RHS Colour Chart". There are five editions of this color chart, dating from 1966, 1986, 1995, 2001 and 2007. Since 2005, the "RHS Mini Colour Chart" has also been published by the Flower Council Holland and is also frequently used by breeders. Other color charts might also be appropriate.

2.3.1.3 Document TGP/7 "Development of Test Guidelines" (see ASW 4(2)(d)) explains that "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 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. When it is not possible to make observations under artificial daylight, for example when observations have to be made in the

open, observations should not be made in direct sunlight. The observations should be made on a cloudy day with sufficient light intensity, or in a shaded area. When artificial shading is needed in the open, it should be ensured that the color of the shading cloth does not interfere with the observations.

2.3.1.4 When using the RHS Colour Chart, the reference number of the RHS color, the color name and the edition of the chart should be mentioned in the variety description. A proposal for naming the colors has been made in Annex I of this document.

2.3.2 By visual observation

It is not always necessary, or even possible, to make color observations with the help of a color chart. Some examples where the use of a color chart is less useful are:

- (a) in cases where the intensity of a color is observed (e.g. intensity of green color: light - medium - dark);
- (b) where the size of the color surface or amount of color is very small;
- (c) where only limited, clearly separated, color expressions are present;
- (d) where other elements influence the observation of color (e.g. where the surface is covered with hairs or with a waxy layer);
- (e) where colors are blended;
- (f) where colors are not well represented on the color chart (e.g. greens, browns, dark intensities of some colors).
- (g) where an overall color impression is required.

2.4 Developing characteristics

2.4.1 Type of expression

As explained in Section 2.1, color is complex and can be defined in terms of three main elements: hue, saturation and intensity. Therefore, any characteristic which combines more than one of those elements is likely to constitute a pseudo-qualitative characteristic. However, in some cases it may be appropriate to consider one of the elements as a quantitative characteristic. For example, the intensity of green color can be considered as a quantitative characteristic, with the states light, medium and dark. Where there is a clear discontinuity between color states (e.g. white and red), a qualitative characteristic is indicated.

2.4.1.1 Examples

2.4.1.1.1 Qualitative characteristics

Stem: color: green (1); red (2)

2.4.1.1.2 Quantitative characteristics

Leaf: intensity of green color: light (3); medium (5); dark (7) (1 to 9 scale)

2.4.1.1.3 Pseudo-Qualitative characteristics

(i) Single colors

Flower: main color: white (1); yellow (2); orange (3); red (4)

(ii) Single colors / color combination

Flower: main color: white (1); yellow white (2); yellow (3); yellow orange (4); orange (5)

(iii) Single colors / intensity

Flower: main color: white (1); light yellow (2); medium yellow (3); dark yellow (4); orange (5)

- (iv) Multiple color combinations (use of “-ish”)

Spathe: color of apex: whitish (1); yellowish (2); greenish (3)

- (v) Color chart

Flower: main color: RHS Colour Chart (indicate reference number)

=> variety description: RHS 11D – light yellow orange

(sometimes the color observed differs slightly from the RHS Colour Chart number. Therefore it may be necessary to refer to several RHS Colour Chart numbers and/or to add a comment to the observed RHS Colour Chart Number, e.g.:

=> variety description: RHS 11D – light yellow orange, slightly darker

=> description: RHS 11D to 19D – light yellow orange)

2.4.2 Order of states of expression

In the Test Guidelines, the states of expression for colors are normally presented in the following order: white, green, yellow, orange, pink, red, purple, violet, blue, brown, black. (note: it is quite common to have the order white, yellow, green where only those colors occur). However, the chronological appearance of the color (e.g. as the fruit ripens) may also be used (see also documents TGP/14/1, Glossary of Technical, Botanical and Statistical Terms Used in UPOV Documents [*cross ref.*]) where appropriate. The same sequence should normally be used for organs with similar states within the same Test Guidelines (e.g. color of leaf and color of the stem).

2.5 Unsuitable color names

Color terms such as “bronze”, “fuchsia”, “gold”, “ochre”, “salmon”, “silver”, etc. should not be used as states of expression in the Test Guidelines because they could cause confusion concerning the intended color. Therefore, these terms should be replaced by standard colors (e.g. orange brown instead of bronze). However, where these terms are intended to cover a wide range of colors and where those colors do not overlap with the colors in any other states of expression, they could be used in the Test Guidelines. For example: the use of “salmon” to cover all colors between pink and brown, where the only other possible colors are white and green.

Example: Flower: Pistil: Main color: white (1); green (2); salmon (3)

2.6 Timing of observations

2.6.1 All color observations on the different organs of the plant should be made at a clearly defined stage of development of the organ. Color expression of the organ might change, for example, during development or aging of the plant/organ or the time of the day.

2.6.2 In cases where the color of an organ, or part of an organ, changes during the development of the plant, it may be appropriate to have separate characteristics for the color at appropriate, clearly defined stages of development. In some cases, it may also be appropriate to have a characteristic which describes the rate at which the color changes.

PART III: COLOR DISTRIBUTION / PATTERN

3.1 General: The use of Number of Colors

A characteristic for number of colors of a plant part should be indicated as pseudo-qualitative because there is always the risk that a person may consider hues of a color to be a different color therefore record them as additional colors while another person may not does not.

3.2 Approaches to describe colors and color patterns

There are two different approaches to describe a plant part which has more than one color.

Approach A: based upon the surface area of the color in question.

Approach B: based upon the RHS Colour Chart number of the color in question.

3.2.1 Approach A: based on the surface area occupied by the color in question

3.2.1.1 In this approach all colors of a plant part are determined according to the size of the surface area they occupy. The color with the largest surface area is the main color, the one with the second largest area is the secondary color and so on.

3.2.1.2 The following standard explanation should be included in the Test Guidelines when using this approach for describing color:

“The main color is the color which has a continuous dispersion across the surface of the plant part; in general and will also cover the largest surface area.”

3.2.1.3 The term “MAIN COLOR” should only be used in association with a clearly identifiable color; one with a continuous distribution across the relevant plant part, without consideration of other colors present as isolated spots, patches etc.

3.2.2 Approach B: Order of observation of colors based upon the RHS Colour Chart number of the color in question

3.2.2.1 In this approach all colors of the plant part concerned are assessed using the RHS Colour Charts first. The colors are then ordered from the lowest to highest number according to the color number from the Color Chart, with the lowest number being RHS 1 A and the highest number being RHS 203 D. With this approach the determination of color is made without consideration of the surface area occupied by that color

3.2.2.2 The following standard explanation should be included in the Test Guidelines when using this approach for describing color:

The order of colors follows the RHS Colour Chart order. The lowest number is RHS 1A and the highest RHS 203D.

The color should first be described, followed by characteristics explaining the area, distribution, pattern and conspicuousness of the color.

3.2.2.3 The same sequence should be followed for color two, color three and so on. In order to make it clear that a variety does not show color two, color three and so on, the state of expression ‘none’ (1) should be added as an option to the characteristic.

Example:

1	Leaf blade: secondary color	
	RHS Colour Chart (indicate reference number)	
2	Leaf blade: secondary color: distribution	
	none	1 ⁱ
	on veins	2
	along veins	3
	at marginal zone	4
3	Leaf blade: secondary color: pattern	
	speckled	1
	irregular	2
	throughout	3

3.3 Guidance for deciding which approach to use for the description of colors and color patterns

3.3.1 The decision which approach to use describing the colors of a plant part depends on the number of colors, types of color distribution and color patterns which are possible for the species concerned.

3.3.2 In situations where only a few colors, a few types of color distribution or a few color patterns need to be described, it would be more appropriate to use Approach A. For more complex situations where several different colors and/or several different types of color distribution and color are possible, it would be more appropriate to use Approach B. A good example of the use of Approach A can be found in the *Alstroemeria* Test Guideline (TG/29/7), an example for Approach B can be found in the *Heuchera* Test Guideline (TG/HEUCH(proj.2)).

PART IV: COLOR DISTRIBUTION AND COLOR PATTERNS

4.1 Color distribution

There are two ways of describing the distribution of color:

- 1) descriptive approach: for example, at margin, at distal part, etc.
- 2) systematic approach (see Annex II).ⁱⁱ

4.2 Terms used for color distribution

The following sets of terms can be used to describe the distribution of color

4.2.1 Main/Secondary/Tertiary Color (see also chapter 3.3)

- (a) **MAIN COLOR:** color of the largest surface area of the plant part
- (b) **SECONDARY COLOR:** when more than one color is present, the color covering the second largest surface area of the plant part is the secondary color.
- (c) **TERTIARY COLOR:** when more than two colors are present, the color covering the third largest area of the plant part is the tertiary color.

4.2.2 Ground/Over Color

For organs which have two independent layers of tissue containing color pigmentation (e.g. apple), the two layers could be described as follows:

- (a) **GROUND COLOR:** The first color to appear chronologically during the development of the plant parts. Other colors may develop in time in the form of spots, macules, or a color flush or blush. The ground color is not always the color occupying the largest surface area of the plant part concerned.
- (b) **OVER COLOR:** In the case of a plant part which has a ground color upon which a second color such as a flush develops over time, the flush is considered the over color. The over color is not always the color occupying the smallest surface area of the plant part concerned.

4.2.3 Terms used for types of color

- (a) **ONE-COLORED:** where the organ has only one color hue, but the color varies in intensity and/or saturation. There may be clear borders between the different color intensities and/or saturations, or they may be overlaid, partially blended or in the form of a pattern.
- (b) **SHADED:** a particular case of a one-colored organ where there are no clear borders between the different intensities and/or saturations. The term is only necessary where there are both types of one-colored varieties for a characteristic, e.g. one-colored / shaded (state 1); one-colored / non self-colored (state 2); bicolored (state 3).ⁱⁱⁱ
- (c) **BICOLORED:** where an organ has two clearly different color hues. There may be clear borders between the two color hues, or there may be partial blending along the border where the two colors met. Often the two colors are distributed on the plant concerned in such a way as to suggest a pattern.

4.3 Color change over time

When a plant organ changes the color over time it might be necessary to observe the same organ at different times of its development.

Example:

21.	Fruit: color (before maturity)	
(*)		
PQ	greenish white	1
	yellow	2
	green	3
	purple	4

33.	Fruit: color (at maturity)		
(*)			
PQ	yellow		1
	orange		2
	red		3
	brown		4
	green		5

4.4 Variegation

VARIEGATION: well defined areas of different colors or intensities, with less or no chlorophyll, especially as irregular patches or stripes on the plant part concerned.

The following approaches might be used as appropriate on a case-by-case basis:

In cases where there are more than two colors involved in the variegation:

- (a) To exclude variegation from the general color pattern by defining variegation and indicating “(excluding variegation)” in the general pattern characteristics (where appropriate); or
- (b) To consider variegation within the general color pattern and indicate “(including variegation)”

4.5 Terms used for Color Patterns

A schematic illustration of the different color patterns can be found in Annex II (to be further developed).

4.5.1 Flush/Blush

- (a) **FLUSH:** different color hue as a faint layer over the ground color of a surface
- (b) **BLUSH:** special case of FLUSH where the color of the layer over the ground color of the surface is reddish, pinkish or purplish.

4.5.2 Spotted/Dotted/Patched/Blotched/Speckled/Mottled

- (a) **SPOTTED:** with other color as sharply outlined spots (round or nearly round contour). Compare to “dotted”, where the spots are smaller;
- (b) **DOTTED:** finely spotted, if made with a pen. Compare to “spotted”, where the spots are larger and “patched”, where the spots are irregular;
- (c) **PATCHED:** with small irregular spots that have another color. Compare to “dotted”, “spotted” and “blotched”;
- (d) **BLOTCHED:** with sharply outlined irregular large spots. Compare to “spotted”, where the spots are regular, “mottled”, where the blotches are not sharply outlined and “speckled” where the spots are irregular, but smaller;
- (e) **SPECKLED:** with many small spots, patches (irregular contour) or flecks (irregular spot, usually longer than broad);
- (f) **MOTTLED:** with other color as blotches which are not sharply outlined. Compare to “spotted” and “blotched”, which are sharply outlined and to “blotched” where the spots are irregular, but larger.

(g) FLECKED: with sharply outlined irregular large and small spots.

4.5.3 Veined/at midrib

(a) VEINED: different color of veins compared to the rest of the organ.

(b) at/along MIDRIB: with other color on or around the central vein (synonym MAIN VEIN for monocotyledonous plants). Compare to “central bar” where the zone with another color is broader.

4.5.4 On Margin/Picotee/Marginal Zone

(a) ON MARGIN: different color around the margin of an organ. Compare to “marginal zone” where the zone with another color is broader.

(b) PICOTEE: flower characteristic, special form of EDGED with color pattern of margin on a flower, where the margin is narrow and has a different, contrasting, color.

(c) MARGINAL ZONE: with another color on the marginal zone (see also ON MARGIN/EDGED and PICOTEE). Compare to “on margin/edged” where the zone with another color is narrower.

4.5.5 Striped/Striated/Aciculate/Banded/Central Band/Central Bar

(a) STRIATED: finely striped: with another color as fine, more or less parallel stripes.

(b) ACICULATE: with another color as fine, straight stripes, lying in different directions.

(c) BANDED: broadly striped: with another color as broad, more or less parallel stripes. Compare to “striped” (narrower) and “striae” (much finer).

(e) CENTRAL BAND: with another color as a horizontal band at the central part of the organ. Compare to “central bar” which is vertical.

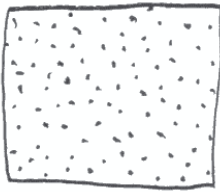
(f) CENTRAL BAR: with another color as a vertical bar at the central part of the organ. Compare to “midrib”, which is usually narrower and “central band” which is horizontal.

(g) MARBLING: resembling marble in color pattern

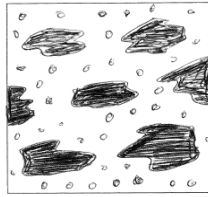
(h) NETTED: with another color as in the form of a net over the surface of the plant part.

(h) TESSELATED = chequered, marked with a grid of small, regular shapes.

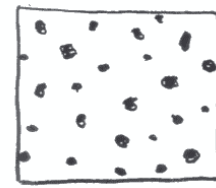
4.6 Illustrations



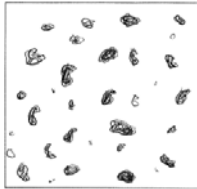
Dotted



Speckled [to be improved]



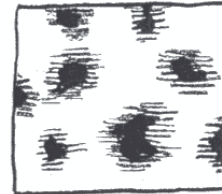
Spotted



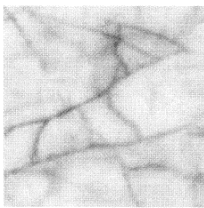
Patched



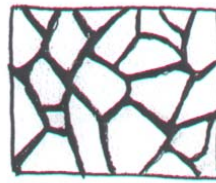
Blotched (Maculate)



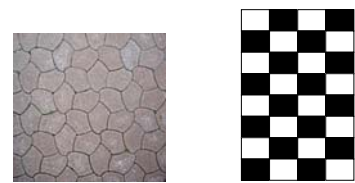
Mottled



Marbling



Reticulate (Netted)



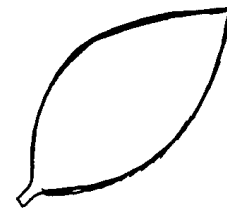
Tessellate



Veined



Midrib



On Margin (Edged)



Picotee



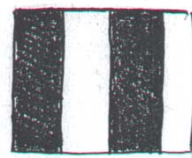
Marginal Zone



Central Band



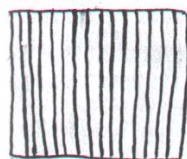
Central Bar



Banded



Striped



Striated



Aciculate

4.7 Pigments, such as anthocyanin coloration

4.7.1 Color pigments like anthocyanin coloration usually can be found on a plant organ or part of an organ in the form of an over color. Depending on the amount and intensity of the pigments it could be useful to describe the color of the organ with or without the pigments. If the pigments should be excluded from the observation it should be indicated in the characteristic (e.g. Leaf blade: color (excluding anthocyanin)).

4.7.2 Where the name of the pigment is known, reference should be made to the name, e.g. “anthocyanin coloration”. Where the name of the pigment is not known, the color should be mentioned, e.g. “red coloration”.

4.7.3 Pigments can be described using intensity and/or size of their distribution. Usually the intensity is a QN characteristic, e.g.

1. Leaf blade: anthocyanin coloration

QN	weak	3
	medium	5
	strong	7

The distribution of the pigment is usually a PQ characteristic, e.g.

2. Leaf blade: distribution of anthocyanin coloration

PQ	at margin	1
	along veins	2
	at base	3

4.8 Other Color Terminology: Glaucosity

GLAUCOSITY(BLOOM): This refers to the grayish blue or grayish green, powdery waxy bloom covering the surface of a plant part and can often be rubbed of or easily removed.

4.9 Conspicuousness

CONSPICUOUS: clearly visible, evident.

INCONSPICUOUS: not clearly visible, obscure.

4.9.1 Additional notes in relation to conspicuousness observations:

In some cases conspicuousness could be difficult to be observed, for instance for small organs (e.g. veins, hairs), or because they are not consistently expressed across the organ.

4.9.2 To make clear what is meant with the term conspicuousness the following standard wording could be used in the TG:

(a) The conspicuousness is determined by the color contrast

(b) The conspicuousness is determined by the color contrast, combined with the size.

4.9.3 Determinations on conspicuousness are influenced by the color contrast of what is being observed as well as its relative size.

4.10 The use of photographs to illustrate color distribution and color patterns

For all mentioned approaches it could be useful to recommend that a photograph be taken to illustrate certain color characteristics. It is recommended that a disclaimer be included in the Test Guideline to clarify the purpose for which the photograph is to be used; i.e. to illustrate number of colors, types of color distribution and/or color patterns, rather than the actual colors of the plant part concerned.

“A photograph of the [relevant plant part] should be provided in conjunction with the description in order to clarify the color distribution and/or color pattern. However, a warning should be added to this photograph, explaining that the primary intent of the photograph is to show the distribution and/or pattern of colors on the plant part rather than the actual colors. Color on photographs can be affected by the technology of the camera and the facilities used to display the photograph (printer, overhead projector, etc.).”

4.11 Examples of Color Distribution / Pattern Characteristics

4.11.1 Main/Secondary/Tertiary Color

Flower: Main color:	RHS Colour Chart (indicate reference number)	(PQ)
Flower: Secondary color:	RHS Colour Chart (indicate reference number)	(PQ)
Flower: Tertiary color:	RHS Colour Chart (indicate reference number)	(PQ)
	<u>or</u> white (1), red (2).....	

(When the area of the secondary and/or tertiary color is relatively small, it will be difficult to determine the color using the RHS Colour Chart. In such cases a second option, as indicated under tertiary color, should be used.)

4.11.2 Ground/Over Color

Fruit: Ground color	white (1); whitish yellow (2); yellow (3); ...	(PQ)
Fruit: Over color:	orange red (1); pink red (2); red (3); purple red (4); brown red (5)	(PQ)
Fruit: Relative area of over color	absent or very small (1); small (3); medium (5); large (7); very large (9)	(QN)
Fruit: Intensity of over color	light (3); medium (5); dark (7)	(QN)
Fruit: Pattern of over color	only solid flush (1); solid flush with weakly defined stripes (2); solid flush with strongly defined stripes (3); weakly defined flush with strongly defined stripes (4); only stripes (5); flushed and mottled (6); flushed, striped and mottled (7)	(PQ)

4.11.3 Variegation

Leaf: variegation	absent (1); present (9)	(QL)
Leaf: intensity of green color (excluding variegation)	light (3); medium (5); dark (7)	(QN)
Leaf: color of variegation	white (1); yellowish (2); light green (3)	(PQ)
<u>Varieties with variegated leaves only:</u> Leaf: distribution of variegation	near main vein (1); near margin (2); randomly spread (3)	(PQ)

4.11.4 One-/Two-Colored

Ray floret: number of colors	one (1); two (2)	(PQ)
<u>Only one-colored varieties</u> Ray floret: Color distribution of upper side	none (1); lighter towards base (2); lighter towards apex (3)	(PQ)

PART V: INDEX OF DEFINITIONS

Note: A single list (index) for Technical terms (e.g. “distinctness”, “uniformity”, “variety” etc.), Botanical terms (shapes, colors etc.) and Statistical terms to be provided at the end of TGP/14. In that list, it will be indicated in which section to find an explanation of that term.

(to be provided for:)

Aciculate
 Anthocyanin coloration
 Banded
 Bloom
 Blotched
 Blush
 Brightness
 Central Band
 Central Bar
 Color
 Conspicuous
 Dotted
 Edged
 Fleck
 Flush
 Glaucosity
 Ground color
 Hue
 Inconspicuous
 Lightness

Main color
Main vein
Marbling
Marginal zone
Midrib
Mottled
Netted
On margin
One-colored
Over color
Patched
Picotee
RHS color
RHS colour chart
RHS mini colour chart
Saturation
Secondary color
Shaded
Speckled
Spotted
Striated
Striped
Tertiary color
Tessellated
Variegation
Veined
Waxy layer

PART VI: LITERATURE

RHS Colour Chart, 2007, Royal Horticultural Society, London, GB.

RHS Mini Colour Chart, 2005, Royal Horticultural Society, London, GB, published together with the Flower Council Holland, Leiden, NL.

Horticultural Colour Chart (HCC Chart), 1942, R.F. Wilson, Published by the British Colour Council in collaboration with the Royal Horticultural Society.

International Commission on Illumination C.I.E./USA: ISO 15469:2004/CIE S 011/E:2003, Spatial distribution of daylight – CIE standard general sky.

Rochester Institute of Technology: Munsell Color Science Laboratory; website: <http://mcsl.rit.edu>.

ANNEX I

Color names for the RHS Colour Chart

1. Introduction

1.1 When using the RHS Colour Chart, the variety description should contain both the RHS Colour Chart reference number and a name for the color. The purpose of this document is to harmonize color names for variety descriptions.

1.2 The RHS Colour Chart contains up to 884 different colors, which are divided into 23 “groups” to name the colors. However, for UPOV purposes, this initial grouping seemed unable to name the colors in variety descriptions in a sufficiently precise way. Therefore, UPOV has identified 50 color “groups” which are presented in this document. It is important to note that these color “groups” were not created for the purpose of grouping varieties for DUS trials and should not be used for that purpose.

1.3 The names used for the 50 UPOV Color Groups consist of either the [pure color] / [color hue] (e.g. yellow, orange, red), a combination of two [pure colors] / [color hues] (e.g. yellow orange, orange pink, purple red), or a combination of the [pure color(s)] / [color hue(s)] with “light” or “dark” (e.g. light yellow, dark pink red).

1.4 The color names in this document can be used with different editions of the RHS Colour Chart. The 1986 version of the RHS Colour Chart was used for the initial grouping and naming. In the 1995 edition no new charts were added. The additional charts in the 2001 edition (marked with “N”) have been integrated into the existing groups.

2. Example for the use of the UPOV Color Names in a variety description

2.1 If in Test Guidelines a characteristic is described by using the RHS Colour Chart, it is not obvious which color the plant part has, because it is only asked to indicate the RHS Colour Chart reference number, e.g.

Flower: main color of upper side RHS Colour Chart (indicate reference number)

2.2 For the variety description, it is useful to translate the RHS Colour Chart number into a color name and to fill this name into the column “state of expression”. The color name can be found in the appendix to this document, in which the RHS Colors are listed according to the UPOV Color Group to which they belong: e.g. RHS 46C belongs to group 21 “red”, RHS N 74B belongs to group 27 “purple” and RHS N 57A belongs to group 23 “purple red”.

Example:

2.3 Part of a variety description for New Guinea Impatiens (TG/196/1)

No.	Characteristic	State of expression		Note
20	Flower: main colour of upper side	red	RHS 46C	
21	<u>Varieties with bi- or multicoloured flowers only:</u> Flower: secondary colour of upper side	purple	RHS N 74B	
22	<u>Varieties with bi- or multicoloured flowers only:</u> Flower: distribution of secondary colour	mainly on upper petal		1
23	Flower: eye zone	present		9
24	Flower: size of eye zone	large		7
25	Flower: main colour of eye zone	purple red	RHS N 57A	

3. UPOV Color Groups

3.1 The 50 UPOV Color Groups are as follows:

UPOV Group No.	English	français	deutsch	español
1	white		weiss	
2	light green		hellgrün	
3	medium green		mittelgrün	
4	dark green		dunkelgrün	
5	yellow green		gelbgrün	
6	grey green		graugrün	
7	light blue green		hellblaugrün	
8	blue green		blaugrün	
9	brown green		braungrün	
10	light yellow		hellgelb	
11	yellow		gelb	
12	light yellow orange		hellgelborange	
13	yellow orange		gelborange	
14	orange		orange	
15	orange pink		orangerosa	
16	light red pink		hellrotrosa	
17	red pink		rotrosa	
18	light blue pink		hellblaurosa	
19	blue pink		blaurosa	
20	orange red		orangerot	
21	red		rot	
22	dark pink red		dunkelrosarot	
23	purple red		purpurrot	
24	dark purple red		dunkelpurpurrot	
25	brown red		braunrot	
26	brown purple		braunpurpur	
27	purple		purpur	
28	violet		violett	
29	dark violet		dunkelviolett	
30	light blue violet		hellblauviolett	
31	blue violet		blauviolett	
32	light violet blue		hellviolettblau	
33	violet blue		violettblau	
34	light blue		hellblau	
35	medium blue		mittelblau	
36	dark blue		dunkelblau	
37	light green blue		hellgrünblau	
38	green blue		grünblau	
39	grey blue		graublau	
40	light brown		hellbraun	
41	medium brown		mittelbraun	
42	dark brown		dunkelbraun	
43	light yellow brown		hellgelbbraun	
44	yellow brown		gelbbraun	
45	orange brown		orangebraun	
46	grey brown		graubraun	
47	green brown		grünbraun	
48	grey		grau	
49	green grey		grüngrau	
50	black		schwarz	

3.2 The appendices to this document allocate the colors in the RHS Colour Chart to the appropriate UPOV Color Groups as follows:

Appendix I: Allocation of UPOV Color Groups for each RHS Color in
RHS Reference order

Appendix II: RHS Colors contained in each UPOV Color Group

[Appendices follow]

APPENDIX I TO ANNEX I

Appendix I:**Allocation of UPOV Color Groups for each RHS Color in RHS Reference order****RHS COLORS (RHS COLOUR CHART, EDITIONS 1986, 1995 AND 2001)
BY UPOV COLOR GROUPS**

UPOV Group No.	RHS No.	English	français	deutsch	español
11	001A	yellow		gelb	
5	001B	yellow green		gelbgrün	
5	001C	yellow green		gelbgrün	
5	001D	yellow green		gelbgrün	
11	002A	yellow		gelb	
11	002B	yellow		gelb	
5	002C	yellow green		gelbgrün	
5	002D	yellow green		gelbgrün	
11	003A	yellow		gelb	
11	003B	yellow		gelb	
11	003C	yellow		gelb	
5	003D	yellow green		gelbgrün	
11	004A	yellow		gelb	
11	004B	yellow		gelb	
5	004C	yellow green		gelbgrün	
10	004D	light yellow		hellgelb	
11	005A	yellow		gelb	
11	005B	yellow		gelb	
11	005C	yellow		gelb	
10	005D	light yellow		hellgelb	
11	006A	yellow		gelb	
11	006B	yellow		gelb	
11	006C	yellow		gelb	
10	006D	light yellow		hellgelb	
11	007A	yellow		gelb	
11	007B	yellow		gelb	
11	007C	yellow		gelb	
11	007D	yellow		gelb	
11	008A	yellow		gelb	
10	008B	light yellow		hellgelb	
10	008C	light yellow		hellgelb	
10	008D	light yellow		hellgelb	
11	009A	yellow		gelb	
11	009B	yellow		gelb	
10	009C	light yellow		hellgelb	
10	009D	light yellow		hellgelb	
10	010A	light yellow		hellgelb	
10	010B	light yellow		hellgelb	
10	010C	light yellow		hellgelb	
10	010D	light yellow		hellgelb	
13	011A	yellow orange		gelborange	
10	011B	light yellow		hellgelb	

UPOV Group No.	RHS No.	English	français	deutsch	español
10	011C	light yellow		hellgelb	
12	011D	light yellow orange		hellgelborange	
11	012A	yellow		gelb	
11	012B	yellow		gelb	
10	012C	light yellow		hellgelb	
10	012D	light yellow		hellgelb	
13	013A	yellow orange		gelborange	
13	013B	yellow orange		gelborange	
13	013C	yellow orange		gelborange	
10	013D	light yellow		hellgelb	
13	014A	yellow orange		gelborange	
13	014B	yellow orange		gelborange	
13	014C	yellow orange		gelborange	
10	014D	light yellow		hellgelb	
13	015A	yellow orange		gelborange	
13	015B	yellow orange		gelborange	
13	015C	yellow orange		gelborange	
10	015D	light yellow		hellgelb	
13	016A	yellow orange		gelborange	
13	016B	yellow orange		gelborange	
13	016C	yellow orange		gelborange	
10	016D	light yellow		hellgelb	
13	017A	yellow orange		gelborange	
13	017B	yellow orange		gelborange	
13	017C	yellow orange		gelborange	
13	017D	yellow orange		gelborange	
13	018A	yellow orange		gelborange	
12	018B	light yellow orange		hellgelborange	
12	018C	light yellow orange		hellgelborange	
12	018D	light yellow orange		hellgelborange	
13	019A	yellow orange		gelborange	
12	019B	light yellow orange		hellgelborange	
12	019C	light yellow orange		hellgelborange	
12	019D	light yellow orange		hellgelborange	
13	020A	yellow orange		gelborange	
13	020B	yellow orange		gelborange	
12	020C	light yellow orange		hellgelborange	
12	020D	light yellow orange		hellgelborange	
13	021A	yellow orange		gelborange	
13	021B	yellow orange		gelborange	
13	021C	yellow orange		gelborange	
12	021D	light yellow orange		hellgelborange	
13	022A	yellow orange		gelborange	
12	022B	light yellow orange		hellgelborange	
12	022C	light yellow orange		hellgelborange	
12	022D	light yellow orange		hellgelborange	
13	023A	yellow orange		gelborange	
13	023B	yellow orange		gelborange	
12	023C	light yellow orange		hellgelborange	

UPOV Group No.	RHS No.	English	français	deutsch	español
12	023D	light yellow orange		hellgelborange	
14	024A	orange		orange	
14	024B	orange		orange	
14	024C	orange		orange	
14	024D	orange		orange	
14	025A	orange		orange	
14	025B	orange		orange	
14	025C	orange		orange	
14	025D	orange		orange	
20	N 025A	orange red		orangerot	
14	N 025B	orange		orange	
14	N 025C	orange		orange	
13	N 025D	yellow orange		gelborange	
14	026A	orange		orange	
14	026B	orange		orange	
14	026C	orange		orange	
14	026D	orange		orange	
15	027A	orange pink		orangerosa	
15	027B	orange pink		orangerosa	
15	027C	orange pink		orangerosa	
15	027D	orange pink		orangerosa	
20	028A	orange red		orangerot	
14	028B	orange		orange	
14	028C	orange		orange	
14	028D	orange		orange	
14	029A	orange		orange	
14	029B	orange		orange	
15	029C	orange pink		orangerosa	
15	029D	orange pink		orangerosa	
20	030A	orange red		orangerot	
20	030B	orange red		orangerot	
20	030C	orange red		orangerot	
14	030D	orange		orange	
21	N 030A	red		rot	
20	N 030B	orange red		orangerot	
20	N 030C	orange red		orangerot	
14	N 030D	orange		orange	
20	031A	orange red		orangerot	
45	031B	orange brown		orangebraun	
45	031C	orange brown		orangebraun	
15	031D	orange pink		orangerosa	
20	032A	orange red		orangerot	
20	032B	orange red		orangerot	
45	032C	orange brown		orangebraun	
15	032D	orange pink		orangerosa	
21	033A	red		rot	
20	033B	orange red		orangerot	
45	033C	orange brown		orangebraun	
15	033D	orange pink		orangerosa	

UPOV Group No.	RHS No.	English	français	deutsch	español
21	034A	red		rot	
45	034B	orange brown		orangebraun	
45	034C	orange brown		orangebraun	
45	034D	orange brown		orangebraun	
24	N 034A	dark purple red		dunkelpurpurrot	
21	N 034B	red		rot	
22	N 034C	dark pink red		dunkelrosarot	
45	N 034D	orange brown		orangebraun	
45	035A	orange brown		orangebraun	
20	035B	orange red		orangerot	
15	035C	orange pink		orangerosa	
16	035D	light red pink		hellrotrosa	
16	036A	light red pink		hellrotrosa	
16	036B	light red pink		hellrotrosa	
16	036C	light red pink		hellrotrosa	
16	036D	light red pink		hellrotrosa	
15	037A	orange pink		orangerosa	
15	037B	orange pink		orangerosa	
16	037C	light red pink		hellrotrosa	
16	037D	light red pink		hellrotrosa	
16	038A	light red pink		hellrotrosa	
16	038B	light red pink		hellrotrosa	
16	038C	light red pink		hellrotrosa	
16	038D	light red pink		hellrotrosa	
20	039A	orange red		orangerot	
20	039B	orange red		orangerot	
16	039C	light red pink		hellrotrosa	
16	039D	light red pink		hellrotrosa	
21	040A	red		rot	
21	040B	red		rot	
20	040C	orange red		orangerot	
20	040D	orange red		orangerot	
21	041A	red		rot	
20	041B	orange red		orangerot	
20	041C	orange red		orangerot	
16	041D	light red pink		hellrotrosa	
21	042A	red		rot	
21	042B	red		rot	
21	042C	red		rot	
20	042D	orange red		orangerot	
21	043A	red		rot	
21	043B	red		rot	
17	043C	red pink		rotrosa	
17	043D	red pink		rotrosa	
21	044A	red		rot	
21	044B	red		rot	
21	044C	red		rot	
20	044D	orange red		orangerot	
21	045A	red		rot	

UPOV Group No.	RHS No.	English	français	deutsch	español
21	045B	red		rot	
21	045C	red		rot	
22	045D	dark pink red		dunkelrosarot	
24	046A	dark purple red		dunkelpurpurrot	
21	046B	red		rot	
21	046C	red		rot	
22	046D	dark pink red		dunkelrosarot	
21	047A	red		rot	
21	047B	red		rot	
22	047C	dark pink red		dunkelrosarot	
17	047D	red pink		rotrosa	
22	048A	dark pink red		dunkelrosarot	
17	048B	red pink		rotrosa	
17	048C	red pink		rotrosa	
17	048D	red pink		rotrosa	
17	049A	red pink		rotrosa	
16	049B	light red pink		hellrotrosa	
16	049C	light red pink		hellrotrosa	
16	049D	light red pink		hellrotrosa	
21	050A	red		rot	
22	050B	dark pink red		dunkelrosarot	
17	050C	red pink		rotrosa	
16	050D	light red pink		hellrotrosa	
22	051A	dark pink red		dunkelrosarot	
22	051B	dark pink red		dunkelrosarot	
17	051C	red pink		rotrosa	
17	051D	red pink		rotrosa	
22	052A	dark pink red		dunkelrosarot	
17	052B	red pink		rotrosa	
17	052C	red pink		rotrosa	
17	052D	red pink		rotrosa	
24	053A	dark purple red		dunkelpurpurrot	
24	053B	dark purple red		dunkelpurpurrot	
22	053C	dark pink red		dunkelrosarot	
22	053D	dark pink red		dunkelrosarot	
23	054A	purple red		purpurrot	
23	054B	purple red		purpurrot	
23	054C	purple red		purpurrot	
18	054D	light blue pink		hellblaurosa	
23	055A	purple red		purpurrot	
23	055B	purple red		purpurrot	
18	055C	light blue pink		hellblaurosa	
18	055D	light blue pink		hellblaurosa	
18	056A	light blue pink		hellblaurosa	
18	056B	light blue pink		hellblaurosa	
18	056C	light blue pink		hellblaurosa	
18	056D	light blue pink		hellblaurosa	
23	057A	purple red		purpurrot	
23	057B	purple red		purpurrot	

UPOV Group No.	RHS No.	English	français	deutsch	español
23	057C	purple red		purpurrot	
23	057D	purple red		purpurrot	
23	N 057A	purple red		purpurrot	
23	N 057B	purple red		purpurrot	
23	N 057C	purple red		purpurrot	
23	N 057D	purple red		purpurrot	
27	058A	purple		purpur	
23	058B	purple red		purpurrot	
23	058C	purple red		purpurrot	
23	058D	purple red		purpurrot	
24	059A	dark purple red		dunkelpurpurrot	
24	059B	dark purple red		dunkelpurpurrot	
27	059C	purple		purpur	
23	059D	purple red		purpurrot	
24	060A	dark purple red		dunkelpurpurrot	
24	060B	dark purple red		dunkelpurpurrot	
27	060C	purple		purpur	
23	060D	purple red		purpurrot	
27	061A	purple		purpur	
27	061B	purple		purpur	
23	061C	purple red		purpurrot	
23	061D	purple red		purpurrot	
19	062A	blue pink		blaurosa	
18	062B	light blue pink		hellblaurosa	
18	062C	light blue pink		hellblaurosa	
18	062D	light blue pink		hellblaurosa	
23	063A	purple red		purpurrot	
19	063B	blue pink		blaurosa	
19	063C	blue pink		blaurosa	
18	063D	light blue pink		hellblaurosa	
27	064A	purple		purpur	
27	064B	purple		purpur	
19	064C	blue pink		blaurosa	
19	064D	blue pink		blaurosa	
19	065A	blue pink		blaurosa	
18	065B	light blue pink		hellblaurosa	
18	065C	light blue pink		hellblaurosa	
18	065D	light blue pink		hellblaurosa	
23	066A	purple red		purpurrot	
23	066B	purple red		purpurrot	
19	066C	blue pink		blaurosa	
19	066D	blue pink		blaurosa	
23	N 066A	purple red		purpurrot	
23	N 066B	purple red		purpurrot	
19	N 066C	blue pink		blaurosa	
19	N 066D	blue pink		blaurosa	
27	067A	purple		purpur	
19	067B	blue pink		blaurosa	
19	067C	blue pink		blaurosa	

UPOV Group No.	RHS No.	English	français	deutsch	español
19	067D	blue pink		blaurosa	
19	068A	blue pink		blaurosa	
19	068B	blue pink		blaurosa	
19	068C	blue pink		blaurosa	
18	068D	light blue pink		hellblaurosa	
18	069A	light blue pink		hellblaurosa	
18	069B	light blue pink		hellblaurosa	
30	069C	light blue violet		hellblauviolett	
30	069D	light blue violet		hellblauviolett	
27	070A	purple		purpur	
27	070B	purple		purpur	
19	070C	blue pink		blaurosa	
18	070D	light blue pink		hellblaurosa	
27	071A	purple		purpur	
27	071B	purple		purpur	
27	071C	purple		purpur	
19	071D	blue pink		blaurosa	
27	072A	purple		purpur	
27	072B	purple		purpur	
19	072C	blue pink		blaurosa	
19	072D	blue pink		blaurosa	
19	073A	blue pink		blaurosa	
19	073B	blue pink		blaurosa	
18	073C	light blue pink		hellblaurosa	
18	073D	light blue pink		hellblaurosa	
27	074A	purple		purpur	
27	074B	purple		purpur	
27	074C	purple		purpur	
19	074D	blue pink		blaurosa	
27	N 074A	purple		purpur	
27	N 074B	purple		purpur	
19	N 074C	blue pink		blaurosa	
19	N 074D	blue pink		blaurosa	
28	075A	violet		violett	
28	075B	violet		violett	
28	075C	violet		violett	
28	075D	violet		violett	
30	076A	light blue violet		hellblauviolett	
30	076B	light blue violet		hellblauviolett	
30	076C	light blue violet		hellblauviolett	
30	076D	light blue violet		hellblauviolett	
28	077A	violet		violett	
28	077B	violet		violett	
28	077C	violet		violett	
28	077D	violet		violett	
26	N 077A	brown purple		braunpurpur	
28	N 077B	violet		violett	
29	N 077C	dark violet		dunkelviolet	
28	N 077D	violet		violett	

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28	078A	violet		violett	
28	078B	violet		violett	
28	078C	violet		violett	
28	078D	violet		violett	
28	N 078A	violet		violett	
28	N 078B	violet		violett	
28	N 078C	violet		violett	
28	N 078D	violet		violett	
29	079A	dark violet		dunkelviolet	
29	079B	dark violet		dunkelviolet	
29	079C	dark violet		dunkelviolet	
29	079D	dark violet		dunkelviolet	
29	N 079A	dark violet		dunkelviolet	
29	N 079B	dark violet		dunkelviolet	
27	N 079C	purple		purpur	
28	N 079D	violet		violett	
28	080A	violet		violett	
28	080B	violet		violett	
28	080C	violet		violett	
28	080D	violet		violett	
28	N 080A	violet		violett	
28	N 080B	violet		violett	
28	N 080C	violet		violett	
28	N 080D	violet		violett	
28	081A	violet		violett	
28	081B	violet		violett	
28	081C	violet		violett	
28	081D	violet		violett	
28	N 081A	violet		violett	
28	N 081B	violet		violett	
28	N 081C	violet		violett	
28	N 081D	violet		violett	
28	082A	violet		violett	
28	082B	violet		violett	
28	082C	violet		violett	
28	082D	violet		violett	
28	N 082A	violet		violett	
28	N 082B	violet		violett	
28	N 082C	violet		violett	
28	N 082D	violet		violett	
29	083A	dark violet		dunkelviolet	
29	083B	dark violet		dunkelviolet	
31	083C	blue violet		blauviolett	
31	083D	blue violet		blauviolett	
28	084A	violet		violett	
28	084B	violet		violett	
30	084C	light blue violet		hellblauviolett	
30	084D	light blue violet		hellblauviolett	
30	085A	light blue violet		hellblauviolett	

UPOV Group No.	RHS No.	English	français	deutsch	español
30	085B	light blue violet		hellblauviolett	
30	085C	light blue violet		hellblauviolett	
30	085D	light blue violet		hellblauviolett	
29	086A	dark violet		dunkelviolett	
31	086B	blue violet		blauviolett	
31	086C	blue violet		blauviolett	
31	086D	blue violet		blauviolett	
28	087A	violet		violett	
28	087B	violet		violett	
28	087C	violet		violett	
28	087D	violet		violett	
28	N 087A	violet		violett	
28	N 087B	violet		violett	
28	N 087C	violet		violett	
28	N 087D	violet		violett	
31	088A	blue violet		blauviolett	
31	088B	blue violet		blauviolett	
31	088C	blue violet		blauviolett	
28	088D	violet		violett	
31	N 088A	blue violet		blauviolett	
31	N 088B	blue violet		blauviolett	
31	N 088C	blue violet		blauviolett	
31	N 088D	blue violet		blauviolett	
33	089A	violet blue		violettblau	
33	089B	violet blue		violettblau	
31	089C	violet blue		blauviolett	
31	089D	violet blue		blauviolett	
33	N 089A	violet blue		violettblau	
33	N 089B	violet blue		violettblau	
31	N 089C	blue violet		blauviolett	
31	N 089D	blue violet		blauviolett	
31	090A	blue violet		blauviolett	
31	090B	blue violet		blauviolett	
31	090C	blue violet		blauviolett	
31	090D	blue violet		blauviolett	
33	091A	violet blue		violettblau	
32	091B	light violet blue		hellviolettblau	
32	091C	light violet blue		hellviolettblau	
32	091D	light violet blue		hellviolettblau	
33	092A	violet blue		violettblau	
32	092B	light violet blue		hellviolettblau	
32	092C	light violet blue		hellviolettblau	
32	092D	light violet blue		hellviolettblau	
29	N 092A	dark violet		dunkelviolett	
33	N 092B	violet blue		violettblau	
33	N 092C	violet blue		violettblau	
31	N 092D	blue violet		blauviolett	
33	093A	violet blue		violettblau	
33	093B	violet blue		violettblau	

UPOV Group No.	RHS No.	English	français	deutsch	español
33	093C	violet blue		violettblau	
32	093D	light violet blue		hellviolettblau	
33	094A	violet blue		violettblau	
33	094B	violet blue		violettblau	
33	094C	violet blue		violettblau	
32	094D	light violet blue		hellviolettblau	
33	095A	violet blue		violettblau	
33	095B	violet blue		violettblau	
33	095C	violet blue		violettblau	
32	095D	light violet blue		hellviolettblau	
33	096A	violet blue		violettblau	
33	096B	violet blue		violettblau	
33	096C	violet blue		violettblau	
33	096D	violet blue		violettblau	
33	097A	violet blue		violettblau	
32	097B	light violet blue		hellviolettblau	
32	097C	light violet blue		hellviolettblau	
32	097D	light violet blue		hellviolettblau	
35	098A	blue		blau	
35	098B	blue		blau	
35	098C	blue		blau	
35	098D	blue		blau	
36	099A	dark blue		dunkelblau	
36	099B	dark blue		dunkelblau	
35	099C	blue		blau	
35	099D	blue		blau	
35	100A	blue		blau	
35	100B	blue		blau	
35	100C	blue		blau	
32	100D	light violet blue		hellviolettblau	
35	101A	blue		blau	
35	101B	blue		blau	
35	101C	blue		blau	
34	101D	light blue		hellblau	
36	102A	dark blue		dunkelblau	
35	102B	blue		blau	
35	102C	blue		blau	
35	102D	blue		blau	
36	103A	dark blue		dunkelblau	
36	103B	dark blue		dunkelblau	
36	103C	dark blue		dunkelblau	
35	103D	blue		blau	
35	104A	blue		blau	
35	104B	blue		blau	
35	104C	blue		blau	
34	104D	light blue		hellblau	
35	105A	blue		blau	
35	105B	blue		blau	
35	105C	blue		blau	

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35	105D	blue		blau	
35	106A	blue		blau	
34	106B	light blue		hellblau	
34	106C	light blue		hellblau	
34	106D	light blue		hellblau	
35	107A	blue		blau	
35	107B	blue		blau	
34	107C	light blue		hellblau	
34	107D	light blue		hellblau	
34	108A	light blue		hellblau	
34	108B	light blue		hellblau	
34	108C	light blue		hellblau	
34	108D	light blue		hellblau	
35	109A	blue		blau	
35	109B	blue		blau	
35	109C	blue		blau	
34	109D	light blue		hellblau	
35	N 109A	blue		blau	
35	N 109B	blue		blau	
35	N 109C	blue		blau	
34	N 109D	light blue		hellblau	
35	110A	blue		blau	
35	110B	blue		blau	
37	110C	light green blue		hellgrünblau	
37	110D	light green blue		hellgrünblau	
38	111A	green blue		grünblau	
38	111B	green blue		grünblau	
37	111C	light green blue		hellgrünblau	
37	111D	light green blue		hellgrünblau	
34	112A	light blue		hellblau	
34	112B	light blue		hellblau	
37	112C	light green blue		hellgrünblau	
37	112D	light green blue		hellgrünblau	
38	113A	green blue		grünblau	
38	113B	green blue		grünblau	
37	113C	light green blue		hellgrünblau	
37	113D	light green blue		hellgrünblau	
38	114A	green blue		grünblau	
38	114B	green blue		grünblau	
38	114C	green blue		grünblau	
38	114D	green blue		grünblau	
38	115A	green blue		grünblau	
38	115B	green blue		grünblau	
39	115C	grey blue		graublau	
39	115D	grey blue		graublau	
38	116A	green blue		grünblau	
38	116B	green blue		grünblau	
38	116C	green blue		grünblau	
38	116D	green blue		grünblau	

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37	117A	light green blue		hellgrünblau	
37	117B	light green blue		hellgrünblau	
37	117C	light green blue		hellgrünblau	
37	117D	light green blue		hellgrünblau	
38	118A	green blue		grünblau	
38	118B	green blue		grünblau	
37	118C	light green blue		hellgrünblau	
37	118D	light green blue		hellgrünblau	
38	119A	green blue		grünblau	
39	119B	grey blue		graublau	
39	119C	grey blue		graublau	
37	119D	light green blue		hellgrünblau	
7	120A	light blue green		hellblaugrün	
7	120B	light blue green		hellblaugrün	
7	120C	light blue green		hellblaugrün	
37	120D	light green blue		hellgrünblau	
38	121A	green blue		grünblau	
7	121B	light blue green		hellblaugrün	
37	121C	light green blue		hellgrünblau	
37	121D	light green blue		hellgrünblau	
39	122A	grey blue		graublau	
39	122B	grey blue		graublau	
39	122C	grey blue		graublau	
37	122D	light green blue		hellgrünblau	
7	123A	light blue green		hellblaugrün	
7	123B	light blue green		hellblaugrün	
7	123C	light blue green		hellblaugrün	
7	123D	light blue green		hellblaugrün	
3	124A	green		grün	
8	124B	blue green		blaugrün	
7	124C	light blue green		hellblaugrün	
7	124D	light blue green		hellblaugrün	
3	125A	green		grün	
3	125B	green		grün	
8	125C	blue green		blaugrün	
8	125D	blue green		blaugrün	
6	126A	grey green		graugrün	
6	126B	grey green		graugrün	
6	126C	grey green		graugrün	
8	126D	blue green		blaugrün	
6	127A	grey green		graugrün	
3	127B	green		grün	
3	127C	green		grün	
8	127D	blue green		blaugrün	
3	128A	green		grün	
8	128B	blue green		blaugrün	
8	128C	blue green		blaugrün	
8	128D	blue green		blaugrün	
3	129A	green		grün	

UPOV Group No.	RHS No.	English	français	deutsch	español
8	129B	blue green		blaugrün	
8	129C	blue green		blaugrün	
8	129D	blue green		blaugrün	
3	130A	green		grün	
3	130B	green		grün	
8	130C	blue green		blaugrün	
8	130D	blue green		blaugrün	
4	131A	dark green		dunkelgrün	
4	131B	dark green		dunkelgrün	
4	131C	dark green		dunkelgrün	
3	131D	green		grün	
4	132A	dark green		dunkelgrün	
4	132B	dark green		dunkelgrün	
3	132C	green		grün	
3	132D	green		grün	
4	133A	dark green		dunkelgrün	
6	133B	grey green		graugrün	
6	133C	grey green		graugrün	
6	133D	grey green		graugrün	
3	134A	green		grün	
3	134B	green		grün	
3	134C	green		grün	
2	134D	light green		hellgrün	
4	N 134A	dark green		dunkelgrün	
4	N 134B	dark green		dunkelgrün	
3	N 134C	green		grün	
3	N 134D	green		grün	
4	135A	dark green		dunkelgrün	
4	135B	dark green		dunkelgrün	
3	135C	green		grün	
2	135D	light green		hellgrün	
4	136A	dark green		dunkelgrün	
4	136B	dark green		dunkelgrün	
9	136C	brown green		braungrün	
2	136D	light green		hellgrün	
4	137A	dark green		dunkelgrün	
9	137B	brown green		braungrün	
9	137C	brown green		braungrün	
9	137D	brown green		braungrün	
9	138A	brown green		braungrün	
9	138B	brown green		braungrün	
2	138C	light green		hellgrün	
2	138D	light green		hellgrün	
4	N 138A	dark green		dunkelgrün	
9	N 138B	brown green		braungrün	
9	N 138C	brown green		braungrün	
9	N 138D	brown green		braungrün	
4	139A	dark green		dunkelgrün	
9	139B	brown green		braungrün	

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9	139C	brown green		braungrün	
2	139D	light green		hellgrün	
3	140A	green		grün	
3	140B	green		grün	
2	140C	light green		hellgrün	
2	140D	light green		hellgrün	
4	141A	dark green		dunkelgrün	
4	141B	dark green		dunkelgrün	
4	141C	dark green		dunkelgrün	
2	141D	light green		hellgrün	
3	142A	green		grün	
2	142B	light green		hellgrün	
2	142C	light green		hellgrün	
2	142D	light green		hellgrün	
4	143A	dark green		dunkelgrün	
4	143B	dark green		dunkelgrün	
4	143C	dark green		dunkelgrün	
2	143D	light green		hellgrün	
4	144A	dark green		dunkelgrün	
2	144B	light green		hellgrün	
2	144C	light green		hellgrün	
2	144D	light green		hellgrün	
2	N 144A	light green		hellgrün	
2	N 144B	light green		hellgrün	
2	N 144C	light green		hellgrün	
2	N 144D	light green		hellgrün	
2	145A	light green		hellgrün	
2	145B	light green		hellgrün	
2	145C	light green		hellgrün	
2	145D	light green		hellgrün	
9	146A	brown green		braungrün	
9	146B	brown green		braungrün	
9	146C	brown green		braungrün	
9	146D	brown green		braungrün	
4	147A	dark green		dunkelgrün	
9	147B	brown green		braungrün	
9	147C	brown green		braungrün	
9	147D	brown green		braungrün	
9	148A	brown green		braungrün	
9	148B	brown green		braungrün	
9	148C	brown green		braungrün	
9	148D	brown green		braungrün	
5	149A	yellow green		gelbgrün	
2	149B	light green		hellgrün	
2	149C	light green		hellgrün	
2	149D	light green		hellgrün	
5	150A	yellow green		gelbgrün	
5	150B	yellow green		gelbgrün	
5	150C	yellow green		gelbgrün	

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5	150D	yellow green		gelbgrün	
47	151A	green brown		grünbraun	
47	151B	green brown		grünbraun	
47	151C	green brown		grünbraun	
47	151D	green brown		grünbraun	
47	152A	green brown		grünbraun	
47	152B	green brown		grünbraun	
47	152C	green brown		grünbraun	
47	152D	green brown		grünbraun	
47	153A	green brown		grünbraun	
47	153B	green brown		grünbraun	
47	153C	green brown		grünbraun	
47	153D	green brown		grünbraun	
5	154A	yellow green		gelbgrün	
5	154B	yellow green		gelbgrün	
5	154C	yellow green		gelbgrün	
5	154D	yellow green		gelbgrün	
1	155A	white		weiss	
1	155B	white		weiss	
1	155C	white		weiss	
1	155D	white		weiss	
1	N 155A	white		weiss	
1	N 155B	white		weiss	
1	N 155C	white		weiss	
1	N 155D	white		weiss	
48	156A	grey		grau	
48	156B	grey		grau	
48	156C	grey		grau	
48	156D	grey		grau	
48	157A	grey		grau	
48	157B	grey		grau	
48	157C	grey		grau	
1	157D	white		weiss	
43	158A	light yellow brown		hellgelbbraun	
43	158B	light yellow brown		hellgelbbraun	
43	158C	light yellow brown		hellgelbbraun	
43	158D	light yellow brown		hellgelbbraun	
43	159A	light yellow brown		hellgelbbraun	
43	159B	light yellow brown		hellgelbbraun	
43	159C	light yellow brown		hellgelbbraun	
43	159D	light yellow brown		hellgelbbraun	
43	160A	light yellow brown		hellgelbbraun	
43	160B	light yellow brown		hellgelbbraun	
43	160C	light yellow brown		hellgelbbraun	
43	160D	light yellow brown		hellgelbbraun	
43	161A	light yellow brown		hellgelbbraun	
43	161B	light yellow brown		hellgelbbraun	
43	161C	light yellow brown		hellgelbbraun	
43	161D	light yellow brown		hellgelbbraun	

UPOV Group No.	RHS No.	English	français	deutsch	español
43	162A	light yellow brown		hellgelbbraun	
43	162B	light yellow brown		hellgelbbraun	
43	162C	light yellow brown		hellgelbbraun	
43	162D	light yellow brown		hellgelbbraun	
44	163A	yellow brown		gelbbraun	
43	163B	light yellow brown		hellgelbbraun	
43	163C	light yellow brown		hellgelbbraun	
43	163D	light yellow brown		hellgelbbraun	
45	N 163A	orange brown		orangebraun	
45	N 163B	orange brown		orangebraun	
44	N 163C	yellow brown		gelbbraun	
44	N 163D	yellow brown		gelbbraun	
44	164A	yellow brown		gelbbraun	
44	164B	yellow brown		gelbbraun	
44	164C	yellow brown		gelbbraun	
43	164D	light yellow brown		hellgelbbraun	
41	165A	brown		braun	
44	165B	yellow brown		gelbbraun	
44	165C	yellow brown		gelbbraun	
43	165D	light yellow brown		hellgelbbraun	
41	166A	brown		braun	
41	166B	brown		braun	
40	166C	light brown		hellbraun	
40	166D	light brown		hellbraun	
44	167A	yellow brown		gelbbraun	
44	167B	yellow brown		gelbbraun	
44	167C	yellow brown		gelbbraun	
44	167D	yellow brown		gelbbraun	
44	N 167A	yellow brown		gelbbraun	
44	N 167B	yellow brown		gelbbraun	
44	N 167C	yellow brown		gelbbraun	
44	N 167D	yellow brown		gelbbraun	
45	168A	orange brown		orangebraun	
45	168B	orange brown		orangebraun	
44	168C	yellow brown		gelbbraun	
44	168D	yellow brown		gelbbraun	
45	169A	orange brown		orangebraun	
45	169B	orange brown		orangebraun	
45	169C	orange brown		orangebraun	
45	169D	orange brown		orangebraun	
40	N 170A	light brown		hellbraun	
40	N 170B	light brown		hellbraun	
40	N 170C	light brown		hellbraun	
45	N 170D	orange brown		orangebraun	
45	170A	orange brown		orangebraun	
45	170B	orange brown		orangebraun	
45	170C	orange brown		orangebraun	
45	170D	orange brown		orangebraun	
41	171A	brown		braun	

UPOV Group No.	RHS No.	English	français	deutsch	español
45	171B	orange brown		orangebraun	
45	171C	orange brown		orangebraun	
45	171D	orange brown		orangebraun	
41	172A	brown		braun	
41	172B	brown		braun	
45	172C	orange brown		orangebraun	
45	172D	orange brown		orangebraun	
45	N 172A	orange brown		orangebraun	
45	N 172B	orange brown		orangebraun	
45	N 172C	orange brown		orangebraun	
44	N 172D	yellow brown		gelbbraun	
41	173A	brown		braun	
45	173B	orange brown		orangebraun	
40	173C	light brown		hellbraun	
40	173D	light brown		hellbraun	
41	174A	brown		braun	
40	174B	light brown		hellbraun	
40	174C	light brown		hellbraun	
40	174D	light brown		hellbraun	
41	175A	brown		braun	
41	175B	brown		braun	
41	175C	brown		braun	
41	175D	brown		braun	
41	176A	brown		braun	
41	176B	brown		braun	
41	176C	brown		braun	
40	176D	light brown		hellbraun	
41	177A	brown		braun	
41	177B	brown		braun	
40	177C	light brown		hellbraun	
40	177D	light brown		hellbraun	
26	178A	brown purple		braunpurpur	
26	178B	brown purple		braunpurpur	
25	178C	brown red		braunrot	
25	178D	brown red		braunrot	
25	179A	brown red		braunrot	
25	179B	brown red		braunrot	
45	179C	orange brown		orangebraun	
15	179D	orange pink		orangerosa	
25	180A	brown red		braunrot	
25	180B	brown red		braunrot	
25	180C	brown red		braunrot	
25	180D	brown red		braunrot	
25	181A	brown red		braunrot	
25	181B	brown red		braunrot	
25	181C	brown red		braunrot	
25	181D	brown red		braunrot	
25	182A	brown red		braunrot	
25	182B	brown red		braunrot	

UPOV Group No.	RHS No.	English	français	deutsch	español
25	182C	brown red		braunrot	
25	182D	brown red		braunrot	
26	183A	brown purple		braunpurpur	
26	183B	brown purple		braunpurpur	
26	183C	brown purple		braunpurpur	
26	183D	brown purple		braunpurpur	
26	184A	brown purple		braunpurpur	
26	184B	brown purple		braunpurpur	
26	184C	brown purple		braunpurpur	
26	184D	brown purple		braunpurpur	
24	185A	dark purple red		dunkelpurpurrot	
26	185B	brown purple		braunpurpur	
26	185C	brown purple		braunpurpur	
26	185D	brown purple		braunpurpur	
26	186A	brown purple		braunpurpur	
26	186B	brown purple		braunpurpur	
19	186C	blue pink		blaurosa	
19	186D	blue pink		blaurosa	
50	N 186A	black		schwarz	
50	N 186B	black		schwarz	
42	N 186C	dark brown		dunkelbraun	
24	N 186D	dark purple red		dunkelpurpurrot	
26	187A	brown purple		braunpurpur	
24	187B	dark purple red		dunkelpurpurrot	
24	187C	dark purple red		dunkelpurpurrot	
24	187D	dark purple red		dunkelpurpurrot	
50	N 187A	black		schwarz	
48	N 187B	grey		grau	
48	N 187C	grey		grau	
48	N 187D	grey		grau	
49	188A	green grey		grüngrau	
49	188B	green grey		grüngrau	
49	188C	green grey		grüngrau	
49	188D	green grey		grüngrau	
9	189A	brown green		braungrün	
49	189B	green grey		grüngrau	
49	189C	green grey		grüngrau	
49	189D	green grey		grüngrau	
49	N 189A	green grey		grüngrau	
49	N 189B	green grey		grüngrau	
49	N 189C	green grey		grüngrau	
49	N 189D	green grey		grüngrau	
49	190A	green grey		grüngrau	
49	190B	green grey		grüngrau	
49	190C	green grey		grüngrau	
49	190D	green grey		grüngrau	
9	191A	brown green		braungrün	
9	191B	brown green		braungrün	
49	191C	green grey		grüngrau	

UPOV Group No.	RHS No.	English	français	deutsch	español
49	191D	green grey		grüngrau	
49	192A	green grey		grüngrau	
49	192B	green grey		grüngrau	
49	192C	green grey		grüngrau	
49	192D	green grey		grüngrau	
9	193A	brown green		braungrün	
9	193B	brown green		braungrün	
49	193C	green grey		grüngrau	
49	193D	green grey		grüngrau	
9	194A	brown green		braungrün	
9	194B	brown green		braungrün	
9	194C	brown green		braungrün	
48	194D	grey		grau	
48	195A	grey		grau	
48	195B	grey		grau	
48	195C	grey		grau	
48	195D	grey		grau	
48	196A	grey		grau	
48	196B	grey		grau	
48	196C	grey		grau	
48	196D	grey		grau	
48	197A	grey		grau	
48	197B	grey		grau	
48	197C	grey		grau	
48	197D	grey		grau	
48	198A	grey		grau	
48	198B	grey		grau	
48	198C	grey		grau	
48	198D	grey		grau	
46	199A	grey brown		graubraun	
46	199B	grey brown		graubraun	
46	199C	grey brown		graubraun	
46	199D	grey brown		graubraun	
46	N 199A	grey brown		graubraun	
42	N 199B	dark brown		dunkelbraun	
46	N 199C	grey brown		graubraun	
46	N 199D	grey brown		graubraun	
42	200A	dark brown		dunkelbraun	
42	200B	dark brown		dunkelbraun	
42	200C	dark brown		dunkelbraun	
41	200D	brown		braun	
42	N 200A	dark brown		dunkelbraun	
48	N 200B	grey		grau	
48	N 200C	grey		grau	
48	N 200D	grey		grau	
48	201A	grey		grau	
48	201B	grey		grau	
48	201C	grey		grau	
48	201D	grey		grau	

UPOV Group No.	RHS No.	English	français	deutsch	español
50	202A	black		schwarz	
48	202B	grey		grau	
48	202C	grey		grau	
48	202D	grey		grau	

[Appendix II follows]

APPENDIX I TO ANNEX I

Appendix II:
RHS Colors contained in each UPOV Color Group

**UPOV COLOR GROUPS ACCORDING TO RHS COLOUR CHART REFERENCE
(1986, 1995 AND 2001 EDITIONS)**

UPOV Group No.	RHS No.	English	français	deutsch	español
1	155A	white		weiss	
1	155B	white		weiss	
1	155C	white		weiss	
1	155D	white		weiss	
1	N 155A	white		weiss	
1	N 155B	white		weiss	
1	N 155C	white		weiss	
1	N 155D	white		weiss	
1	157D	white		weiss	
2	134D	light green		hellgrün	
2	135D	light green		hellgrün	
2	136D	light green		hellgrün	
2	138C	light green		hellgrün	
2	138D	light green		hellgrün	
2	139D	light green		hellgrün	
2	140C	light green		hellgrün	
2	140D	light green		hellgrün	
2	141D	light green		hellgrün	
2	142B	light green		hellgrün	
2	142C	light green		hellgrün	
2	142D	light green		hellgrün	
2	143D	light green		hellgrün	
2	144B	light green		hellgrün	
2	144C	light green		hellgrün	
2	144D	light green		hellgrün	
2	N 144A	light green		hellgrün	
2	N 144B	light green		hellgrün	
2	N 144C	light green		hellgrün	
2	N 144D	light green		hellgrün	
2	145A	light green		hellgrün	
2	145B	light green		hellgrün	
2	145C	light green		hellgrün	
2	145D	light green		hellgrün	
2	149B	light green		hellgrün	
2	149C	light green		hellgrün	
2	149D	light green		hellgrün	
3	124A	green		grün	
3	125A	green		grün	
3	125B	green		grün	
3	127B	green		grün	
3	127C	green		grün	
3	128A	green		grün	

UPOV Group No.	RHS No.	English	français	deutsch	español
3	129A	green		grün	
3	130A	green		grün	
3	130B	green		grün	
3	131D	green		grün	
3	132C	green		grün	
3	132D	green		grün	
3	134A	green		grün	
3	134B	green		grün	
3	134C	green		grün	
3	N 134C	green		grün	
3	N 134D	green		grün	
3	135C	green		grün	
3	140A	green		grün	
3	140B	green		grün	
3	142A	green		grün	
4	131A	dark green		dunkelgrün	
4	131B	dark green		dunkelgrün	
4	131C	dark green		dunkelgrün	
4	132A	dark green		dunkelgrün	
4	132B	dark green		dunkelgrün	
4	133A	dark green		dunkelgrün	
4	N 134A	dark green		dunkelgrün	
4	N 134B	dark green		dunekgrün	
4	135A	dark green		dunkelgrün	
4	135B	dark green		dunkelgrün	
4	136A	dark green		dunkelgrün	
4	136B	dark green		dunkelgrün	
4	137A	dark green		dunkelgrün	
4	N 138A	dark green		dunkelgrün	
4	139A	dark green		dunkelgrün	
4	141A	dark green		dunkelgrün	
4	141B	dark green		dunkelgrün	
4	141C	dark green		dunkelgrün	
4	143A	dark green		dunkelgrün	
4	143B	dark green		dunkelgrün	
4	143C	dark green		dunkelgrün	
4	144A	dark green		dunkelgrün	
4	147A	dark green		dunkelgrün	
5	001B	yellow green		gelbgrün	
5	001C	yellow green		gelbgrün	
5	001D	yellow green		gelbgrün	
5	002C	yellow green		gelbgrün	
5	002D	yellow green		gelbgrün	
5	003D	yellow green		gelbgrün	
5	004C	yellow green		gelbgrün	
5	149A	yellow green		gelbgrün	
5	150A	yellow green		gelbgrün	
5	150B	yellow green		gelbgrün	
5	150C	yellow green		gelbgrün	
5	150D	yellow green		gelbgrün	

UPOV Group No.	RHS No.	English	français	deutsch	español
5	154A	yellow green		gelbgrün	
5	154B	yellow green		gelbgrün	
5	154C	yellow green		gelbgrün	
5	154D	yellow green		gelbgrün	
6	126A	grey green		graugrün	
6	126B	grey green		graugrün	
6	126C	grey green		graugrün	
6	127A	grey green		graugrün	
6	133B	grey green		graugrün	
6	133C	grey green		graugrün	
6	133D	grey green		graugrün	
7	120A	light blue green		hellblaugrün	
7	120B	light blue green		hellblaugrün	
7	120C	light blue green		hellblaugrün	
7	121B	light blue green		hellblaugrün	
7	123A	light blue green		hellblaugrün	
7	123B	light blue green		hellblaugrün	
7	123C	light blue green		hellblaugrün	
7	123D	light blue green		hellblaugrün	
7	124C	light blue green		hellblaugrün	
7	124D	light blue green		hellblaugrün	
8	124B	blue green		blaugrün	
8	125C	blue green		blaugrün	
8	125D	blue green		blaugrün	
8	126D	blue green		blaugrün	
8	127D	blue green		blaugrün	
8	128B	blue green		blaugrün	
8	128C	blue green		blaugrün	
8	128D	blue green		blaugrün	
8	129B	blue green		blaugrün	
8	129C	blue green		blaugrün	
8	129D	blue green		blaugrün	
8	130C	blue green		blaugrün	
8	130D	blue green		blaugrün	
9	136C	brown green		braungrün	
9	137B	brown green		braungrün	
9	137C	brown green		braungrün	
9	137D	brown green		braungrün	
9	138A	brown green		braungrün	
9	138B	brown green		braungrün	
9	N 138B	brown green		braungrün	
9	N 138C	brown green		braungrün	
9	N 138D	brown green		braungrün	
9	139B	brown green		braungrün	
9	139C	brown green		braungrün	
9	146A	brown green		braungrün	
9	146B	brown green		braungrün	
9	146C	brown green		braungrün	
9	146D	brown green		braungrün	
9	147B	brown green		braungrün	

UPOV Group No.	RHS No.	English	français	deutsch	español
9	147C	brown green		braungrün	
9	147D	brown green		braungrün	
9	148A	brown green		braungrün	
9	148B	brown green		braungrün	
9	148C	brown green		braungrün	
9	148D	brown green		braungrün	
9	189A	brown green		braungrün	
9	191A	brown green		braungrün	
9	191B	brown green		braungrün	
9	193A	brown green		braungrün	
9	193B	brown green		braungrün	
9	194A	brown green		braungrün	
9	194B	brown green		braungrün	
9	194C	brown green		braungrün	
10	004D	light yellow		hellgelb	
10	005D	light yellow		hellgelb	
10	006D	light yellow		hellgelb	
10	008B	light yellow		hellgelb	
10	008C	light yellow		hellgelb	
10	008D	light yellow		hellgelb	
10	009C	light yellow		hellgelb	
10	009D	light yellow		hellgelb	
10	010A	light yellow		hellgelb	
10	010B	light yellow		hellgelb	
10	010C	light yellow		hellgelb	
10	010D	light yellow		hellgelb	
10	011B	light yellow		hellgelb	
10	011C	light yellow		hellgelb	
10	012C	light yellow		hellgelb	
10	012D	light yellow		hellgelb	
10	013D	light yellow		hellgelb	
10	014D	light yellow		hellgelb	
10	015D	light yellow		hellgelb	
10	016D	light yellow		hellgelb	
11	001A	yellow		gelb	
11	002A	yellow		gelb	
11	002B	yellow		gelb	
11	003A	yellow		gelb	
11	003B	yellow		gelb	
11	003C	yellow		gelb	
11	004A	yellow		gelb	
11	004B	yellow		gelb	
11	005A	yellow		gelb	
11	005B	yellow		gelb	
11	005C	yellow		gelb	
11	006A	yellow		gelb	
11	006B	yellow		gelb	
11	006C	yellow		gelb	
11	007A	yellow		gelb	
11	007B	yellow		gelb	

UPOV Group No.	RHS No.	English	français	deutsch	español
11	007C	yellow		gelb	
11	007D	yellow		gelb	
11	008A	yellow		gelb	
11	009A	yellow		gelb	
11	009B	yellow		gelb	
11	012A	yellow		gelb	
11	012B	yellow		gelb	
12	011D	light yellow orange		hellgelborange	
12	018B	light yellow orange		hellgelborange	
12	018C	light yellow orange		hellgelborange	
12	018D	light yellow orange		hellgelborange	
12	019B	light yellow orange		hellgelborange	
12	019C	light yellow orange		hellgelborange	
12	019D	light yellow orange		hellgelborange	
12	020C	light yellow orange		hellgelborange	
12	020D	light yellow orange		hellgelborange	
12	021D	light yellow orange		hellgelborange	
12	022B	light yellow orange		hellgelborange	
12	022C	light yellow orange		hellgelborange	
12	022D	light yellow orange		hellgelborange	
12	023C	light yellow orange		hellgelborange	
12	023D	light yellow orange		hellgelborange	
13	011A	yellow orange		gelborange	
13	013A	yellow orange		gelborange	
13	013B	yellow orange		gelborange	
13	013C	yellow orange		gelborange	
13	014A	yellow orange		gelborange	
13	014B	yellow orange		gelborange	
13	014C	yellow orange		gelborange	
13	015A	yellow orange		gelborange	
13	015B	yellow orange		gelborange	
13	015C	yellow orange		gelborange	
13	016A	yellow orange		gelborange	
13	016B	yellow orange		gelborange	
13	016C	yellow orange		gelborange	
13	017A	yellow orange		gelborange	
13	017B	yellow orange		gelborange	
13	017C	yellow orange		gelborange	
13	017D	yellow orange		gelborange	
13	018A	yellow orange		gelborange	
13	019A	yellow orange		gelborange	
13	020A	yellow orange		gelborange	
13	020B	yellow orange		gelborange	
13	021A	yellow orange		gelborange	
13	021B	yellow orange		gelborange	
13	021C	yellow orange		gelborange	
13	022A	yellow orange		gelborange	
13	023A	yellow orange		gelborange	
13	023B	yellow orange		gelborange	
13	N 025D	yellow orange		gelborange	

UPOV Group No.	RHS No.	English	français	deutsch	español
14	024A	orange		orange	
14	024B	orange		orange	
14	024C	orange		orange	
14	024D	orange		orange	
14	025A	orange		orange	
14	025B	orange		orange	
14	025C	orange		orange	
14	025D	orange		orange	
14	N 025B	orange		orange	
14	N 025C	orange		orange	
14	026A	orange		orange	
14	026B	orange		orange	
14	026C	orange		orange	
14	026D	orange		orange	
14	028B	orange		orange	
14	028C	orange		orange	
14	028D	orange		orange	
14	029A	orange		orange	
14	029B	orange		orange	
14	030D	orange		orange	
14	N 030D	orange		orange	
15	027A	orange pink		orangerosa	
15	027B	orange pink		orangerosa	
15	027C	orange pink		orangerosa	
15	027D	orange pink		orangerosa	
15	029C	orange pink		orangerosa	
15	029D	orange pink		orangerosa	
15	031D	orange pink		orangerosa	
15	032D	orange pink		orangerosa	
15	033D	orange pink		orangerosa	
15	035C	orange pink		orangerosa	
15	037A	orange pink		orangerosa	
15	037B	orange pink		orangerosa	
15	179D	orange pink		orangerosa	
16	035D	light red pink		hellrotrosa	
16	036A	light red pink		hellrotrosa	
16	036B	light red pink		hellrotrosa	
16	036C	light red pink		hellrotrosa	
16	036D	light red pink		hellrotrosa	
16	037C	light red pink		hellrotrosa	
16	037D	light red pink		hellrotrosa	
16	038A	light red pink		hellrotrosa	
16	038B	light red pink		hellrotrosa	
16	038C	light red pink		hellrotrosa	
16	038D	light red pink		hellrotrosa	
16	039C	light red pink		hellrotrosa	
16	039D	light red pink		hellrotrosa	
16	041D	light red pink		hellrotrosa	
16	049B	light red pink		hellrotrosa	
16	049C	light red pink		hellrotrosa	

UPOV Group No.	RHS No.	English	français	deutsch	español
16	049D	light red pink		hellrotrosa	
16	050D	light red pink		hellrotrosa	
17	043C	red pink		rotrosa	
17	043D	red pink		rotrosa	
17	047D	red pink		rotrosa	
17	048B	red pink		rotrosa	
17	048C	red pink		rotrosa	
17	048D	red pink		rotrosa	
17	049A	red pink		rotrosa	
17	050C	red pink		rotrosa	
17	051C	red pink		rotrosa	
17	051D	red pink		rotrosa	
17	052B	red pink		rotrosa	
17	052C	red pink		rotrosa	
17	052D	red pink		rotrosa	
18	054D	light blue pink		hellblaurosa	
18	055C	light blue pink		hellblaurosa	
18	055D	light blue pink		hellblaurosa	
18	056A	light blue pink		hellblaurosa	
18	056B	light blue pink		hellblaurosa	
18	056C	light blue pink		hellblaurosa	
18	056D	light blue pink		hellblaurosa	
18	062B	light blue pink		hellblaurosa	
18	062C	light blue pink		hellblaurosa	
18	062D	light blue pink		hellblaurosa	
18	063D	light blue pink		hellblaurosa	
18	065B	light blue pink		hellblaurosa	
18	065C	light blue pink		hellblaurosa	
18	065D	light blue pink		hellblaurosa	
18	068D	light blue pink		hellblaurosa	
18	069A	light blue pink		hellblaurosa	
18	069B	light blue pink		hellblaurosa	
18	070D	light blue pink		hellblaurosa	
18	073C	light blue pink		hellblaurosa	
18	073D	light blue pink		hellblaurosa	
19	062A	blue pink		blaurosa	
19	063B	blue pink		blaurosa	
19	063C	blue pink		blaurosa	
19	064C	blue pink		blaurosa	
19	064D	blue pink		blaurosa	
19	065A	blue pink		blaurosa	
19	066C	blue pink		blaurosa	
19	066D	blue pink		blaurosa	
19	N 066C	blue pink		blaurosa	
19	N 066D	blue pink		blaurosa	
19	067B	blue pink		blaurosa	
19	067C	blue pink		blaurosa	
19	067D	blue pink		blaurosa	
19	068A	blue pink		blaurosa	
19	068B	blue pink		blaurosa	

UPOV Group No.	RHS No.	English	français	deutsch	español
19	068C	blue pink		blaurosa	
19	070C	blue pink		blaurosa	
19	071D	blue pink		blaurosa	
19	072C	blue pink		blaurosa	
19	072D	blue pink		blaurosa	
19	073A	blue pink		blaurosa	
19	073B	blue pink		blaurosa	
19	074D	blue pink		blaurosa	
19	N 074C	blue pink		blaurosa	
19	N 074D	blue pink		blaurosa	
19	186C	blue pink		blaurosa	
19	186D	blue pink		blaurosa	
20	N 025A	orange red		orangerot	
20	028A	orange red		orangerot	
20	030A	orange red		orangerot	
20	030B	orange red		orangerot	
20	030C	orange red		orangerot	
20	N 030B	orange red		orangerot	
20	N 030C	orange red		orangerot	
20	031A	orange red		orangerot	
20	032A	orange red		orangerot	
20	032B	orange red		orangerot	
20	033B	orange red		orangerot	
20	035B	orange red		orangerot	
20	039A	orange red		orangerot	
20	039B	orange red		orangerot	
20	040C	orange red		orangerot	
20	040D	orange red		orangerot	
20	041B	orange red		orangerot	
20	041C	orange red		orangerot	
20	042D	orange red		orangerot	
20	044D	orange red		orangerot	
21	N 030A	red		rot	
21	033A	red		rot	
21	034A	red		rot	
21	N 034B	red		rot	
21	040A	red		rot	
21	040B	red		rot	
21	041A	red		rot	
21	042A	red		rot	
21	042B	red		rot	
21	042C	red		rot	
21	043A	red		rot	
21	043B	red		rot	
21	044A	red		rot	
21	044B	red		rot	
21	044C	red		rot	
21	045A	red		rot	
21	045B	red		rot	
21	045C	red		rot	

UPOV Group No.	RHS No.	English	français	deutsch	español
21	046B	red		rot	
21	046C	red		rot	
21	047A	red		rot	
21	047B	red		rot	
21	050A	red		rot	
22	N 034C	dark pink red		dunkelrosarot	
22	045D	dark pink red		dunkelrosarot	
22	046D	dark pink red		dunkelrosarot	
22	047C	dark pink red		dunkelrosarot	
22	048A	dark pink red		dunkelrosarot	
22	050B	dark pink red		dunkelrosarot	
22	051A	dark pink red		dunkelrosarot	
22	051B	dark pink red		dunkelrosarot	
22	052A	dark pink red		dunkelrosarot	
22	053C	dark pink red		dunkelrosarot	
22	053D	dark pink red		dunkelrosarot	
23	054A	purple red		purpurrot	
23	054B	purple red		purpurrot	
23	054C	purple red		purpurrot	
23	055A	purple red		purpurrot	
23	055B	purple red		purpurrot	
23	057A	purple red		purpurrot	
23	057B	purple red		purpurrot	
23	057C	purple red		purpurrot	
23	057D	purple red		purpurrot	
23	N 057A	purple red		purpurrot	
23	N 057B	purple red		purpurrot	
23	N 057C	purple red		purpurrot	
23	N 057D	purple red		purpurrot	
23	058B	purple red		purpurrot	
23	058C	purple red		purpurrot	
23	058D	purple red		purpurrot	
23	059D	purple red		purpurrot	
23	060D	purple red		purpurrot	
23	061C	purple red		purpurrot	
23	061D	purple red		purpurrot	
23	063A	purple red		purpurrot	
23	066A	purple red		purpurrot	
23	066B	purple red		purpurrot	
23	N 066A	purple red		purpurrot	
23	N 066B	purple red		purpurrot	
24	N 034A	dark purple red		dunkelpurpurrot	
24	046A	dark purple red		dunkelpurpurrot	
24	053A	dark purple red		dunkelpurpurrot	
24	053B	dark purple red		dunkelpurpurrot	
24	059A	dark purple red		dunkelpurpurrot	
24	059B	dark purple red		dunkelpurpurrot	
24	060A	dark purple red		dunkelpurpurrot	
24	060B	dark purple red		dunkelpurpurrot	
24	185A	dark purple red		dunkelpurpurrot	

UPOV Group No.	RHS No.	English	français	deutsch	español
24	N 186D	dark purple red		dunkelpurpurrot	
24	187B	dark purple red		dunkelpurpurrot	
24	187C	dark purple red		dunkelpurpurrot	
24	187D	dark purple red		dunkelpurpurrot	
25	178C	brown red		braunrot	
25	178D	brown red		braunrot	
25	179A	brown red		braunrot	
25	179B	brown red		braunrot	
25	180A	brown red		braunrot	
25	180B	brown red		braunrot	
25	180C	brown red		braunrot	
25	180D	brown red		braunrot	
25	181A	brown red		braunrot	
25	181B	brown red		braunrot	
25	181C	brown red		braunrot	
25	181D	brown red		braunrot	
25	182A	brown red		braunrot	
25	182B	brown red		braunrot	
25	182C	brown red		braunrot	
25	182D	brown red		braunrot	
26	N 077A	brown purple		braunpurpur	
26	178A	brown purple		braunpurpur	
26	178B	brown purple		braunpurpur	
26	183A	brown purple		braunpurpur	
26	183B	brown purple		braunpurpur	
26	183C	brown purple		braunpurpur	
26	183D	brown purple		braunpurpur	
26	184A	brown purple		braunpurpur	
26	184B	brown purple		braunpurpur	
26	184C	brown purple		braunpurpur	
26	184D	brown purple		braunpurpur	
26	185B	brown purple		braunpurpur	
26	185C	brown purple		braunpurpur	
26	185D	brown purple		braunpurpur	
26	186A	brown purple		braunpurpur	
26	186B	brown purple		braunpurpur	
26	187A	brown purple		braunpurpur	
27	058A	purple		purpur	
27	059C	purple		purpur	
27	060C	purple		purpur	
27	061A	purple		purpur	
27	061B	purple		purpur	
27	064A	purple		purpur	
27	064B	purple		purpur	
27	067A	purple		purpur	
27	070A	purple		purpur	
27	070B	purple		purpur	
27	071A	purple		purpur	
27	071B	purple		purpur	
27	071C	purple		purpur	

UPOV Group No.	RHS No.	English	français	deutsch	español
27	072A	purple		purpur	
27	072B	purple		purpur	
27	074A	purple		purpur	
27	074B	purple		purpur	
27	074C	purple		purpur	
27	N 074A	purple		purpur	
27	N 074B	purple		purpur	
27	N 079C	purple		purpur	
28	N 082A	violet		violett	
28	N 082B	violet		violett	
28	N 082C	violet		violett	
28	N 082D	violet		violett	
28	075A	violet		violett	
28	075B	violet		violett	
28	075C	violet		violett	
28	075D	violet		violett	
28	077A	violet		violett	
28	077B	violet		violett	
28	077C	violet		violett	
28	077D	violet		violett	
28	N 077B	violet		violett	
28	N 077D	violet		violett	
28	078A	violet		violett	
28	078B	violet		violett	
28	078C	violet		violett	
28	078D	violet		violett	
28	N 078A	violet		violett	
28	N 078B	violet		violett	
28	N 078C	violet		violett	
28	N 078D	violet		violett	
28	N 079D	violet		violett	
28	080A	violet		violett	
28	080B	violet		violett	
28	080C	violet		violett	
28	080D	violet		violett	
28	N 080A	violet		violett	
28	N 080B	violet		violett	
28	N 080C	violet		violett	
28	N 080D	violet		violett	
28	081A	violet		violett	
28	081B	violet		violett	
28	081C	violet		violett	
28	081D	violet		violett	
28	N 081A	violet		violett	
28	N 081B	violet		violett	
28	N 081C	violet		violett	
28	N 081D	violet		violett	
28	082A	violet		violett	
28	082B	violet		violett	
28	082C	violet		violett	

UPOV Group No.	RHS No.	English	français	deutsch	español
28	082D	violet		violett	
28	084A	violet		violett	
28	084B	violet		violett	
28	087A	violet		violett	
28	087B	violet		violett	
28	087C	violet		violett	
28	087D	violet		violett	
28	N 087A	violet		violett	
28	N 087B	violet		violett	
28	N 087C	violet		violett	
28	N 087D	violet		violett	
28	088D	violet		violett	
29	N 077C	dark violet		dunkelviolet	
29	079A	dark violet		dunkelviolet	
29	079B	dark violet		dunkelviolet	
29	079C	dark violet		dunkelviolet	
29	079D	dark violet		dunkelviolet	
29	N 079A	dark violet		dunkelviolet	
29	N 079B	dark violet		dunkelviolet	
29	083A	dark violet		dunkelviolet	
29	083B	dark violet		dunkelviolet	
29	086A	dark violet		dunkelviolet	
29	N 092A	dark violet		dunkelviolet	
30	069C	light blue violet		hellblauviolett	
30	069D	light blue violet		hellblauviolett	
30	076A	light blue violet		hellblauviolett	
30	076B	light blue violet		hellblauviolett	
30	076C	light blue violet		hellblauviolett	
30	076D	light blue violet		hellblauviolett	
30	084C	light blue violet		hellblauviolett	
30	084D	light blue violet		hellblauviolett	
30	085A	light blue violet		hellblauviolett	
30	085B	light blue violet		hellblauviolett	
30	085C	light blue violet		hellblauviolett	
30	085D	light blue violet		hellblauviolett	
31	083C	blue violet		blauviolett	
31	083D	blue violet		blauviolett	
31	086B	blue violet		blauviolett	
31	086C	blue violet		blauviolett	
31	086D	blue violet		blauviolett	
31	088A	blue violet		blauviolett	
31	088B	blue violet		blauviolett	
31	088C	blue violet		blauviolett	
31	N 088A	blue violet		blauviolett	
31	N 088B	blue violet		blauviolett	
31	N 088C	blue violet		blauviolett	
31	N 088D	blue violet		blauviolett	
31	089C	violet blue		blauviolett	
31	089D	violet blue		blauviolett	
31	N 089C	blue violet		blauviolett	

UPOV Group No.	RHS No.	English	français	deutsch	español
31	N 089D	blue violet		blauviolett	
31	090A	blue violet		blauviolett	
31	090B	blue violet		blauviolett	
31	090C	blue violet		blauviolett	
31	090D	blue violet		blauviolett	
31	N 092D	blue violet		blauviolett	
32	091B	light violet blue		hellviolettblau	
32	091C	light violet blue		hellviolettblau	
32	091D	light violet blue		hellviolettblau	
32	092B	light violet blue		hellviolettblau	
32	092C	light violet blue		hellviolettblau	
32	092D	light violet blue		hellviolettblau	
32	093D	light violet blue		hellviolettblau	
32	094D	light violet blue		hellviolettblau	
32	095D	light violet blue		hellviolettblau	
32	097B	light violet blue		hellviolettblau	
32	097C	light violet blue		hellviolettblau	
32	097D	light violet blue		hellviolettblau	
32	100D	light violet blue		hellviolettblau	
33	089A	violet blue		violettblau	
33	089B	violet blue		violettblau	
33	N 089A	violet blue		violettblau	
33	N 089B	violet blue		violettblau	
33	091A	violet blue		violettblau	
33	092A	violet blue		violettblau	
33	N 092B	violet blue		violettblau	
33	N 092C	violet blue		violettblau	
33	093A	violet blue		violettblau	
33	093B	violet blue		violettblau	
33	093C	violet blue		violettblau	
33	094A	violet blue		violettblau	
33	094B	violet blue		violettblau	
33	094C	violet blue		violettblau	
33	095A	violet blue		violettblau	
33	095B	violet blue		violettblau	
33	095C	violet blue		violettblau	
33	096A	violet blue		violettblau	
33	096B	violet blue		violettblau	
33	096C	violet blue		violettblau	
33	096D	violet blue		violettblau	
33	097A	violet blue		violettblau	
34	101D	light blue		hellblau	
34	104D	light blue		hellblau	
34	106B	light blue		hellblau	
34	106C	light blue		hellblau	
34	106D	light blue		hellblau	
34	107C	light blue		hellblau	
34	107D	light blue		hellblau	
34	108A	light blue		hellblau	
34	108B	light blue		hellblau	

UPOV Group No.	RHS No.	English	français	deutsch	español
34	108C	light blue		hellblau	
34	108D	light blue		hellblau	
34	109D	light blue		hellblau	
34	N 109D	light blue		hellblau	
34	112A	light blue		hellblau	
34	112B	light blue		hellblau	
35	098A	blue		blau	
35	098B	blue		blau	
35	098C	blue		blau	
35	098D	blue		blau	
35	099C	blue		blau	
35	099D	blue		blau	
35	100A	blue		blau	
35	100B	blue		blau	
35	100C	blue		blau	
35	101A	blue		blau	
35	101B	blue		blau	
35	101C	blue		blau	
35	102B	blue		blau	
35	102C	blue		blau	
35	102D	blue		blau	
35	103D	blue		blau	
35	104A	blue		blau	
35	104B	blue		blau	
35	104C	blue		blau	
35	105A	blue		blau	
35	105B	blue		blau	
35	105C	blue		blau	
35	105D	blue		blau	
35	106A	blue		blau	
35	107A	blue		blau	
35	107B	blue		blau	
35	109A	blue		blau	
35	109B	blue		blau	
35	109C	blue		blau	
35	N 109A	blue		blau	
35	N 109B	blue		blau	
35	N 109C	blue		blau	
35	110A	blue		blau	
35	110B	blue		blau	
36	099A	dark blue		dunkelblau	
36	099B	dark blue		dunkelblau	
36	102A	dark blue		dunkelblau	
36	103A	dark blue		dunkelblau	
36	103B	dark blue		dunkelblau	
36	103C	dark blue		dunkelblau	
37	110C	light green blue		hellgrünblau	
37	110D	light green blue		hellgrünblau	
37	111C	light green blue		hellgrünblau	
37	111D	light green blue		hellgrünblau	

UPOV Group No.	RHS No.	English	français	deutsch	español
37	112C	light green blue		hellgrünblau	
37	112D	light green blue		hellgrünblau	
37	113C	light green blue		hellgrünblau	
37	113D	light green blue		hellgrünblau	
37	117A	light green blue		hellgrünblau	
37	117B	light green blue		hellgrünblau	
37	117C	light green blue		hellgrünblau	
37	117D	light green blue		hellgrünblau	
37	118C	light green blue		hellgrünblau	
37	118D	light green blue		hellgrünblau	
37	119D	light green blue		hellgrünblau	
37	120D	light green blue		hellgrünblau	
37	121C	light green blue		hellgrünblau	
37	121D	light green blue		hellgrünblau	
37	122D	light green blue		hellgrünblau	
38	111A	green blue		grünblau	
38	111B	green blue		grünblau	
38	113A	green blue		grünblau	
38	113B	green blue		grünblau	
38	114A	green blue		grünblau	
38	114B	green blue		grünblau	
38	114C	green blue		grünblau	
38	114D	green blue		grünblau	
38	115A	green blue		grünblau	
38	115B	green blue		grünblau	
38	116A	green blue		grünblau	
38	116B	green blue		grünblau	
38	116C	green blue		grünblau	
38	116D	green blue		grünblau	
38	118A	green blue		grünblau	
38	118B	green blue		grünblau	
38	119A	green blue		grünblau	
38	121A	green blue		grünblau	
39	115C	grey blue		graublau	
39	115D	grey blue		graublau	
39	119B	grey blue		graublau	
39	119C	grey blue		graublau	
39	122A	grey blue		graublau	
39	122B	grey blue		graublau	
39	122C	grey blue		graublau	
40	166C	light brown		hellbraun	
40	166D	light brown		hellbraun	
40	N 170A	light brown		hellbraun	
40	N 170B	light brown		hellbraun	
40	N 170C	light brown		hellbraun	
40	173C	light brown		hellbraun	
40	173D	light brown		hellbraun	
40	174B	light brown		hellbraun	
40	174C	light brown		hellbraun	
40	174D	light brown		hellbraun	

UPOV Group No.	RHS No.	English	français	deutsch	español
40	176D	light brown		hellbraun	
40	177C	light brown		hellbraun	
40	177D	light brown		hellbraun	
41	165A	brown		braun	
41	166A	brown		braun	
41	166B	brown		braun	
41	171A	brown		braun	
41	172A	brown		braun	
41	172B	brown		braun	
41	173A	brown		braun	
41	174A	brown		braun	
41	175A	brown		braun	
41	175B	brown		braun	
41	175C	brown		braun	
41	175D	brown		braun	
41	176A	brown		braun	
41	176B	brown		braun	
41	176C	brown		braun	
41	177A	brown		braun	
41	177B	brown		braun	
41	200D	brown		braun	
42	N 186C	dark brown		dunkelbraun	
42	N 199B	dark brown		dunkelbraun	
42	200A	dark brown		dunkelbraun	
42	200B	dark brown		dunkelbraun	
42	200C	dark brown		dunkelbraun	
42	N 200A	dark brown		dunkelbraun	
43	158A	light yellow brown		hellgelbbraun	
43	158B	light yellow brown		hellgelbbraun	
43	158C	light yellow brown		hellgelbbraun	
43	158D	light yellow brown		hellgelbbraun	
43	159A	light yellow brown		hellgelbbraun	
43	159B	light yellow brown		hellgelbbraun	
43	159C	light yellow brown		hellgelbbraun	
43	159D	light yellow brown		hellgelbbraun	
43	160A	light yellow brown		hellgelbbraun	
43	160B	light yellow brown		hellgelbbraun	
43	160C	light yellow brown		hellgelbbraun	
43	160D	light yellow brown		hellgelbbraun	
43	161A	light yellow brown		hellgelbbraun	
43	161B	light yellow brown		hellgelbbraun	
43	161C	light yellow brown		hellgelbbraun	
43	161D	light yellow brown		hellgelbbraun	
43	162A	light yellow brown		hellgelbbraun	
43	162B	light yellow brown		hellgelbbraun	
43	162C	light yellow brown		hellgelbbraun	
43	162D	light yellow brown		hellgelbbraun	
43	163B	light yellow brown		hellgelbbraun	
43	163C	light yellow brown		hellgelbbraun	
43	163D	light yellow brown		hellgelbbraun	

UPOV Group No.	RHS No.	English	français	deutsch	español
43	164D	light yellow brown		hellgelbbraun	
43	165D	light yellow brown		hellgelbbraun	
44	163A	yellow brown		gelbbraun	
44	N 163C	yellow brown		gelbbraun	
44	N 163D	yellow brown		gelbbraun	
44	164A	yellow brown		gelbbraun	
44	164B	yellow brown		gelbbraun	
44	164C	yellow brown		gelbbraun	
44	165B	yellow brown		gelbbraun	
44	165C	yellow brown		gelbbraun	
44	167A	yellow brown		gelbbraun	
44	167B	yellow brown		gelbbraun	
44	167C	yellow brown		gelbbraun	
44	167D	yellow brown		gelbbraun	
44	N 167A	yellow brown		gelbbraun	
44	N 167B	yellow brown		gelbbraun	
44	N 167C	yellow brown		gelbbraun	
44	N 167D	yellow brown		gelbbraun	
44	168C	yellow brown		gelbbraun	
44	168D	yellow brown		gelbbraun	
44	N 172D	yellow brown		gelbbraun	
45	031B	orange brown		orangebraun	
45	031C	orange brown		orangebraun	
45	032C	orange brown		orangebraun	
45	033C	orange brown		orangebraun	
45	034B	orange brown		orangebraun	
45	034C	orange brown		orangebraun	
45	034D	orange brown		orangebraun	
45	N 034D	orange brown		orangebraun	
45	035A	orange brown		orangebraun	
45	N 163A	orange brown		orangebraun	
45	N 163B	orange brown		orangebraun	
45	168A	orange brown		orangebraun	
45	168B	orange brown		orangebraun	
45	169A	orange brown		orangebraun	
45	169B	orange brown		orangebraun	
45	169C	orange brown		orangebraun	
45	169D	orange brown		orangebraun	
45	170A	orange brown		orangebraun	
45	170B	orange brown		orangebraun	
45	170C	orange brown		orangebraun	
45	170D	orange brown		orangebraun	
45	N 170D	orange brown		orangebraun	
45	171B	orange brown		orangebraun	
45	171C	orange brown		orangebraun	
45	171D	orange brown		orangebraun	
45	172C	orange brown		orangebraun	
45	172D	orange brown		orangebraun	
45	N 172A	orange brown		orangebraun	
45	N 172B	orange brown		orangebraun	

UPOV Group No.	RHS No.	English	français	deutsch	español
45	N 172C	orange brown		orangebraun	
45	173B	orange brown		orangebraun	
45	179C	orange brown		orangebraun	
46	199A	grey brown		graubraun	
46	199B	grey brown		graubraun	
46	199C	grey brown		graubraun	
46	199D	grey brown		graubraun	
46	N 199A	grey brown		graubraun	
46	N 199C	grey brown		graubraun	
46	N 199D	grey brown		graubraun	
47	151A	green brown		grünbraun	
47	151B	green brown		grünbraun	
47	151C	green brown		grünbraun	
47	151D	green brown		grünbraun	
47	152A	green brown		grünbraun	
47	152B	green brown		grünbraun	
47	152C	green brown		grünbraun	
47	152D	green brown		grünbraun	
47	153A	green brown		grünbraun	
47	153B	green brown		grünbraun	
47	153C	green brown		grünbraun	
47	153D	green brown		grünbraun	
48	156A	grey		grau	
48	156B	grey		grau	
48	156C	grey		grau	
48	156D	grey		grau	
48	157A	grey		grau	
48	157B	grey		grau	
48	157C	grey		grau	
48	N 187B	grey		grau	
48	N 187C	grey		grau	
48	N 187D	grey		grau	
48	194D	grey		grau	
48	195A	grey		grau	
48	195B	grey		grau	
48	195C	grey		grau	
48	195D	grey		grau	
48	196A	grey		grau	
48	196B	grey		grau	
48	196C	grey		grau	
48	196D	grey		grau	
48	197A	grey		grau	
48	197B	grey		grau	
48	197C	grey		grau	
48	197D	grey		grau	
48	198A	grey		grau	
48	198B	grey		grau	
48	198C	grey		grau	
48	198D	grey		grau	
48	N 200B	grey		grau	

UPOV Group No.	RHS No.	English	français	deutsch	español
48	N 200C	grey		grau	
48	N 200D	grey		grau	
48	201A	grey		grau	
48	201B	grey		grau	
48	201C	grey		grau	
48	201D	grey		grau	
48	202B	grey		grau	
48	202C	grey		grau	
48	202D	grey		grau	
49	188A	green grey		grüngrau	
49	188B	green grey		grüngrau	
49	188C	green grey		grüngrau	
49	188D	green grey		grüngrau	
49	189B	green grey		grüngrau	
49	189C	green grey		grüngrau	
49	189D	green grey		grüngrau	
49	N 189A	green grey		grüngrau	
49	N 189B	green grey		grüngrau	
49	N 189C	green grey		grüngrau	
49	N 189D	green grey		grüngrau	
49	190A	green grey		grüngrau	
49	190B	green grey		grüngrau	
49	190C	green grey		grüngrau	
49	190D	green grey		grüngrau	
49	191C	green grey		grüngrau	
49	191D	green grey		grüngrau	
49	192A	green grey		grüngrau	
49	192B	green grey		grüngrau	
49	192C	green grey		grüngrau	
49	192D	green grey		grüngrau	
49	193C	green grey		grüngrau	
49	193D	green grey		grüngrau	
50	N 186A	black		schwarz	
50	N 186B	black		schwarz	
50	N 187A	black		schwarz	
50	202A	black		schwarz	

[Annex II follows]

[Endnote continued from previous page]

Comments from Subgroup (Andrea Menne):

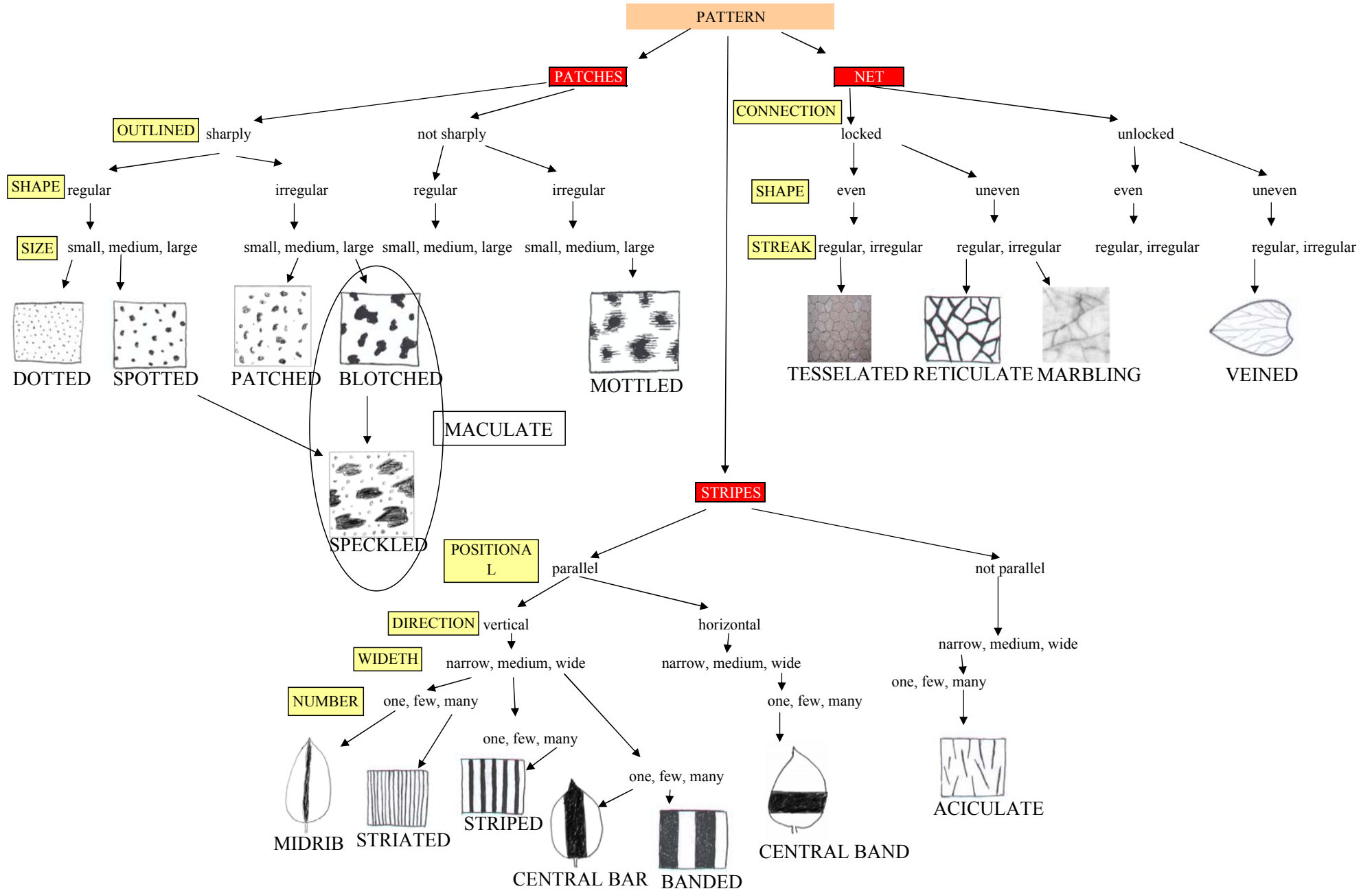
ⁱ This could be put to the second char. as well. I prefer this as we are not able to have a “1” in char. 1 together with the RHS number in our computer system.

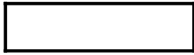
ⁱⁱ What does this sentence mean?

ⁱⁱⁱ This whole paragraph should be deleted. I cannot see the difference between one-colored with different intensity and/or saturation and shaded.

[Annex II follows]

SCHEME FOR DETERMINING COLOR PATTERN TERMS

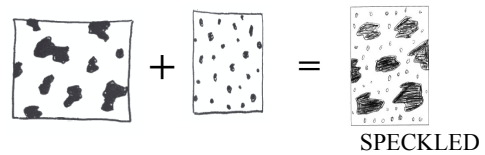




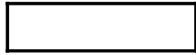
PATCHES

- outline (sharply / not sharply)
- shape (regular / irregular)
- size (small / medium / large)

OUTLINED SIZE\SHAPE	sharply		not sharply	
	regular	irregular	regular	irregular
small	 DOTTED			
medium	 SPOTTED	 PATCHED		
large		 BLOTCHED	 MOTTLED	



TC-EDC/Jan11/14
 ANNEX II
 Appendix 2: Stripes



STRIPES

positional relation (parallel / not parallel)
 direction (vertical / horizontal)
 width (narrow / medium / wide)
 number (one / few / many)

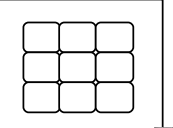

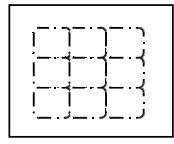
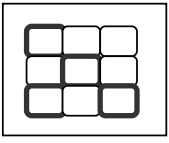
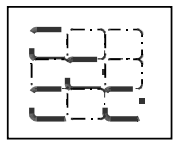





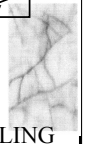

width \ number	parallel						not parallel	
	vertical			horizontal			few	many
	one	few	many	one	few	many	few	many
narrow			 STRIATED					
medium	 MIDRIB		 STRIPED					 ACICULATE
wide	 CENTRAL BAR	 BANDED		 CENTRAL BAND				



NET

connection (locked / unlocked)

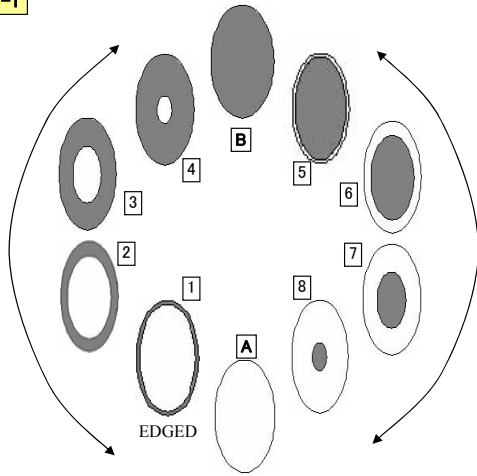
shape/grid (even/ uneven) / (regular / irregular)

shape	grid	locked	unlocked
even	regular	  TESSELLATED	
	irregular		
uneven	regular	  RETICULATE	  VEINED
	irregular	  MARBLING	

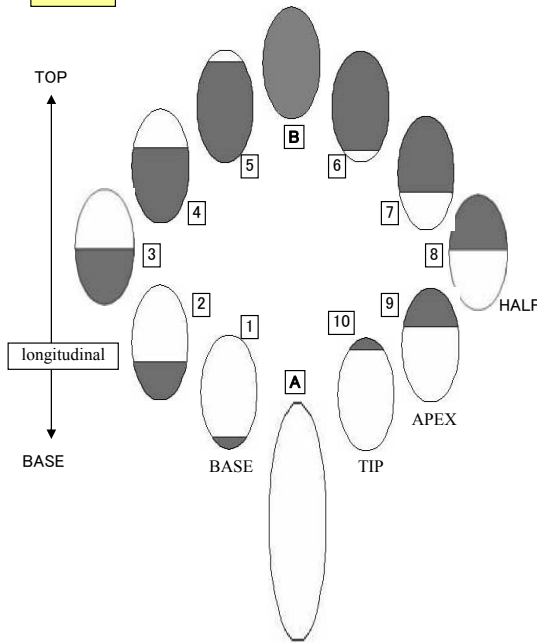
Appendix 4: Distribution

DISTRIBUTION

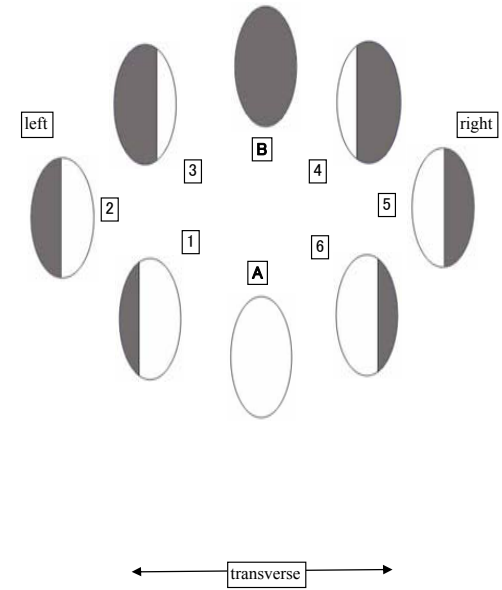
TYPE 1-1



TYPE 2-1

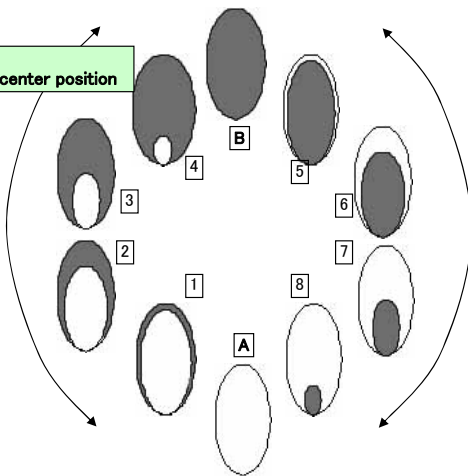
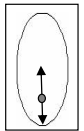


TYPE 3-1

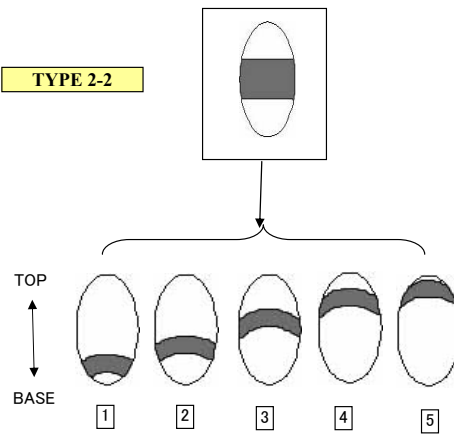


TYPE 1-2

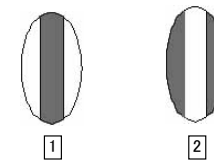
arrange
: shift of the center position



TYPE 2-2

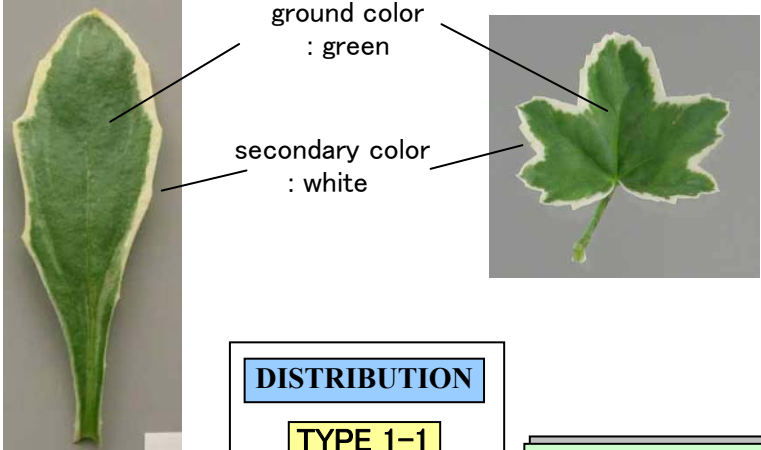


TYPE 3-2



EXAMPLE(LEAF)

Ex.1




ground color : green

secondary color : white


DISTRIBUTION

TYPE 1-1

6




COLOR PATTERN



MARGINA ZONE

Ex.2




ground color : green

secondary color : white

DISTRIBUTION

TYPE 3-2

2



or

PATTERN

STRIPES


PARALLEL

VERTICAL

WIDE


ONE

COLOR PATTERN



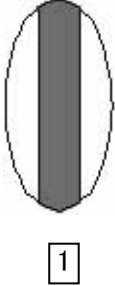
CENTRAL BAR

Ex.3



DISTRIBUTION

TYPE 3-2



1

ground color : green

secondary color : white

PATTERN

STRIPES

PARALLEL


VERTICAL

MIDIUM

FEW

or

Ex.4



ground color : green

secondary color : white

PATTERN

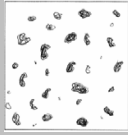
PATCHES

SHARPLY

IRREGULAR

MEDIUM

COLOR PATTERN



PATCHED

Ex.5



ground color
: green

secondary color
: yellow

tertiary color : red

DISTRIBUTION

TYPE 1-2



3

plus

PATTERN

STRIPES

PARALLEL

VERTICAL

NARROW

ONE

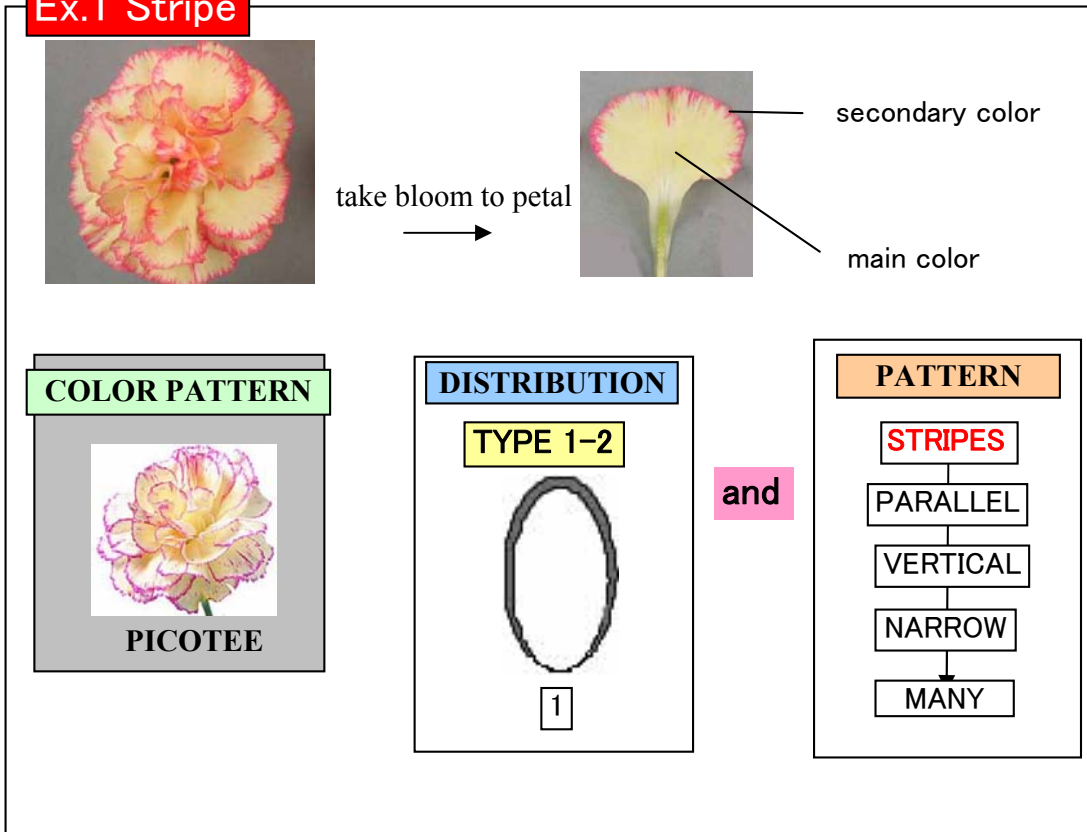
MID RIB : red

COLOR PATTERN

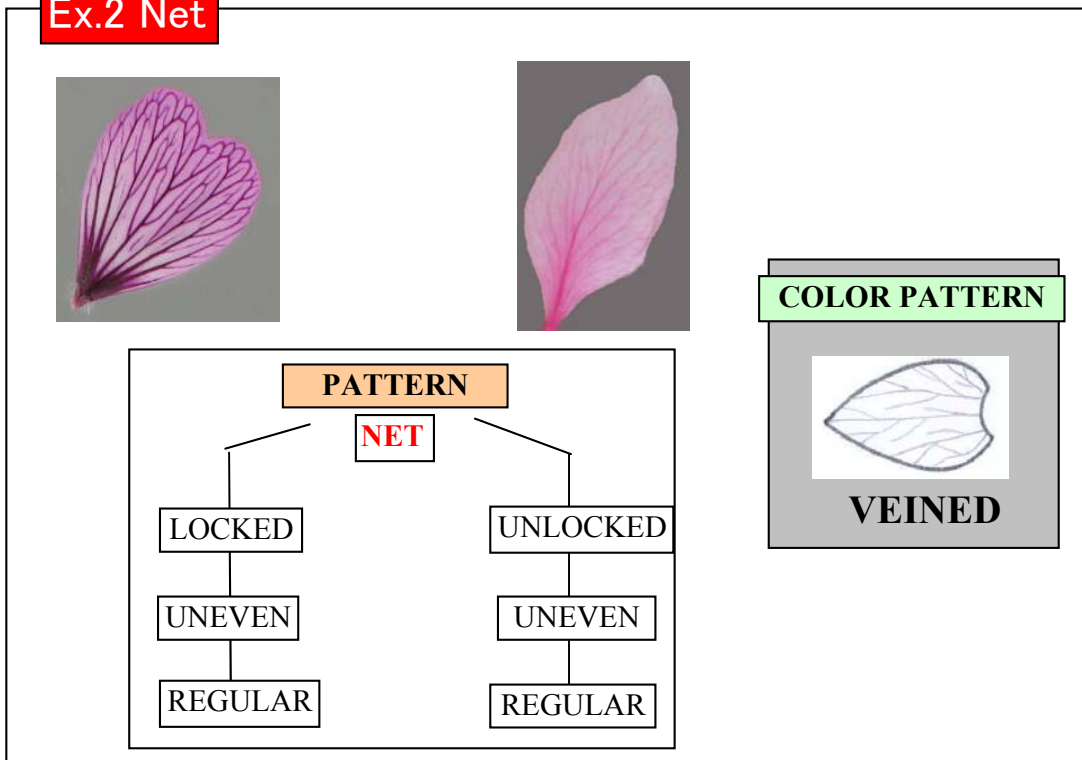


MIDRIB

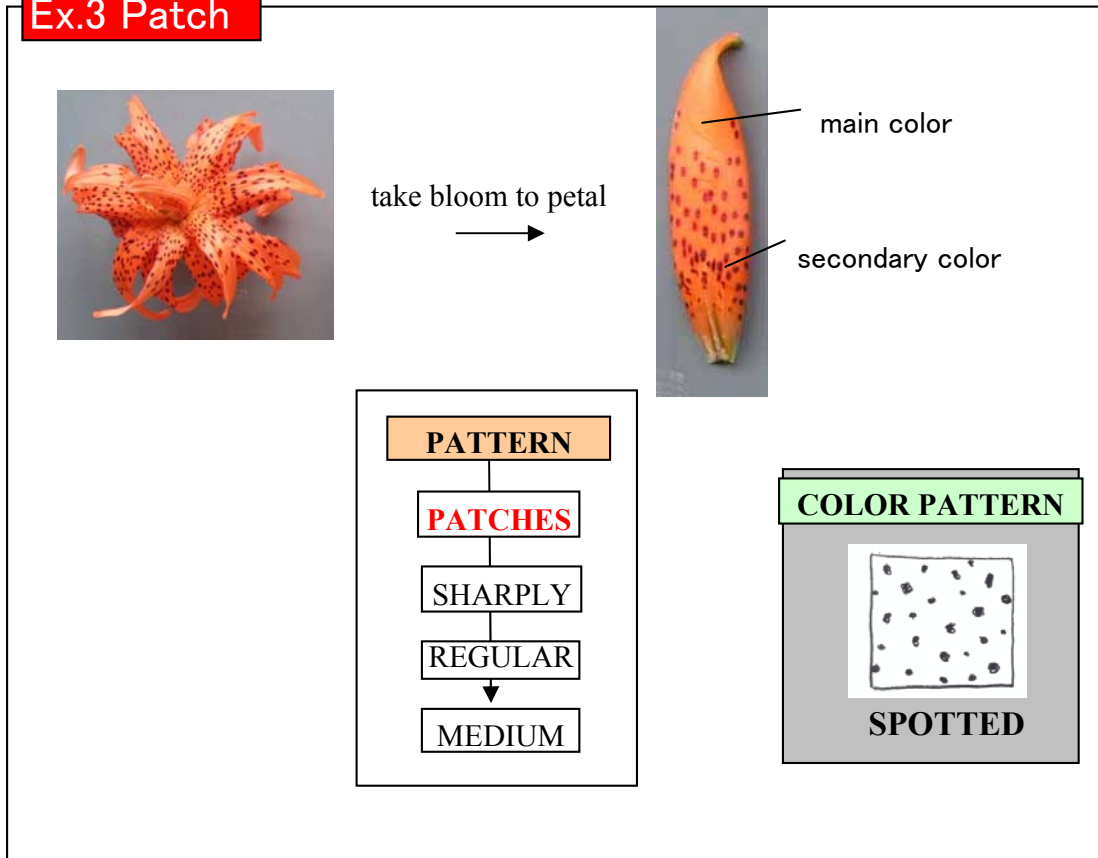
Ex.1 Stripe



Ex.2 Net



Ex.3 Patch



[End of Annex II and of document]