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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

DRAFT**TULIP**

UPOV Code: TULIP

Tulipa L.

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GUIDELINES
FOR THE CONDUCT OF TESTS
FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from the Netherlands

*to be considered by the Technical Committee at its forty-second session,
to be held in Geneva, Switzerland, from April 3 to 5, 2006*

Alternative Names:*

<i>Botanical name</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Tulipa</i> L.	Tulip	Tulipe	Tulpe	Tulipán

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

ASSOCIATED DOCUMENTS

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

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

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1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Tulipa* L.

2. Material Required

2.1 The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with.

2.2 The material is to be supplied in the form of bulbs of flowering and commercial size.

2.3 The minimum quantity of plant material, to be supplied by the applicant, should be:

30 bulbs

2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease.

2.5 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

3. Method of Examination

3.1 *Number of Growing Cycles*

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

3.2 *Testing Place*

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

3.3 *Conditions for Conducting the Examination*

3.3.1 The tests should be carried out in the open, under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination. In particular, unless otherwise indicated, all observations should be made on fully grown, typical organs, shortly after the flower has opened for the first time.

3.3.2 *Observation of color by eye*

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.

3.4 *Test Design*

3.4.1 Each test should be designed to result in a total of at least 25 flowering plants.

3.4.2 The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle.

3.5 *Number of Plants / Parts of Plants to be Examined*

Unless otherwise indicated, all observations should be made on 10 plants or parts taken from each of 10 plants. In the case of parts of plants, the number to be taken from each of the plants should be one.

3.6 *Additional Tests*

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

4. Assessment of Distinctness, Uniformity and Stability

4.1 *Distinctness*

4.1.1 General Recommendations

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

4.1.2 Consistent Differences

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

4.1.3 Clear Differences

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

4.2 Uniformity

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

4.2.2 For the assessment of uniformity, a population standard of 1% and an acceptance probability of at least 95 % should be applied. In the case of a sample size of 25 plants, 1 off-type is allowed.

4.3 Stability

4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.

4.3.2 Where appropriate, or in cases of doubt, stability may be tested, either by growing a further generation, or by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the previous material supplied.

5. Grouping of Varieties and Organization of the Growing Trial

5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness are aided by the use of grouping characteristics.

5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.

5.3 Tulips can be classified as follows:

Class I: Botanical species: botanical species with their subspecies, botanical and cultivated varieties and hybrids which resemble the botanical species. The botanical species can be further classified into the following groups:

1. *Tulipa kaufmanniana* Regel
2. *Tulipa fosteriana* W. Irving
3. *Tulipa greigii* Regel
4. Other species

Class II: Modern hybrids

5.4 The following have been agreed as useful grouping characteristics:

- (a) Flower: type (characteristic 10)
- (b) Flower: main color (characteristic 13) with the following groups:

Gr. 1: white	Snowparrot
Gr. 2: off white	
Gr. 3: light yellow	Yellow Purissima
Gr. 4: medium yellow	Yellow Flight
Gr. 5: dark yellow	Lady Margot
Gr. 6: orange	Orange Monarch
Gr. 7: orange red	Temple of Beauty
Gr. 8: medium red	Lefebber's Memory
Gr. 9: dark red	Prominence
Gr. 10: purple red	Blenda
Gr. 11: light pink	Bright Pink Lady
Gr. 12: medium pink	Angélique
Gr. 13: dark pink	Pink Impression
Gr. 14: medium purple	Attila
Gr. 15: dark purple	Queen of Night
Gr. 16: brown	Caïro

In the case of modern hybrids (see Chapter 5.3), the following groupings have been agreed to be useful:

- (a) Flower: fringe (characteristic 17)
- (b) Flower: appearance of tepals (see also characteristic 20) with the following groups:
 - Gr. 1: convex or flat (Standard)
 - Gr. 2: pointed and reflexed (Lily flowered)
 - Gr. 3: laciniate, curled and twisted (Parrot)
- (c) Flower: partly greenish tepals (characteristics 21 and 22) with the following groups:
 - Gr. 1: absent
 - Gr. 2: present (Viridiflora)
- (d) Plant: beginning of flowering (natural conditions) (characteristic 31)

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

6. Introduction to the Table of Characteristics

6.1 *Categories of Characteristics*

6.1.1 Standard Test Guidelines Characteristics

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

6.1.2 Asterisked Characteristics

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

6.2 *States of Expression and Corresponding Notes*

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

6.3 *Types of Expression*

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

6.4 *Example Varieties*

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

6.5 *Legend*

(*) Asterisked characteristic – see Chapter 6.1.2

QL Qualitative characteristic – see Chapter 6.3

QN Quantitative characteristic – see Chapter 6.3

PQ Pseudo-qualitative characteristic – see Chapter 6.3

(+) See Explanations on the Table of Characteristics in Chapter 8

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

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1. (*)	Plant: height	Plante: hauteur	Pflanze: Höhe	Planta: altura		
QN	very short	très courte	sehr niedrig	muy baja	Lilliput (<i>T. humilis</i>), Red Hunter (<i>T. batalinii</i>)	1
	short	courte	niedrig	baja	Canasta, Peach Blossom	3
	medium	moyenne	mittel	media	Upstar	5
	tall	haute	hoch	alta	Apeldoorn	7
	very tall	très haute	sehr hoch	muy alta	Temple of Beauty	9
2. (*)	Stem: number of flowers	Tige: nombre de fleurs	Stengel: Anzahl Blüten	Tallo: número de flores		
QL	one	une	eine	una	Apeldoorn	1
	more than one	plus d'une	mehr als eine	más de una	Georgette	2
3. (*)	Stem: anthocyanin coloration	Tige: pigmentation anthocyanique	Stengel: Anthocyanfärbung	Tallo: coloración antociánica		
QL	absent	absente	fehlend	ausente	Upstar	1
	present	présente	vorhanden	presente	Dow Jones	9
4. (*)	Stem: position of anthocyanin coloration	Tige: emplacement de la pigmentation anthocyanique	Stengel: Position der Anthocyanfärbung	Tallo: posición de la coloración antociánica		
QL	distal part only	partie distale seulement	nur am distalen Teil	únicamente en la parte distal	Dow Jones	1
	whole stem	toute la tige	am ganzen Stengel	en todo el tallo	Halloween	2

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
5. (*)	Leaf: shape	Feuille: forme	Blatt: Form	Hoja: forma		
PQ	linear	linéaire	linear	lineal	Lilliput (<i>T. humilis</i>)	1
	narrow elliptic	elliptique étroite	schmal elliptisch	elíptica estrecha		2
	medium elliptic	elliptique moyenne	mittel elliptisch	elíptica media	Blushing Beauty	3
	broad elliptic	elliptique large	breit elliptisch	elíptica ancha	Apeldoorn	4
	narrow ovate	ovale étroite	schmal eiförmig	oval estrecha		5
	medium ovate	ovale moyenne	mittel eiförmig	oval media	Havran	6
	broad ovate	ovale large	breit eiförmig	oval ancha	Grand Prestige	7
6. (*)	Leaf: variegation	Feuille: panachure	Blatt: Panaschierung	Hoja: variegación		
QL	absent	absente	fehlend	ausente	Apeldoorn	1
	present	présente	vorhanden	presente	Unicum (<i>T. praestans</i>)	9
7. (*)	Leaf: distribution of variegation	Feuille: répartition de la panachure	Blatt: Verteilung der Panaschierung	Hoja: distribución de la variegación		
PQ	edged	bordée	am Rand	ribeteado	Happy Generation, Madame Lefeber	1
	margin	bord	Ränder	en el borde	Diplomate, Flash Point	2
	dots	points	Punkte	en puntos	Grand Prestige	3
	dots and stripes	points et stries	Punkte und Streifen	en puntos y rayas	Ali Baba, Calypso	4
	stripes	stries	Streifen	en rayas	Toulon	5
8. (*)	Leaf: color of variegation	Feuille: couleur de la panachure	Blatt: Farbe der Panaschierung	Hoja: color de la variegación		
PQ	white	blanche	weiß	blanco	Madame Lefeber, Unicum (<i>T. praestans</i>)	1
	yellow green	vert-jaune	gelbgrün	verde amarillento	Darwidesign	2
	yellow	jaune	gelb	amarillo	Ton Augustinus	3
	pink	rose	rosa	rosa		4
	red	rouge	rot	rojo		5
	purple	pourpre	purpurn	púrpura	First Love, Copenhagen	6

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
9. (*)	Leaf: undulation of margin	Feuille: ondulation du bord	Blatt: Wellung des Randes	Hoja: ondulación del borde		
QL	absent	absente	fehlend	ausente	Apeldoorn	1
	present	présente	vorhanden	presente	Christmas Marvel	9
10. (*) (+)	Flower: type	Fleur: type	Blüte: Typ	Flor: tipo		
QL	single	simple	einfach	única	Apeldoorn	1
	double	double	gefüllt	doble	Monte Carlo	2
11. (*)	Flower: length	Fleur: longueur	Blüte: Länge	Flor: longitud		
QN	very short	très courte	sehr kurz	muy corta	Lilliput (<i>T. humilis</i>)	1
	short	courte	kurz	corta	Monte Carlo	3
	medium	moyenne	mittel	media	Pink Impression	5
	long	longue	lang	larga	Gander	7
	very long	très longue	sehr lang	muy larga	Tender Beauty	9
12. (*)	<u>Double and Lily flowered types excluded</u>: Flower: shape	<u>Types double et à fleur de lys exclus</u>: Fleur: forme	<u>Ohne gefüllte und lilienblütige Typen</u>: Blüte: Form	<u>Excluidos los tipos de flor doble y Lily flowered</u>: Flor: forma		
QL	ellipsoid	ellipsoïde	ellipsoid	elipsoide	Prinses Irene	1
	ovoid	ovoïde	eiförmig	ovoide	Apeldoorn, Purple States,	2
13. (*)	Flower: main color	Fleur: couleur principale	Blüte: Hauptfarbe	Flor: color principal		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (sírvasse indicar el número de referencia)		

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
14. (*)	Flower: number of colors on outer side	Fleur: nombre de couleurs de la face externe	Blüte: Anzahl Farben auf der Außenseite	Flor: número de colores en la parte externa		
QL	one	une	eine	uno	Apeldoorn	1
	two	deux	zwei	dos	Early Surprise	2
	three or more	trois ou plus	drei oder mehr	tres o más	Tricolette	3
15. (*)	<u>Only varieties with more than one color on outer side:</u> Flower: distribution of secondary color on outer side	<u>Seulement les variétés à plus d'une couleur sur la face externe:</u> Fleur: distribution de la couleur secondaire sur la face externe	<u>Nur Sorten mit mehr als einer Farbe auf der Außenseite:</u> Blüte: Verteilung der Sekundärfarbe der Außenseite	<u>Únicamente variedades con más de un color en la parte externa:</u> Flor: distribución del color secundario en la parte externa		
PQ	picotee	picotée	gezackt	moteado	Yellow Pompenette	1
	marginéd	sur les bords	gerändert	en el borde	Lustige Witwe	2
	flamed	flaméolée	geflammt	flameado	Prinses Irene	3
	flushed	floue	flächig	difuso	Peach Blossom	4
	at base	à la base	an der Basis	en la base	Gudoshnik	5
16.	<u>Only varieties with more than one color on outer side:</u> Flower: secondary color on outer side	<u>Seulement les variétés à plus d'une couleur sur la face externe:</u> Fleur: couleur secondaire de la face externe	<u>Nur Sorten mit mehr als einer Farbe auf der Außenseite:</u> Blüte: Sekundärfarbe der Außenseite	<u>Únicamente variedades con más de un color en la parte externa:</u> Flor: color secundario en la parte externa		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (sír vase indicar el número de referencia)		
17. (*)	Flower: fringe	Fleur: frange	Blüte: Fransung	Flor: rizado		
QL	absent	absente	fehlend	ausente	Apeldoorn	1
	present	présente	vorhanden	presente	Barbados, Fancy Frills	9

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
18. (*)	Flower: conspicuousness of fringe	Fleur: netteté de la frange	Blüte: Ausprägung der Fransung	Flor: evidencia del rizado		
QN	weak	faible	gering	ausente o débil	Arma	1
	intermediate	intermédiaire	intermediär	intermedios	Crystal Beauty	2
	strong	nette	stark	fuerte	Barbados, Valery Gergiev	3
19. (*)	Flower: position of fringe on tepals	Fleur: position de la frange sur les tépales	Blüte: Verteilung der Fransung an den Perigonblättern	Flor: posición del rizado en los tépalos		
PQ	top only	sommet seulement	nur an der Spitze	únicamente en la parte superior	Calibra	1
	all over margin	sur tout le bord	am gesamten Rand	en todo el borde	Capri, Hamilton	2
	irregular	irrégulière	unregelmäßig	irregular		3
20. (*)	Flower: shape of tip of outer tepal	Fleur: forme de l'extrémité du tépale externe	Blüte: Form der Spitze des äußeren Perigonblattes	Flor: forma del extremo del tépalo externo		
PQ	acuminate	acuminée	zugespitzt	acuminado	Aladdin	1
	acute	aiguë	spitz	agudo	Temple of Beauty	2
	rounded	arrondie	abgerundet	redondeado	Caravelle	3
	emarginate	émarginée	eingekerbt	emarginado	Jan van Nes	4
21. (*)	Flower: main color of <u>central part</u> of <u>outer side</u> of inner tepal	Fleur: couleur principale de la <u>partie centrale</u> de la <u>face externe</u> du tépale interne	Blüte: Hauptfarbe des <u>mittleren Teils</u> der <u>Außenseite</u> des inneren Perigonblattes	Flor: color principal de la <u>parte central</u> de la <u>parte externa</u> del tépalo interno		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (sírvasse indicar el número de referencia)		

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
22. (*)	Flower: main color of <u>marginal part</u> of <u>outer side</u> of inner tepal	Fleur: couleur principale de la <u>partie marginale</u> de la <u>face externe</u> du tépale interne	Blüte: Hauptfarbe des <u>marginalen Teils</u> der <u>Außenseite</u> des inneren Perigonblattes	Flor: color principal de la <u>parte del borde</u> de la <u>parte externa</u> del tépalo interno		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (sírvasse indicar el número de referencia)		
23. (*)	Flower: main color of <u>central part</u> of <u>inner side</u> of inner tepal	Fleur: couleur principale de la <u>partie centrale</u> de la <u>face interne</u> du tépale interne	Blüte: Hauptfarbe des <u>mittleren Teils</u> der <u>Innenseite</u> des inneren Perigonblattes	Flor: color principal de la <u>parte central</u> de la <u>parte interna</u> del tépalo interno		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (sírvasse indicar el número de referencia)		
24. (*)	Flower: main color of <u>marginal part</u> of <u>inner side</u> of inner tepal	Fleur: couleur principale de la <u>partie marginale</u> de la <u>face interne</u> du tépale interne	Blüte: Hauptfarbe des <u>marginalen Teils</u> der <u>Innenseite</u> des inneren Perigonblattes	Flor: color principal de la <u>parte del borde</u> de la <u>parte interna</u> del tépalo interno		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (sírvasse indicar el número de referencia)		
25. (+)	Flower: main color of macule on inner side	Fleur: couleur principale de la macule sur la face interne	Blüte: Hauptfarbe des Basisflecks auf der Innenseite	Flor: color principal de la mácula en la parte interna		
PQ	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte (Nummer angeben)	Carta de colores RHS (sírvasse indicar el número de referencia)		

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
26. (*)	Flower: different color of border of macule	Fleur: couleur différente du bord de la macule	Blüte: andere Farbe des Randes des Basisflecks	Flor: distinto color del borde de la mácula		
QL	absent	absente	fehlend	ausente	Blushing Apeldoorn	1
	present	présente	vorhanden	presente	Apeldoorn	9
27. (*)	Stamen: number of colors of filament	Étamine: nombre de couleurs du filament	Staubgefäß: Anzahl Farben des Staubfadens	Estambre: número de colores del filamento		
QL	one	une	eine	uno		1
	two	deux	zwei	dos		2
28.	Stamen: color of basal half of filament	Étamine: couleur de la moitié basale du filament	Staubgefäß: Farbe der basalen Hälfte des Staubfadens	Estambre: color de la mitad basal del filamento		
PQ	white	blanche	weiß	blanco		1
	light yellow	jaune clair	hellgelb	amarillo claro		2
	medium yellow	jaune moyen	mittelgelb	amarillo medio		3
	dark yellow	jaune foncé	dunkelgelb	amarillo oscuro		4
	purple	pourpre	purpurn	púrpura		5
	blue	bleue	blau	azul		6
	black	noire	schwarz	negro		7

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
29.	Stamen: color of distal half of filament	Étamine: couleur de la moitié distale du filament	Staubgefäß: Farbe der distalen Hälfte des Staubfadens	Estambre: color de la mitad distal del filamento		
PQ	white	blanche	weiß	blanco		1
	light yellow	jaune clair	hellgelb	amarillo claro		2
	medium yellow	jaune moyen	mittelgelb	amarillo medio		3
	dark yellow	jaune foncé	dunkelgelb	amarillo oscuro		4
	purple	pourpre	purpurn	púrpura		5
	blue	bleue	blau	azul		6
	black	noire	schwarz	negro		7
30. (*)	Stamen: color of pollen	Étamine: couleur du pollen	Staubgefäß: Farbe des Pollens	Estambre: color del polen		
PQ	greenish	verdâtre	grünlich	verdoso	Easter Moon	1
	yellow	jaune	gelb	amarillo	Gander Special	2
	yellow and purple or black	jaune et pourpre ou noir	gelb und purpurn oder schwarz	amarillo y púrpura o negro		3
	purple or black	pourpre ou noir	purpurn oder schwarz	púrpura o negro	Christmas Orange	4
31. (*)	Plant: beginning of flowering (natural conditions)	Plante: début de la floraison (conditions naturelles)	Pflanze: Zeitpunkt des Blühbeginns (natürliche Bedingungen)	Planta: inicio de la floración (condiciones naturales)		
QN	very early	très précoce	sehr früh	muy temprana	Love Song (<i>T. kaufmanniana</i>), Showwinner, Early Harvest	1
	early	précoce	früh	temprana	Bestseller, Apricot Beauty, Flair	3
	medium	moyenne	mittel	media	Apeldoorn, Prinses Irene	5
	late	tardive	spät	tardía	Temple of Beauty, Renown, Queen of Night	7
	very late	très tardive	sehr spät	muy tardía	Dillenburg, Princess Margaret Rose	9

8. Explanations on the Table of Characteristics

Ad. 10: Flower: type

Double varieties are varieties with 12 or more tepals.

Ad. 25: Flower: main color of macule on inner side

The macule should be observed as an entity and the tepals should not be spread.

9. Literature

Baker, Chr., Lemmers W. and E.Sweeney , 1999: 'Tulipa a Photographer's Botanical', Artisan, New York, USA, ISBN 1-57965-122-4

Bodegom S. and J. van Scheepen (eds), 2005: Supplement 2005, 'Classified List and International Register of Tulip Names', KAVB, Hillegom, NL, ISBN-10: 90-73350034, ISBN-13: 97-89073350038

Dobs, L, Perry, C. and C. Breed, 2002 : 'Tulipa', Quadrille Publishing Ltd. London, UK ISBN 1-903845-49-1

Frank, R., 1986: 'Zwiebel und Knollengewächse' Eugen Ulmer Verlag, Stuttgart, DE, ISBN 3-8001-6159-1

Grunert, Chr., 1990: 'Das grosse Blumenzwiebelbuch', Deutscher Landwirtschaftsverlag, Berlin, DE, ISBN 3-331-00193-7

Heath, Brent and Becky, 2001: 'Tulips for North American Gardens', Bright sky press, Albany, New York, USA, ISBN 0-9704729-6-X

Kreuzer, Joh., 1999: 'Kreuzers Gartenpflanzen-Lexicon', Band 4, Thalacker Medien, Thalacker Verlag, Braunsweig, DE, ISBN 3-87815-140-3

Le Nard, M. and A.A. de Hertogh,: 'Tulipa' in: 'The Physiology of flower bulbs', 1993, Chapter 35, p. 616-682, Elsevier, Amsterdam, NL, ISBN 0-444-87458-4

Scheepen, J. van, 1995: 'Cultivar groups in the genus *Tulipa* L. (*Liliaceae*)', Acta Hort. 413, p. 137-143 [Users may wish to check for an update of this publication which may have relevant information concerning classification groups.]

Scheepen, J. van, 1996 (comp.): 'Classified List and International Register of Tulip Names', KAVB, Hillegom, NL, ISBN 90-73350-026

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights		
1. Subject of the Technical Questionnaire		
1.1 Botanical name	Tulipa L.	
1.2 Common name	Tulip	
2. Applicant		
Name		
Address		
Telephone No.		
Fax No.		
E-mail address		
Breeder (if different from applicant)		
3. Proposed denomination and breeder's reference		
Proposed denomination (if available)		
Breeder's reference		

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

- (a) controlled cross []
(please state parent varieties)
- (b) partially known cross []
(please state known parent variety(ies))
- (c) unknown cross []

4.1.2 Mutation []
(please state parent variety)

4.1.3 Discovery and development []
(please state where and when discovered
and how developed)

4.1.4 Other []
(please provide details)

4.2 Method of propagating the variety

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

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds).

Characteristics	Example Varieties	Note
5.1 Plant: classification		
I. Botanical species		1[]
II. Modern hybrid		2[]
5.2 <u>Botanical species only:</u> Species		
<i>Tulipa kaufmanniana</i> Regel		1[]
<i>Tulipa fosteriana</i> W. Irving		2[]
<i>Tulipa greigii</i> Regel		3[]
Other species (please specify)		4[]
.....		
5.3 Flower: type		
(10)		
single	Apeldoorn	1[]
double	Monte Carlo	2[]

TECHNICAL QUESTIONNAIRE		Page {x} of {y}	Reference Number:																																																																		
<table border="1"> <thead> <tr> <th>Characteristics</th> <th>Example Varieties</th> <th>Note</th> </tr> </thead> <tbody> <tr> <td colspan="3"> 5.4i Flower: main color (13) RHS Colour Chart (indicate reference number) </td> </tr> <tr> <td colspan="3"> 5.4ii Flower: main color group (13) </td> </tr> <tr> <td>white</td> <td>Snowparrot</td> <td>1[]</td> </tr> <tr> <td>off white</td> <td></td> <td>2[]</td> </tr> <tr> <td>light yellow</td> <td>Yellow Purissima</td> <td>3[]</td> </tr> <tr> <td>medium yellow</td> <td>Yellow Flight</td> <td>4[]</td> </tr> <tr> <td>dark yellow</td> <td>Lady Margot</td> <td>5[]</td> </tr> <tr> <td>orange</td> <td>Orange Monarch</td> <td>6[]</td> </tr> <tr> <td>orange red</td> <td>Temple of Beauty</td> <td>7[]</td> </tr> <tr> <td>medium red</td> <td>Lefeber's Memory</td> <td>8[]</td> </tr> <tr> <td>dark red</td> <td>Prominence</td> <td>9[]</td> </tr> <tr> <td>purple red</td> <td>Blenda</td> <td>10[]</td> </tr> <tr> <td>light pink</td> <td>Bright Pink Lady</td> <td>11[]</td> </tr> <tr> <td>medium pink</td> <td>Angélique</td> <td>12[]</td> </tr> <tr> <td>dark pink</td> <td>Pink Impression</td> <td>13[]</td> </tr> <tr> <td>medium purple</td> <td>Attila</td> <td>14[]</td> </tr> <tr> <td>dark purple</td> <td>Queen of Night</td> <td>15[]</td> </tr> <tr> <td>brown</td> <td>Caïro</td> <td>16[]</td> </tr> <tr> <td colspan="3"> 5.5 Flower: fringe (17) </td> </tr> <tr> <td>absent</td> <td>Apeldoorn</td> <td>1[]</td> </tr> <tr> <td>present</td> <td>Barbados, Fancy Frills</td> <td>9[]</td> </tr> </tbody> </table>				Characteristics	Example Varieties	Note	5.4i Flower: main color (13) RHS Colour Chart (indicate reference number) 			5.4ii Flower: main color group (13)			white	Snowparrot	1[]	off white		2[]	light yellow	Yellow Purissima	3[]	medium yellow	Yellow Flight	4[]	dark yellow	Lady Margot	5[]	orange	Orange Monarch	6[]	orange red	Temple of Beauty	7[]	medium red	Lefeber's Memory	8[]	dark red	Prominence	9[]	purple red	Blenda	10[]	light pink	Bright Pink Lady	11[]	medium pink	Angélique	12[]	dark pink	Pink Impression	13[]	medium purple	Attila	14[]	dark purple	Queen of Night	15[]	brown	Caïro	16[]	5.5 Flower: fringe (17)			absent	Apeldoorn	1[]	present	Barbados, Fancy Frills	9[]
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TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
5.6 Flower: appearance of tepals		
convex or flat (Standard)	Apeldoorn	1[]
pointed and reflexed (Lily flowered)	Aladdin	2[]
lacinate, curled and twisted (Parrot)	Snowparrot	3[]
5.7 Flower: partly greenish tepals		
absent	Apeldoorn	1[]
present (Viridiflora)	Virigold	2[]
5.8 Plant: beginning of flowering (natural conditions) (31)		
very early	Love Song (<i>T. kaufmanniana</i>), Showwinner, Early Harvest	1[]
early	Bestseller, Apricot Beauty, Flair	3[]
medium	Apeldoorn, Prinses Irene	5[]
late	Temple of Beauty, Renown, Queen of Night	7[]
very late	Dillenburg, Princess Margaret Rose	9[]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:	
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6. Similar varieties and differences from these varieties

Please use the following table and box for comments to provide information on how your candidate variety differs from the variety (or varieties) which, to the best of your knowledge, is (or are) most similar. This information may help the examination authority to conduct its examination of distinctness in a more efficient way.

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the similar variety(ies)	Describe the expression of the characteristic(s) for your candidate variety
<i>Example</i>	<i>Flower: type</i>	<i>single</i>	<i>double</i>

Comments:

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#7. Additional information which may help in the examination of the variety

7.1 In addition to the information provided in Sections 5 and 6, are there any additional characteristics which may help to distinguish the variety?

Yes [] No []

(If yes, please provide details)

7.2 Are there any special conditions for growing the variety or conducting the examination?

Yes [] No []

(If yes, please provide details)

7.3 Other information

A representative color photograph of the variety should accompany the Technical Questionnaire.

8. Authorization for release

(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?

Yes [] No []

(b) Has such authorization been obtained?

Yes [] No []

If the answer to (b) is yes, please attach a copy of the authorization.

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

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

9. Information on plant material to be examined or submitted for examination

9.1 The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides), effects of tissue culture, different rootstocks, scions taken from different growth phases of a tree, etc.

9.2 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If the plant material has undergone such treatment, full details of the treatment must be given. In this respect, please indicate below, to the best of your knowledge, if the plant material to be examined has been subjected to:

- | | | |
|---|---------|--------|
| (a) Microorganisms (e.g. virus, bacteria, phytoplasma) | Yes [] | No [] |
| (b) Chemical treatment (e.g. growth retardant, pesticide) | Yes [] | No [] |
| (c) Tissue culture | Yes [] | No [] |
| (d) Other factors | Yes [] | No [] |

Please provide details for where you have indicated "yes".

.....

10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:

Applicant's name

Signature

Date

[End of document]