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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

**TECHNICAL WORKING PARTY
FOR
ORNAMENTAL PLANTS AND FOREST TREES**

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WORKING PAPER ON DRAFT TECHNICAL GUIDELINES FOR THE TREE
(*Leptospermum* J.R. et G. Forst.)

Document prepared by experts from Australia

The attached document TG/LEPTOS(proj.1) already incorporates the standard wording of document TGP/7.2, which was adopted by the Technical Committee at its thirty-eighth session in April 2002, and includes some additional standard wording from document TGP/7.1 Draft 1, also agreed at that session.

[Document TG/LEPTOS(proj.1) follows]



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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

TEATREE **(Leptospermum J.R. et G. Forst.)* ***GUIDELINES****FOR THE CONDUCT OF TESTS****FOR DISTINCTNESS, UNIFORMITY AND STABILITY**

Alternative Names: *

Latin	English	French	German	Spanish
<i>Leptospermum J.R. et G. Forst.</i>	Tea Tree	Leptosperme	Südseemyrte	Leptospermum

ASSOCIATED DOCUMENTS

These guidelines should be read in conjunction with document TG/1/3, "General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants" (hereinafter referred to as 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. SubjectoftheseGuidelines

TheseTestGuidelinesapplytoallvarietiesof *Leptospermum* J.R.Forst.andG.Forst. ofthefamilyMyrtaceae.

2. MaterialRequired

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 Thematerialistobesuppliedintheformofrootedcuttings.

2.3 Themimumquantityofplantmaterial,tobesuppliedbytheapplicant,shouldbe:

Vegetatively propagated varieties: 10 rooted cuttings.

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

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

3. MethodofExamination

3.1 *DurationofTests*

Themimumdurationoftestsshouldnormallybeasinglegrowingcycle.

3.2 *TestingPlace*

The tests should normally be conducted at one place. If any characteristics of the variety, which are relevant for the examination of DUS, cannot be seen at that place, the variety may be tested at an additional place.

3.3 *ConditionsforConductingtheExamination*

3.3.1 Thetestsshouldbecarriedoutunderconditionsensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination. In particular, observations should be made on plants which are at least 2 years old.

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

- a All observations on the young leaf should be made on the distal part of the shoot on fully expanded leaves. The color should be observed on the upper side.
- b All observations on the mature leaf should be made on leaves of the middle part of the shoots. The color should be observed on the upper side.
- c All observations on the flower should be made “at first opening,” unless otherwise stated. “At first opening” is defined as the same day that the petals reflex from the curled position in the bud.

3.3.3 Because daylight varies, color determinations made against a color chart should be made either in a suitable cabinet providing artificial daylight or in the middle of the day in a room without direct sunlight. The spectral distribution of the illuminant for artificial 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 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.

3.4.2 Each test should be designed to result in a total of, at least 10 plants.

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

Unless otherwise indicated, all observations determined by measuring or counting should be made on 10 plants or parts taken from each of 10 plants.

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 minimum duration of tests recommended in section 3.1 reflects, in general, the need to ensure that any differences in a characteristic are sufficiently consistent.

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 The acceptable number of off-type plants tolerated in a sample size of 10 plants is 1 on the basis of a population standard of 1% and an acceptance probability of 95%.

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 seed or 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 is 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 others 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 trials so that similar varieties are grouped together.

5.3 The following have been agreed as useful grouping characteristics:

- (a) Plant: growth habit (char. 1)
- (b) Leaf blade: variegation (char. 16)

(c) Leafblade:maincolorofupperside(excludingpubescence)(char.17)

Gr.1(green):yellowgreen;lightgreen;mediumgreen;darkgreen

Gr.2(bluegreen):greygreen

Gr.3(red):red;redbrown;redpurple;greypurple

(d) Flower:type(char.27)

(c) Petal:maincoloratfirstopening(char.38)withthefollowinggroups:

Gr.1:greenyellow

Gr.2:white

Gr.3:redpink

Gr.4:redpurple

Gr.5:red

Gr.6:purpleviolet

Gr.7:violet

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

6. Introduction to the Table of Characteristics

6.1 *Categories of Characteristics*

6.1.1 Standard Test Guidelines Characteristics

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

6.1.2 Asterisked Characteristics

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

6.2 *States of Expression and Corresponding Notes*

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

6.3 *Types of Expression*

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

6.4 *Example Varieties*

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

6.5 *Legend*

- (*) Asterisked characteristic –see Section 6.1.2
- (+) See Explanations on the Table of Characteristics in Chapter 8.
- (QL) Qualitative characteristic –see Section 6.3
- (QN) Quantitative characteristic – see Section 6.3
- (PQ) Pseudo-Qualitative characteristic –see Section 6.3

a to **c** Method of Examination –see section 3.3.2

7. TableofCharacteristics/Tableaudecaractères/Merkmalstabelle/Tabladeracteres

MoE*	English	français	deutsch	español	ExampleVarieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
1. (+)	Plant:growthhabit					
	upright				RubyGlow	1
	bushy				Nanum	2
	spreading				PacificBeauty	3
	prostrate				BackwaterBeauty	4
2.	Plant:height					
	veryshort				JulieAnn	1
	short				PinkCascade	3
	medium				FairyRose	5
	tall				CopperSheen	7
	verytall				<i>Leptospermumlaevigatum</i>	9
3. (+)	Plant:attitudeof branches					
	erect					1
	semi-erect					2
	horizontal					3
3a. (+)	Plant:curvatureof branches					
	upwards					1
	straight					2
	downwards					3
4.	Plant:width					
	narrow					3
	medium				JulieAnn	5
	broad				AlbumFlore -pleno	7

* MoE=MethodofExamination(seesection3.3.2).

MoE*	English	français	deutsch	español	ExampleVarieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
5.	Plant:density					
	open				RubyGlow	3
	medium					5
	dense				RoseumFlore -pleno	7
6.	Youngshoot:main color					
(+)	yellowgreen					1
	lightgreen					2
	mediumgreen					3
	reddishgreen					4
	red					5
	purple					6
7.	Youngshoot: hairiness					
	absent					1
	present					9
15. (*)	Young leaf:main color					
	a yellow				PacificBeauty	1
	yellowgreen				Aphrodite	2
	lightgreen					3
	mediumgreen					4
	darkgreen					5
	greygreen					6
	red					8
	redbrown					9
	redpurple				CopperGlow	10
	greypurple				Rudolph	11
	greyorange					12

MoE*	English	français	deutsch	español	ExampleVarieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
9. (+)	Leafblade:attitude tostem					
	b adpressed					1
	oblique					2
	perpendicular					3
10. (*)	Leafblade:length					
	b veryshort					1
	short				Rhiannon	3
	medium				Aphrodite	5
	long					7
	verylong					9
11. (*)	Leafblade:width					
	b narrow				BY11	3
	medium				Rhiannon	5
	broad					7
12.	Leafblade:shape					
	b linear					1
	ovate					2
	oblong					3
	elliptic					4
	orbicular					5
	obovate					6

MoE*	English	français	deutsch	español	ExampleVarieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
13. (+)	Leafblade:profile incrosssection					
b	infolded					1
	incurved					2
	flat					3
	recurved					4
14.	Leafblade:shapeof apex					
b	acute				Aphrodite,Rhiannon	1
	obtuse				Rudolph	2
	rounded					3
16. (*)	Leafblade: variegation					
b	absent					1
	present				Raelene	9
17. (+)	Leafblade:main colorofupperside (excluding pubescence)					
b	yellowgreen				LemonFrost	1
	lightgreen					2
	mediumgreen					3
	darkgreen				PinkCascade	4
	greygreen					5
	red					6
	redbrown					7
	redpurple					8
	greypurple					9

MoE*	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
18.	<u>Varieties with variegated leaves only:</u> Leafblade: secondary color of upperside					
	b yellowishwhite					1
	lightyellowishgreen					2
	lightgreen					3
	mediumgreen					4
19.	Leafblade: glossiness of upper side					
	b absent or very weak					1
	weak					3
	medium					5
	strong					7
	very strong					9
20.	Leaf: hairiness on lower side					
	b absent or slightly hairy					1
	moderately hairy					2
	strongly hairy					3
22.	Inflorescence: arrangement of flowers					
	solitary					4
	in clusters					2
23.	Flower Bud: ratio—length/width					
	broader than long—					4
	as long as broad—					2
	longer than broad—					3

MoE*	English	français	deutsch	español	ExampleVarieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
24.	FlowerBud:lateral-view					
	pointed					1
	rounded					2
26.	FlowerBud:hairiness					
	absentorslightly hairy					1
	moderatleyhairy					2
	stronglyhairy					3
25.	FlowerBud:predominantcolor					
	white					1
	pink					2
	red					3
	purple					4
27.	Flower:type					
	c single				Keatleyi	1
	semidouble					2
	double				AlbumFlore -pleno, FairyRose	3
28.	Flower:numberof functionalstamens (semi-doubleand doublevarieties only)					
	c noneorveryfew					1
	few					2
	many					3

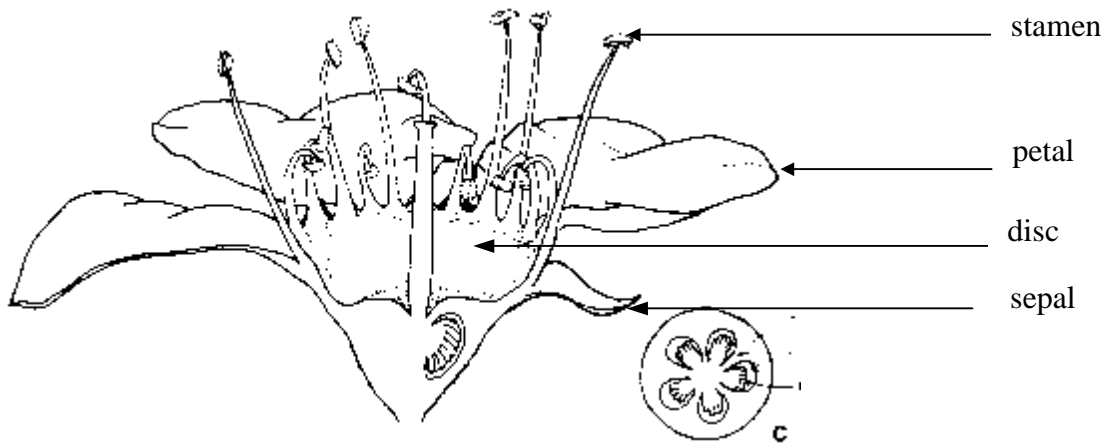
MoE*	English	français	deutsch	español	ExampleVarieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
28.	Flower:diameter					
<input type="checkbox"/>	verysmall					1
	small				<i>Leptospermumneglectum</i>	3
	medium					5
	large					7
	verylarge				LavenderQueen	9
33.	Flower: arrangementof petals					
<input type="checkbox"/>	free					1
	touching					2
	overlapping					3
29.	Sepal:lengthin relationtolengthof petal					
<input type="checkbox"/>	lessthanonethird					1
	onethirdtotwothirds					2
	morethantwothirds					3
30.	Sepal:shapeofapex					
<input type="checkbox"/>	pointed					1
	rounded					2
31.	Sepal:predominant color					
<input type="checkbox"/>	white					1
	yellowgreen				Aphrodite	2
	green				BackwaterBeauty	3
	pink				Lambethii	4
	red				CopperSheen	5

MoE*	English	français	deutsch	español	ExampleVarieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
32.	Sepal:hairiness					
	c absentorveryslightly hairy					1
	slightlyhairy					2
	stronglyhairy					3
34.	Petal:ratiolength/ width					
(+)	c broaderthanlong					1
	aslongasbroad					2
	longerthanbroad					3
35.	Petal:numberof colorsvisibleon upperside					
	c one					1
	two				Keatleyi	2
	three				Sunraysia	3
36.	<u>Varietieswith multicoloredpetal only:Petal:color pattern</u>					
	c marginal					1
	striated					2
	flushed					3
37.	Petal:colorchange afteropening					
	absent					1
	present				Nanum	9
38.	Petal:maincolorat firstopening					
	c RHSColourChart (indicatereference number)					

MoE*	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
39.	<u>Varieties with multicolored petal only:</u> Petal: secondary color at first opening					
	c RHSColourChart (indicate reference number)					
42.	Petal: undulation of margin					
	c absent or very weak					1
	weak					2
	strong					3
43.	Petal: reflexing of margin					
	c absent					1
	present					9
40.	Petal: main color at 4 weeks after first opening					
	RHSColourChart (indicate reference number)					
41.	<u>Varieties with multicolored petal only:</u> Petal: secondary color at 4 weeks after first opening					
	RHSColourChart (indicate reference number)					
44.	Disc of flower diameter ratio					
	c less than one third					1
	one third to two thirds					2
	more than two thirds					3

MoE*	English	français	deutsch	español	ExampleVarieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
45.	Disc:color					
	<input type="checkbox"/> yellowgreen					1
	lightgreen					2
	mediumgreen					3
	darkgreen				CopperSheen	4
46.	Disc:maincolor4 weeksafterfirst opening					
	greenish					1
	brownish				Lambethii	2
47.	Stamen:length relativetolengthof petal					
(+)	<input type="checkbox"/> uptohalfaslong					1
	morethanhalfas longbutlessthan equal					2
	equal					3
48.	Filaments:main color					
	<input type="checkbox"/> white				Rudolph,Aphrodite	1
	pink					2
	red					3
	brown					4
51.	Timeofbeginningof flowering					
	early					3
	medium					5
	late					7

8. ExplanationsontheTableofCharacteristics



Ad1:Plant:growthhabit

Main growing direction(s) of plant to be indicated for each state

Ad3:Plant:attitudeofbranches

Amend

Ad4 :

To be produced

Ad6 :

observed during active growth

Ad9:Leaf:attitudetostem

Tilt the drawing to show its angle relative to branch

Ad13:Leaf:profileincrosssection

State 2 "Incurved" not "Incurled"

Ad17 :

Examine in Summer

Ad23,24,25,26 :

To be examined immediately prior to reflexing of these sepals

Ad24 :

Provide two illustrations of EACH state to clarify characteristic

Ad30 : Provide two illustrations of EACH state to clarify characteristic

Ad34 :

excluding claw/petal base

Ad47 :

any variety with the state “longer” is not classified as a *Leptospermum* and should be compared with all *Kunzea* varieties

observations on fertile stamens

9. Literature

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10. TechnicalQuestionnaire

TECHNICALQUESTIONNAIRE	Page { x } of { y }	ReferenceNumber:
		Applicationdate: (nottobefilledinbytheapplicant)
TECHNICALQUESTIONNAIRE tobecompletedinconnectionwithanapp licationforplantbreeders' rights		
1. SubjectoftheTechnicalQuestionnaire		
1.1 Genus		
1.1.1 LatinName	<input type="text" value="LeptospermumJ.R. etG.Forst."/>	
1.1.2 CommonName	<input type="text" value="TeaTree"/>	
1.2 Subgenus/species(pleasecomplete)		
1.2.1 LatinName	<input type="text"/>	
1.2.2 CommonName	<input type="text"/>	
2. Applicant		
Name	<input type="text"/>	
Address	<input type="text"/>	
TelephoneNo.	<input type="text"/>	
FaxNo.	<input type="text"/>	
E-mailaddress	<input type="text"/>	
Breeder(ifdifferentfromapplicant)	<input type="text"/>	

TECHNICALQUESTIONNAIRE	Page { x } of { y }	ReferenceNumber:
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3. Proposeddenominationandbreeder'sreference

Proposeddenomination (ifavailable)

Breeder'sreference

4. Informationonthebreedingschemeandpropagationofthevariety

4.1 BreedingScheme

4.1.1 Varietyresultingfrom:

- (a) controlledcross (pleasestateparentvarieties)
- (b) partiallyunknowncross (pleasestateknownparentvariety(ies))
- (c) totallyunknowncross

4.1.2 Mutation (pleasestateparentvariety)

4.1.3 Discovery (pleasestatewhere,whenandhowdeveloped)

4.1.4 Other (pleaseprovidedetails)

4.2 MethodofPropagatingtheVariety

(a)cuttings

(b) *invitro* propagation

(c)other(statemethod)

TECHNICALQUESTIONNAIRE	Page { x } of { y }	ReferenceNumber:
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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: growth habit (1)		
upright	RubyGlow	1[]
bushy	Nanum	2[]
spreading	PacificBeauty	3[]
prostrate	BackwaterBeauty	4[]
5.2 Leafblade: variegation (16)		
absent		1[]
present	Raelene	9[]
5.3 Leafblade: main color of upper side (excluding pubescence) (17)		
yellowgreen	LemonFrost	1[]
lightgreen		2[]
mediumgreen		3[]
darkgreen	PinkCascade	4[]
greengreen		5[]
red		6[]
redbrown		7[]
redpurple		8[]
greypurple		9[]
5.4 Flower: type (27)		
single	Keatleyi	1[]
semidouble		2[]
double	AlbumFlore -pleno, FairyRose	3[]

TECHNICALQUESTIONNAIRE	Page{ x }of{ y }	ReferenceNumber:
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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 Special conditions for the examination of the variety

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

Yes No

7.2.2 If yes, please give details:

7.3 Other information

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.

9. 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]